

**JOSHUA J. JACOBS, M.D.**

**DATE OF BIRTH:** April 6, 1956

**PROFESSIONAL  
EXPERIENCE:**

RUSH MEDICAL COLLEGE

The William A. Hark, M.D. - Susanne G. Swift Professor and Chairman  
Department of Orthopaedic Surgery  
2008 -

Associate Dean for Research Development 2003 - 2008

Associate Chairman for Academic Programs  
Department of Orthopaedic Surgery  
1999-2008

Inaugural Crown Family Professor of Orthopaedic Surgery  
1998 - 2008

Professor  
Department of Orthopedic Surgery  
1997 -

Associate Professor  
Department of Orthopaedic Surgery  
1994 - 1997

Director, Orthopaedic Residency Program 1995 - 2009

Director, Section of Biomaterials 1996 -

Director of Orthopaedic Education 1994 - 1995

Assistant Professor  
Department of Orthopaedic Surgery  
1988 - 1994

Instructor  
Department of Orthopaedic Surgery  
1987 - 1988

RUSH UNIVERSITY MEDICAL CENTER

Senior Attending, Orthopedic Surgery 1997 -

Associate Attending, Orthopaedic Surgery 1994 - 1997

Adjunct Attending, Orthopaedic Surgery 1987 - 1994

NORTHWESTERN UNIVERSITY

Adjunct Professor

Department of Materials Science and Engineering  
McCormick Technological Institute  
2010 –

Adjunct Professor  
Department of Civil and Environmental Engineering  
McCormick Technological Institute  
2002 – 2009

Adjunct Professor, Dental School  
Department of Basic and Behavioral Sciences  
Division of Biological Materials  
1992 - 2001

Department of Biological Materials  
Research Technician  
1974 - 1977

HARVARD MEDICAL SCHOOL

Clinical Fellow in Orthopedic Surgery  
1983 – 1987

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Department of Materials Science and Engineering  
Research Fellow, H. H. Uhlig Corrosion Laboratory  
1984 - 1986

**EDUCATION:**

Post-Graduate  
Medical Training:

RUSH-PRESBYTERIAN-ST. LUKE'S MEDICAL CENTER  
Fellow in Joint Replacement Surgery  
1987 - 1988

MASSACHUSETTS GENERAL HOSPITAL  
Chief Resident in Orthopedic Surgery  
1987

COMBINED HARVARD ORTHOPEDIC SURGERY PROGRAM  
Resident in Orthopedic Surgery  
1983 - 1986

UNIVERSITY OF ILLINOIS/COOK COUNTY HOSPITAL  
COMBINED PROGRAM IN SURGERY  
Resident in General Surgery  
1981 - 1983

Degrees:

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE  
Doctor of Medicine with Honors  
1981

NORTHWESTERN UNIVERSITY  
Bachelor of Science in Materials Science and  
Engineering with Distinction  
1977

**MANAGEMENT COURSES:**

- Developing a Better Understanding of Financial Transactions. The AOA-Kellogg Leadership Series, Module V. Health Industry Management Program, Kellogg School of Management, Northwestern University, Evanston, IL, November 20 -22, 2009.
- Program for Chiefs of Clinical Services. Department of Health Policy and Management, Harvard School of Public Health, Boston, MA, January 18-30, 2009.

**PROFESSIONAL  
AFFILIATIONS:**

- Massachusetts Medical Society
- Illinois State Medical Society
- Chicago Medical Society
- American Medical Association
- Orthopedic Research Society
- American Society for Testing and Materials Committee F4 on Medical and Surgical Devices
- Society for Biomaterials
- Illinois Orthopedic Society
- American Academy of Orthopedic Surgeons
- Association for Arthritic Hip and Knee Surgery
- Academic Orthopedic Society, 1993 - 2003
- The Hip Society
- SICOT (Societe Internationale de Chirurgie Orthopedique et de Traumatologie)
- Materials Research Society 1999
- American Orthopaedic Association
- International Hip Society
- The Knee Society
- United States Bone and Joint Decade
- Mid-America Orthopaedic Association

**HONORARY SOCIETIES  
AND HONORS:**

- 2013 E. W. Johnson, Jr., M.D. Physician in Training Award, Mid-America Orthopaedic Association (Co-author).
- Presidential Guest Speaker, 72<sup>nd</sup> Annual Meeting of the Maryland Orthopaedic Association, April, 2013
- Patrick G. Laing Award, American Society for Testing and Materials (2012)
- Hans-Georg-Willert Award, Northern German Orthopaedics and Trauma Society, June 2012
- Presidential Guest Speaker, 28<sup>th</sup> Annual Meeting of the Southern Orthopaedic Association, July, 2011
- 2011 Ken Ludema Best Paper Award, 18<sup>th</sup> International Conference on Wear of Materials (Co-author).
- 2011 Scientific Exhibit Award of Excellence, American Academy of Orthopaedic Surgeons (Co-author).
- AAOS Achievement Award, 2010, 2011, 2012.
- Marshall J. Schiff, MD Memorial Lectureship, American College of Rheumatology Research and Education Foundation, 2009.

- The William Harris Award, Orthopaedic Research Society, 2009 (Co-author).
- Marc H. Lepper, MD Society of Teachers, Rush Medical College, 2008.
- The William Harris Award, Orthopaedic Research Society, 2008 (Co-author).
- American Association of Hip and Knee Surgeons Best Poster Award (2nd Place), 2006 (Co-author).
- Mid-America Orthopaedic Association Poster Award, 2005 (Co-author).
- Surgeon-In-Chief Pro-Tempore, Hospital for Special Surgery, November, 2004.
- Best Doctors in America 2001-2002; 2003 – 2004, 2009, 2013.
- Hero of the Heart, Department of Religion, Health and Human Values, Rush-Presbyterian-St. Lukes Medical Center, April, 2002.
- Ann Doner Vaughan Kappa Delta Award, American Academy of Orthopaedic Surgeons, 2002.
- Mark Coventry Award, The Knee Society, 2002.
- Endo-Klinik Prize 2000 for Advancement of Research in Primary and Reconstructive Arthroplasty. (Co-author of paper entitled “Dissemination of Wear Particles to the Liver, Spleen and Abdominal Lymph Nodes of Patients with Hip or Knee Replacement”), (2000)
- Golden Apple Award, Annual Hip Course, Harvard Medical School Department of Continuing Medical Education (2000)
- Fellow of the American Institute for Medical and Biological Engineering (2000)
- Award of Merit, American Society for Testing and Materials (1999)
- Selected as one Chicago’s “Top Doctors”, Chicago Magazine, January 1997, 2012.
- Elected to *The Best Doctors in America: Midwest Region* (1996-1997).
- New Investigator Recognition Award, Combined Orthopedic Research Societies of USA, Canada and Europe, November, 1995 (Co-author of abstract with award recipient S.H. Lee).
- Joseph S. Barr Award, American Society for Testing and Materials (1995)
- Otto Aufranc Award, The Hip Society (1994)
- DePuy Career Award for Research in Biomaterials, Orthopedic Research and Education Foundation (1990 - 1992)
- James Scholar in Independent Study, University of Illinois Medical College (1977 - 1981)
- Tau Beta Pi (engineering honorary)
- Alpha Sigma Mu (metallurgy honorary)
- Alpha Omega Alpha (medical honor society)

#### **EDITORIAL ACTIVITIES:**

- European Journal of Experimental Musculoskeletal Research: Consultant Editor 1992 - 1994.
- Journal of Arthroplasty: Editorial Board (1994 – 2002).
- Consultant Reviewer, Orthopaedic Basic Science, Simon, S.R. ed. American Academy of Orthopedic Surgeons, 1994.
- New Developments in Medicine and Drug Therapy: Editorial Board 1995-1997
- Consulting Reviewer for Following Journals:
  - Journal of Orthopedic Research
  - Clinical Orthopedics and Related Research
  - Journal of Applied Biomaterials
  - Journal of the American Academy of Orthopedic Surgeons
  - Journal of Biomedical Materials Research
  - Spine
  - American Society for Testing and Materials, Special Technical Publications
  - Journal of Bone and Joint Surgery (American)
- Consulting Editor for Research, The Journal of Bone and Joint Surgery 1999-2007
- Consultant Reviewer, Orthopaedic Basic Science: Biology and Biomechanics of the Musculoskeletal System, 2<sup>nd</sup> Edition, Buckwalter, J.A., Einhorn, T.A. and Simon, S.R.

- eds. American Academy of Orthopedic Surgeons, Rosemont, IL, 2000.
- Editorial Advisory Board, American Academy of Orthopaedic Surgeon/American Association of Orthopaedic Surgeons Bulletin, 2003 –
- Editorial Advisory Board, The Journal of Knee Surgery, 2003 – 2008
- Orthopedics Today. Section Editor: Basic Science and Research 2003 – 2007.
- Co-Editor, Arthritis and Rheumatism, 2005 – 2010
- Peer Reviewer, Orthopaedic Basic Science. Foundations of Clinical Practice, Einhorn, T.A. O’Keefe, R.J., and Buckwatler, J.A. eds. American Academy of Orthopedic Surgeons, 2007.

**COMMITTEES:**

Local

- Curriculum Committee, Rush Orthopedic Residency Program 1992 – 1995.
- Residency Selection Committee, Department of Orthopedics, Rush Medical College 1989 – present; Chair 2002 - 2004
- Medical Records Committee, Rush-Presbyterian-St. Lukes Medical Center 1990 - 1993
- Admissions Committee, Rush Medical College 1987-1988
- Utilization Review Committee, Rush-Presbyterian-St. Lukes Medical Center 1993 - 1995
- Committee on Critical Pathways in Orthopedic Surgery, Rush-Presbyterian-St. Lukes Medical Center 1993 - 1994
- Chairman, Total Joint Replacement Process Improvement Committee, Rush-Presbyterian-St. Lukes Medical Center 1994 - 1999.
- Search Committee for Chairman, Department of Orthopaedic Surgery, RPSLMC, 1994
- Residency Steering Committee, Department of Orthopedic Surgery, Rush Medical College 1994 -
- Research Committee, Rush Arthritis and Orthopedic Institute 1995 – 1997.
- Graduate Medical Education Review Committee, Rush-Presbyterian-St. Lukes Medical Center 1995 -
- Graduate Medical Education Task Force, Rush-Presbyterian-St. Lukes Medical Center 1996-1998.
- Co-Chair, Improvement of Pathways Committee, Rush-Presbyterian-St. Lukes Medical Center, 1997 - 1998.
- Anticoagulation Working Group, Ad Hoc Task force to the Drug Usage Evaluation Subcommittee of the Pharmacy and Therapeutics Committee, Rush-Presbyterian St. Lukes Medical Center 1997 - 1998.
- Howard Schneider, M.D. Award Committee, Illinois Orthopedic Society 1997 – 2001.
- Endoscopy and Perioperative Committee, Rush 2000, Rush-Presbyterian-St. Lukes Medical Center, 1997 - 1998.
- Total Joint Clinical Pathway Committee, Rush System for Health, 1997.
- Subcommittee, Evaluation of Obstetrics and Gynecology Residency, Rush University 1997.
- Subcommittee, Departmental Review of Internal Medicine Sections of Geriatrics and Rheumatology and the Rush Institute on Aging, Rush University 1997-1998.
- Clinical Resource Utilization Goal Management Committee, Rush 2000, Rush-Presbyterian-St. Lukes Medical Center 1997 - 1998.
- Executive Committee, Midwest Orthopedics POB, 1997 –
- Chair, Subcommittee, Evaluation of Psychiatry Residency Program, Rush University, 1998.
- Subcommittee, Evaluation of Thoracic Surgery Fellowship Program, Rush University 1998.
- Chair, Subcommittee, Evaluation of General Surgery Residency Program, Rush University 1999
- Pathway Review Task Force, Performance Improvement Oversight Committee, Rush-

- Presbyterian-St. Lukes Medical Center 1998.
- Subcommittee, Departmental Review of General Surgery, Rush University 1999.
  - Clinical Resource Management Task Force, Rush-Presbyterian-St. Lukes Medical Center 1999.
  - Research Forum Task Force, Rush-Presbyterian-St. Lukes Medical Center, 1999-2001.
  - Executive Committee of the Medical Staff, Member-at-Large, Rush-Presbyterian-St. Lukes Medical Center 1999 – 2003.
  - Medical Staff Nominating Committee, Rush-Presbyterian-St. Lukes Medical Center 1999-2000.
  - Rush/Cook County Research Affiliation Committee, Rush-Presbyterian-St. Lukes Medical Center 1999 - 2008.
  - CME Advisory Committee, Rush-Presbyterian-St. Lukes Medical Center 2000 – 2012.
  - Chair, Subcommittee, Evaluation of Otolaryngology Residency Program, Rush University 2000.
  - Subcommittee on Promotion and Faculty Tracks, Rush University, 2000.
  - Chair, Medical Staff Nominating Committee, Rush-Presbyterian-St Lukes Medical Center, 2001 – 2002.
  - Committee on Senior Faculty Appointments and Promotions, Rush-Presbyterian-St Lukes Medical Center, 2001 – 2004.
  - Chair, Subcommittee, Evaluation of Obstetrics and Gynecology Residency Program, Rush University, 2001.
  - Faculty Council, Rush-Presbyterian-St Lukes Medical Center, 2002 – 2003; 2009 -
  - GMEC Duty Hours Task Force, Rush-Presbyterian-St Lukes Medical Center, 2002.
  - Rush Medical College Leadership Work Group, 2002 – 2003.
  - Orthopaedics Strategic Planning Committee, Rush-Presbyterian-St. Lukes Medical Center, 2002 – 2003.
  - Chairman, Search Committee, Department of Diagnostic Radiology, Rush-Presbyterian-St. Lukes Medical Center, 2003 – 2004.
  - Search Committee for Dean, Rush Medical College, 2003.
  - Midwest Orthopaedics Executive Committee 2003-2005.
  - Vice Chair, Space Committee Rush University Medical Center 2004 – 2005.
  - Research Advisory Task Force, Rush University Medical Center, 2004.
  - Search Committee, Associate Provost for Research, Rush University Medical Center, 2004 – 2005.
  - Reviewer, University Committee on Research Grants, Rush University Medical Center, 2004.
  - Orthopaedic Surgery Strategic Planning Committee, 2005 –
  - Planning Committee, Rush University Forum for Research and Clinical Investigation, 2005 – 2008.
  - Orthopaedic Surgery Quality Improvement Committee, Rush Health Associates, 2005 –
  - Facility Development Group, Rush University Medical Center, 2005.
  - Stem Cell Research Committee, Rush University Medical Center, 2005 – 2006.
  - Chair, Scientific Leadership Council, Rush University Medical Center, 2006 –
  - Midwest Orthopaedics at Rush Management Committee 2006 -
  - Dean's Council, Rush Medical College, 2006 – 2009.
  - Research Mentoring Program Advisory Committee, Rush University Medical Center, 2006-2012
  - Steering Committee for Clinical Trials Billing, Rush University Medical Center, 2006.
  - University Plan Future Direction Task Force, Rush University Medical Center, 2006.
  - Mission and Integrity Work Group for the Higher Learning Commission's Accreditation Self-Study, Rush Medical College, 2006 – 2008.
  - Surgical Services Executive Committee, Rush University Medical Center, 2007 – ; Executive Committee Member 2010 -
  - Rush Surgical Society Council 2006 – 2007.

- Clinical Integration Committee, Midwest Orthopaedic Network, 2007 –
- Chair, Subcommittee, Evaluation of Medicine/Pediatrics Combined Residency Program, Rush University, 2007
- Subcommittee Member, Plastic Surgery Departmental Review, Rush University, 2008.
- Chair, Subcommittee, Evaluation of Medicine/Psychiatry Combined Residency Program, Rush University, 2008
- Chair, 19<sup>th</sup> Annual Freedom of Movement Award Gala Executive Committee, Arthritis Foundation Greater Chicago Chapter, 2008.
- Search Committee for Chairman, Department of Biochemistry, Rush University Medical Center, 2008 – 2011.
- Chair, 21<sup>st</sup> Annual Freedom of Movement Award Gala Executive Committee, Arthritis Foundation Greater Chicago Chapter, 2010.
- Conflicts of Individual Interest in Research Committee, Rush University Medical Center, 2009 –
- Executive Committee of the Medical Staff, Surgical Chairman Representative, Rush University Medical Center 2010 – 2012.
- Special Subcommittee on Physician Professionalism, Medical Staff Executive Committee, Rush University Medical Center, 2011 - 2012.
- Co-Chair, Faculty Self-Study Task Force, Liaison Committee on Medical Education Accreditation Site Visit, Rush University Medical Center, 2011 – 2012.

#### National

#### **American Academy of Orthopaedic Surgeons**

- Committee on Biomedical Engineering, American Academy of Orthopedic Surgeons 1993 – 1999.
- Combined AAOS and ORS Capitol Hill Visits, Washington, D.C., March 1996, March 1997, March 2002, March 2003, February 2004, March 2005, February 2006, March 2007, February 2008, March 2009, March 2012.
- Animal Models Working Group, AAOS/OSMA/FDA Device Forum 1997
- Ultrahigh Molecular Weight Polyethylene and Alternative Bearing Materials Working Group, FDA Device Forum. 1996 – 1997.
- Chairman, Committee on Biomedical Engineering, American Academy of Orthopaedic Surgeons 1999 - 2002
- FDA Device Forum 1999 – 2002; 2011 - 2012
- Council on Research and Scientific Affairs, American Academy of Orthopaedic Surgeons, 1999 – 2002; 2011-2012.
- Co-chair, Panel XV on Bioengineering and Biomaterials, Musculoskeletal Research: Current and Future Research Needs. American Academy of Orthopaedic Surgeons 1999-2002.
- Chairman, Council on Research and Scientific Affairs, American Academy of Orthopaedic Surgeons, 2002 – 2008.
- Committee on Committees, 2002 – 2008.
- Horizontal Integration Team, American Academy of Orthopaedic Surgeons, 2002 – 2005.
- Committee on Annual Meeting, American Academy of Orthopaedic Surgeons, 2002-2005.
- American Academy of Orthopaedic Surgeons/Orthopaedic Research Society Committee, 2002-2005.
- National Joint Registry Oversight Board, American Academy of Orthopaedic Surgeons, 2002- 2009.
- Advocacy Project Team, American Academy of Orthopaedic Surgeons Board of Directors, 2002 – 2003.
- Specialty Society Day Project Team, American Academy of Orthopaedic Surgeons 2003 - 2004.
- 2010 Project Team, American Academy of Orthopaedic Surgeons 2003 – 2005.
- AAOS/AOA Joint Task Force, American Academy of Orthopaedic Surgeons 2004 – 2005.
- Competition Project Team, American Academy of Orthopaedic Surgeons, 2003- 2004

- Search Committee for Editor, Journal of the American Academy of Orthopaedic Surgeons, 2004.
- Direct to Consumer Advertising, Project Team American Academy of Orthopaedic Surgeons, 2004.
- Committee Structure Review Project Team, American Academy of Orthopaedic Surgeons, 2004.
- Chair, Horizontal Integration Team, American Academy of Orthopaedic Surgeons, 2005.
- Orthopaedic Workforce Project Team, 2005 – 2006.
- Gainsharing Project Team, 2005 – 2006.
- Chair, Technology Assessment Project Team, 2005 – 2008.
- Extremity War Injuries Symposium Organizing Committee, 2005.
- Member Needs Assessment Project Team 2006 – 2008.
- Guidelines Oversight Committee 2006 – 2008.
- Chair, Management Oversight Team, Burden of Musculoskeletal Disease in the United States, 2006 – 2011.
- Information Statement Project Team, Council on Research, Quality Assessment and Technology, 2007
- Liaison, US Bone and Joint Decade Board of Directors, 2007 – 2011.
- Annual Meeting Format Project Team, 2007
- Chair, The Treatment of Symptomatic Pulmonary Embolism Guideline Work Group, 2009-2011.
- 2<sup>nd</sup> Vice President, 2011 – 2012.
- Council on Education, 2011 – 2012.
- Chair, New Building Pursuit Project Team, 2011 – 2012.
- PAC Executive Committee 2011 – 2012.
- Chair, Independent Expenditure Project Team, 2011 – 2012.
- Compensation Committee, 2011 –
- Committee Appointment Program, 2011 - ; Chair, 2012 – 2013.
- 1<sup>st</sup> Vice President, 2012 – 2013.
- Finance Committee, 2012 – 2013;
- Council on Advocacy, 2012 – 2013.
- Communications Cabinet, 2012 – 2013.
- Chair, Unity Review Group, 2012 – 2013.
- Chair, Leadership Review Group, 2012 – 2013.
- Chair, Committee Appointment Program, 2012 – 2013.
- **President**, 2013 -

#### **American Orthopaedic Association**

- Membership Committee, American Orthopaedic Association 2000 – 2006; Chair, 2004-2005
- Corporate Relations Committee, American Orthopaedic Association, 2001 – 2004.
- Executive Committee, American Orthopaedic Association, 2004 – 2005
- Guide, Emerging Leaders Program, 2004 – 2007.
- Nominating Committee, 2005 – 2006.
- Task Force on Policies and Guidelines, 2005 – 2006.
- Local Host, AOA-Japanese Orthopaedic Association Exchange Traveling Fellowship, 2008.

#### **American Society for Testing and Materials**

- User Vice Chairman, American Society for Testing and Materials Committee F4 on Medical and Surgical Devices 1995 -1999.
- **Chairman, Committee F04 on Medical and Surgical Devices. American Society for Testing and Materials. 2000-2003.**
- Board of Directors, American Society for Testing and Materials International, 2004 – 2006.

### **National Institutes of Health**

- Panel Member: *Orthopaedics Research - Current Status and Prospects for the Future. Orthopaedics Roundtable Discussion*, Coordinated by Stephen I. Katz, M.D., Ph.D., Director, National Institute of Arthritis and Musculoskeletal and Skin Diseases, March, 1996.
- Reviewer (Procurement Official), National Institute on Deafness and Other Communication Disorders (National Institute of Health) Request for Proposals “Development of a High Density Percutaneous Connector System” 1996.
- Reviewer, Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health 1997-1999.
- Reviewer, National Institute of Arthritis and Musculoskeletal and Skin Diseases Special Emphasis Panel, October, 1998.
- Panel Member, National Institute of Arthritis and Musculoskeletal and Skin Diseases Long-Range Planning Panel. July, 1999.
- Reviewer, National Institute of Arthritis and Musculoskeletal and Skin Diseases Special Emphasis Panel, January 2000.
- National Institute of Arthritis and Musculoskeletal and Skin Diseases Scientific Retreat, Warrenton, VA, April 2000.
- Chairman, Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, 2000 – 2002.
- Chairperson, National Institute of Arthritis and Musculoskeletal and Skin Diseases Special Emphasis Panel, December 2000.
- External Reviewer, “Knee Replacement”, Information Packet, National Institute of Arthritis and Musculoskeletal and Skin Diseases, April, 2002.
- NIH/United States Bone and Joint Decade Meeting, October, 2002.
- Reviewer, Loan Repayment Program, National Institutes of Arthritis and Musculoskeletal and Skin Diseases, 2003, 2004, 2005.
- Reviewer, National Institute of Child Health and Human Development Special Emphasis Panel, March, 2004.
- NIAMS Extramural Program Organizational Review Panel, January – March, 2005.
- NIH/United States Bone and Joint Decade Meeting (Hip Society Representative), October, 2005.
- NIAMS Advisory Council, 2005 – 2009.
- National Institute of Arthritis and Musculoskeletal and Skin Diseases Scientific Retreat, Wye River, MD, April 2006.
- Search Committee, Orthopaedic Intramural Program Director, 2006 – 2009.
- Evaluation Team, Extending and Enhancing the Osteoarthritis Initiative, Bethesda, MD, June, 2008.
- Co-Chair, National Institute of Arthritis and Musculoskeletal and Skin Diseases Roundtable on Musculoskeletal Biology and Diseases, Bethesda, MD, November, 2008.
- Reviewer, NIAMS Ancillary Clinical Studies Special Emphasis Panel, November, 2009, February, 2010.
- Chair, National Institute of Arthritis and Musculoskeletal and Skin Diseases Clinical Trials Special Emphasis Panel, Chevy Chase, MD, December, 2010.
- Chair, National Institute of Arthritis and Musculoskeletal and Skin Diseases Clinical Trials Special Emphasis Panel, April, 2012.
- Board of Scientific Counselors - Ad-Hoc Reviewer, National Institute of Arthritis and Musculoskeletal and Skin Diseases, Bethesda, MD, April, 2013.

### **Orthopaedic Research Society**

- Adjunct Reviewer, Program Committee, Orthopedic Research Society 1995, 1998, 2010.

- New Investigator Research Awards Committee, Orthopedic Research Society, 1997.
- Membership Committee, Orthopedic Research Society 1997 – 1999.
- Chairman, Membership Committee, Orthopaedic Research Society 1999 – 2000.
- Board of Directors, Orthopaedic Research Society 1999 – 2000; 2002 - 2009.
- Editorial Advisory Board, Orthopaedic Research Society 2000 – 2003; 2006-2007.
- Program Committee, Orthopaedic Research Society, 2001 – 2004
- Chairman, Program Committee, Orthopaedic Research Society 2003 – 2004.
- New Investigator Research Awards Committee, Orthopedic Research Society, 2001 - 2002
- Poster Chairman, Orthopaedic Research Society, 2002-2003
- Education and Special Projects Committee, Orthopaedic Research Society, 2002-2003
- Information Technology Committee, Orthopaedic Research Society, 2003-2004.
- Strategic Planning Committee, Orthopaedic Research Society 2004 – 2009 ; Chair, 2008 - 2009.
- President-Elect 2005 – 2006.
- Chairman, AAOS/ORS Task Force 2005 – 2006.
- ORS/AOA Shands Lecturer Selection Committee 2005 – 2007
- Finance Committee 2005 – 2007
- **President 2006 – 2007.**
- Advocacy Committee 2007 – 2011; Chair, 2010 - 2011
- Chair, Nominating Committee 2007 – 2008
- Program Chair, 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies of Australia/New Zealand, Britain, Canada, Europe, Japan, Korea, Taiwan and USA, 2007.
- Chair, Organizing Committee for the 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies of Australia/New Zealand, Britain, Canada, Europe, Japan, Korea, Taiwan and USA, 2005 - 2007.
- Communications Council 2010 – 2011.

#### **United States Bone and Joint Decade**

- Research Committee, 2003 – 2011.
- Board of Directors, 2007 – 2011.
- President-Elect 2008 – 2009
- Organizing Committee, Bone and Joint Decade Global Conference, Washington, D.C., October, 2009.
- **President 2009 – 2011.**

#### **Orthopaedic Research and Education Foundation**

- Orthopedic Research and Education Foundation Research Grants Peer Review Committee 1996 - 2000
- Illinois Medical Director, Orthopedic Research and Education Foundation 1998 – 2011.
- Board of Trustees, Orthopaedic Research and Education Foundation, 2008 – 2011.

#### **Other**

- Research Committee, Academic Orthopedic Society 1995 – 2003.
- Adjunct Reviewer, 5th World Biomaterials Congress 1996.
- Adjunct Reviewer, Program Committee Society for Biomaterials 1996.
- Principal: Medical Technology Leadership Forum. Lansdowne, VA, October 1996.
- External Reviewer, Large Project Intramural Grant Program, Allegheny University of the Health Sciences, January 1997.
- Long Range Planning Committee, Society for Biomaterials 1997.
- Program Committee, Society for Biomaterials 1997.
- Adjunct Reviewer, 6th World Biomaterials Congress, 1999.
- Roundtable on Biomedical Engineering Materials and Applications, National Academy of Engineering, Institute of Medicine, National Research Council, 2003 – 2007.

- Part I Certifying Exam Standard Setting Task Force, American Board of Orthopaedic Surgery, July, 2004.
- Peer reviewer, “Capturing the Full Power of Biomaterials in Military Medicine”, National Research Council, 2004.
- Task Force, Advisory Statement on Minimally Invasive Joint Replacement Surgery, American Association of Hip and Knee Surgeons, 2004.
- Long Range Planning Committee, Society for Biomaterials, 2006 – 2007.
- Scientific Advisory Committee, InMotion Musculoskeletal Institute, 2006 – 2010.
- Scientific Advisory Committee, IsoTis Orthobiologics, 2005 – 2007.
- Panel on Embedded Metal Fragments. United States Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD, 2008.
- Member-at-Large, Board of Directors, The Hip Society, 2008 – 2010.
- Co-Chair, Evidence-based Practice Hip Panel, American College of Occupational and Environmental Medicine, 2008 – 2010
- Field Test Task Force, American Board of Orthopaedic Surgery, November, 2009.
- Question Writing Task Force, American Board of Orthopaedic Surgery, April, 2010.
- Chair, Review Committee of the Department of Orthopaedic Surgery at Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, March, 2011.
- Ad Hoc Evaluation Committee, Department of Orthopedic Surgery and the Children's Hospital Senior Appointments Committee, Harvard Medical School, Boston, MA, March 2012.

#### International

- International Standards Organization, Technical Committee 150, USA Delegation, London, England (1998), Pforzheim, Germany (1999), Orlando, FL, USA (2000), Stockholm, Sweden (2000), Alexandria, VA, USA (2002, Co-Leader USA Delegation).
- External Reviewer, Arthritis Research Campaign (United Kingdom), Project Grant (1999), Postdoctoral Research Fellowship (2001), Clinical Research Fellowship (2001).
- SICOT Adult Hip Committee On-line Review (2002).

#### **RESEARCH GRANTS:**

Jacobs, J.J. (PI), Metal ion release from titanium-base alloy total knee replacements. Depuy Career Award for Research in Biomaterials, Orthopedic Research and Education Foundation, 1990-1992.

Galante, J.O. (PI), Systemic implication of total joint replacement. NIH/NIAMS, 1989 - 1995.

Jacobs, J.J. (PI) Systemic implications of total joint replacement. NIH/NIAMS, 1995 – 2011.

Sumner, D.R. (PI) Bone ingrowth and bone remodelling in cementless total knee arthroplasty. NIH/NIAMS, 1989-1994.

Glant, T.T. (PI) Study of Particulate-Induced, Prostaglandin- Mediated Bone Resorption. Arthritis and Prostaglandin Research Challenge, G. D. Searle and Co., 1991 - 1993.

Gilbert, J.L. (PI) Development of and Electrochemical/Mechanical Corrosion Test for Morse Tapers. Zimmer, Inc. 1992-1993.

Glant, T.T. (PI) Particulate Biomaterial-Induced Bone Resorption. NIH/NIAMS, 1994 - 1998.

Sumner, D.R. (PI) Fixation in Total Knee Replacement. NIH/NIAMS, 1994 - 2004.

Chang, H.J. (PI) Patient Attitudes Regarding Total Joint Replacement. University of Illinois at Chicago Campus Research Board, 1997 – 1998.

Kuettner, K.E. (PI) Osteoarthritis: A Continuum (Core C, Administrative), NIH/NIAMS, 1998 – 2002.

Jacobs, J.J. (PI, Rush Site) A Randomized, Double-Blind, Placebo-Controlled Study of Oral Alendronate Sodium 35 or 10 mg for the Prevention and Treatment of Periprosthetic Osteolysis. Merck 1998 – 2002.

Glant, T.T. (PI) Autoimmune Arthritis: Genetics and Cellular Regulation. NIH/NIAMS, 1999-2009.

Jacobs, J.J. (PI) Chromium and Cobalt Level Analysis in Metal-on-Metal Total Hip Replacement Patients. Wright Medical Technology, Inc. 1999 - 2002

Roebuck, K.A. (PI) Wear Debris-Activated Signaling Mechanisms in Osteoblasts. NIH/NIAMS 1998 – 2001.

Hallab, H.J. (PI) Systemic Bioavailability and Bioreactivity of Total Joint Replacement Degradation Products. Rush University Committee on Research, 1998 - 1999.

Jacobs, J.J. (PI, Subcontract) Novel Corrosion Resistant Bioactive Surgical Implants. NIH/NIAMS 1999 – 2001.

Hallab, N.J. (PI) Mechanical Modeling and Biocompatibility Testing of Fretting Corrosion at Modular Junction of Orthopedic Implants. Whitaker Foundation 2000 – 2002.

Jacobs, J.J. (PI) Cobalt and Chromium Level Analysis in Surface Replacement Arthroplasty. Wright Medical Technology, Inc, 2001 – 2006.

Hallab, N.J. (PI) Bioreactivity Markers in Patients with Total Hip Replacements. NIH/NIAMS 2002-2005.

Oegema (PI) Specialized Center of Research in Osteoarthritis, Administrative Core. NIH/NIAMS 2002 – 2007.

Jacobs, J.J. (PI) Cobalt and Chromium Level Analysis in Hip Replacement Arthroplasty Using Ceramic-on-Ceramic Bearings, Wright Medical Technology, Inc., 2002 – 2005.

Hallab, N.J. (PI) Evaluating the Clinical Performance of Oxidized-Zirconium and Co-base Alloy Total Knee Replacements in Individuals Demonstrating Metal Sensitivity Reactions. Smith and Nephew, Inc., 2004 – 2006.

Jacobs, J.J. (PI) BFH Differential Hardness Metal Ion Study, Wright Medical Technology, Inc, 2005 – 2007.

Jacobs, J.J. (PI) Metal Ion Levels in Metal-on-Metal Disc Replacement, Medtronic Sofamor Danek, 2005 – 2008.

Jacobs, J.J. (PI) Determination of Cobalt-Chromium Levels in Serum, Spinal Motion, 2006-2009.

Jacobs, J.J. (PI) Rush Total Hip and Total Knee Replacement Registry, Zimmer, 2006.

Jacobs, J.J. (PI) Rush Tribology Projects, Zimmer, 2006.

Sumner, D.R. (PI) Development and Initial Application of a Rat Model for Revision Joint Replacement. NIH/NIAMS 2006-2008.

Wimmer, M.A. (PI) Daily Activity of TKR Patients as Input for Wear Testing. NIH/NIAMS 2006 – 2009.

Jacobs, J.J. (PI) Biotribological Layers in Metal on Metal Hip Replacement. NIH/NIAMS 2009 – 2012.

Hallab, N.J. (PI) Inflammasome Danger Signaling: A Novel Target to Prevent Debris Induced Osteolysis. NIH/NIAMS 2012 – 2017.

Wimmer, M.A. (PI) Wear Testing for Enhanced Prediction of TKR Clinical Performance. NIH/NIAMS 2011 – 2015.

Sumner, D.R. (PI) Training in Orthopaedic Skeletal Biology. NIH/NIAMS 2007 – 2012.

Jacobs, J.J. (PI) A Prospective Randomized Trial of Head-Neck Modularity in Total Hip Replacement. Zimmer 2010 – 2014.

Mathew, M. (PI) Tribocorrosion in Modular Hip Joint Junctions-A Parametric Mechanistic Study. NIH/NIAMS 2012 – 2015.

Jacobs, J.J. (PI) Metal Ion Concentration Measurements for Chromium, Cobalt and Molybdenum in Blood and Urine Samples. Nuvasive, Inc 2011 – 2014.

Jacobs, J.J. (PI) Serum Metal Ion Analysis of the Prestige Cervical Disc at 36, 60 and 84 Months. Medtronic Sofamor Danek, 2009 – 2014.

Jacobs, J.J. (PI) Serum Metal Ion Analysis of the Maverick Total Disc Replacement at 36, 60 and 84 Months. Medtronic Sofamor Danek, 2009 – 2014.

Jacobs, J.J. (PI) Serum Metal Ion Analysis of the Prestige LP Cervical Disc at 36, 60 and 84 Months. Medtronic Sofamor Danek, 2009 – 2014.

**TEACHING:**

Secondary School: Mentor Program, Illinois Mathematics and Science Academy (Student: Ying Pen), 1996 - 1997

Undergraduate: Minority Medical Education Program/Chicago Summer Science Enrichment Program, Robert Wood Johnson Foundation, July 1999.

Undergraduate/Graduate Engineering: Introduction to Biomaterials, Visiting Lecturer, Northwestern University McCormack School of Engineering, 1993.

Materials in Bioengineering, Visiting Lecturer, University of Illinois at Chicago School of Engineering (BioE 460), 1994, 1996, 1999, 2000, 2001.

**Graduate Thesis  
Committees:**

Arun Shanbhag, Clemson University, PhD in Bioengineering 1993: "Human Monocyte Response to in vivo and in vitro generated particulate biomaterial debris".

Sharyn Green, Rush University, M.S. in Health Systems Management 1994: "Critical Care Pathways: Do They Improve the Efficiency Without Negatively Impacting the Effectiveness of Hospital Based Care?"

Jay Goldberg, Northwestern University, PhD in Biomedical Engineering 1998: "Effects of Material Combination and Surface Design on Mechanically Assisted Crevice Corrosion of Modular Hip Implants".

Valentina Ngai, University of Illinois at Chicago, PhD in Bioengineering 2010: "Assessment of In Vivo Gait Patterns on Wear of Total Knee Replacements".

Shuo Liu, Rush University, PhD in Anatomy and Cell Biology 2010: "The Effect of Anti-sclerostin Antibody in the Prevention of Particle-induced Osteolysis and Implant Loosening in a Rat Model".

Pooja Panigrahi, Northwestern University, MS in Materials Science and Engineering 2012: "Intergranular Pitting Corrosion of CoCrMo Biomedical Implant Alloy".

**MEDICAL  
LICENSURE:**

Illinois: 036074410 - 1987

Massachusetts: 50115 - 1983

**CERTIFICATION:**

Diplomat of National Board of Medical Examiners, July 1, 1982.

Diplomat, American Board of Orthopedic Surgery, July 13, 1990, Recertified, January 1, 2001, Recertified January 1, 2011

**REFERENCES:**

Available on request

## PUBLICATIONS

### Manuscripts (Peer reviewed)

1. Chernick, L.B., Jacobs, J.J., Lautenschlager, E.P., and Heuer, M.A. Torsional Failure of Endodontic Files. *J. of Endod.* 2:94-98 1976.
2. Lautenschlager, E.P., Jacobs, J.J., Marshall, G.W., and Meyer, P.R. Mechanical Properties of Bone Cements Containing Large Doses of Antibiotic Powders. *J. of Biomed. Mater. Res.* 10:929-938, 1976.
3. Lautenschlager, E.P., Jacobs, J.J., Marshall, G.W. and Heuer, M.A. Brittle and Ductile Torsional Failures of Endodontic Instruments. *J. of Endod.* 3:175-178, 1977.
4. Woodman, J.L., Jacobs, J.J., Galante, J.O., and Urban, R.M. Metal Ion Release from Titanium-Based Prosthetic Segmental Replacements of Long Bones in Baboons: A Long-Term Study. *J. Orthop. Res.* 1: 421-430, 1984.
5. Jacobs, J. J. and Rosenberg, A. Extracranial Skeletal Metastasis from a Pinealblastoma: A Case Report and Review of the Literature. *Clin. Ortho.* 247:256-259, 1989.
6. Jacobs, J.J., Latanision, R.M., Rose, R.M., and Veeck, S.J. The Effect of Porous Coating Processing on the Corrosion Properties of Cast Co-Cr-Mo Surgical Implant Alloys. *J Orthop Res* 8:874-882, 1990.
7. Strongin, I.S., Kale, S.A., Raymond, M.K., Luskin, R.L., Weisberg, G.W., and Jacobs, J.J. An Unusual Presentation of Gonococcal Arthritis in an HIV Positive Patient. *Ann Rheum Dis* 50: 572-573, 1991.
8. Jacobs, J.J., Skipor, A. K., Black, J., Urban, R.M., and Galante, J.O. Metal Release and Excretion in Patients with Titanium-Base Alloy Total Hip Replacement Components. *J. Bone Jt. Surg.* 73A: 1475-1486, 1991.
9. Galante, J.O. and Jacobs, J.J. Clinical Performances of Ingrowth Surfaces. *Clin Orthop* 276:41-49, 1992.
10. Jacobs, J.J., Urban R.M., Schajowicz, F., Gavrilovic, J., and Galante, J.O. Particulate-Associated Endosteal Osteolysis in Titanium-base Alloy Cementless Total Hip Replacement. Particulate Debris from Medical Implants: Mechanisms of Formation and Biological Consequences ASTM STP 1144. K. R. St. John, Ed. American Society for Testing and Materials, Philadelphia, 1992, pp. 52-60.
11. Jacobs, J.J., Rosenbaum, D.H., Hay, R.M., Gitelis, S., and Black, J. Early Sarcomatous Degeneration Near a Cementless Hip Replacement: A Case Report and Review. *J. Bone Jt. Surg. (Br.)* 74-B:740-4, 1992.
12. Pidhorz, L.E., Urban, R.M., Jacobs, J.J., Sumner, D.R., and Galante, J.O. A Quantitative Study of Bone and Soft Tissues in Cementless Porous Coated Acetabular Components Retrieved at Autopsy. *J. Arthro.* 8:213-225, 1993.
13. Martell, J.M., Pierson, R.H., Jacobs, J.J., Rosenberg, A.G., Maley, M.E., and Galante, J.O. Primary Total Hip Reconstruction with a Titanium Fiber-Coated Prosthesis Inserted without Cement. *J. Bone Jt. Surg.* 75-A:554-571, 1993.
14. Friedman, R.J., Black, J., Galante, J.O., Jacobs, J.J., and Skinner, H. Current Concepts in Orthopedic Biomaterials and Implant Fixation. *J. Bone Jt. Surg.* 75-A:1086-1109, 1993.
15. Glant, T.T., Jacobs, J.J., Molnar, G., Shanbhag, A.S., Valyon, M., and Galante, J.O. Bone Resorption Activity of Particulate-stimulated Macrophages. *J. Bone and Mineral Res.* 8:1071-1079, 1993.
16. Parker, A.W., Drez, D., and Jacobs, J.J. Titanium Dermatitis After Failure of a Titanium Metal-Backed Patella. *Am. J. of Knee Surg.* 6:129-132, 1993.

17. Gilbert, J.L., Buckley, C.A., and Jacobs, J.J. In-Vivo Corrosion of Modular Hip Prosthesis Components In Mixed and Similar Metal Combinations. The Effect of Crevice, Stress, Motion, and Alloy Coupling. *J. Biomed. Mater. Res.* 27:1533-1544, 1993.
18. Sumner, D.R., Jasty, M., Jacobs, J.J., Urban, R.M., Bragdon, C.R., Harris, W.H., and Galante, J.O.: Histology of Porous-Coated Acetabular Components. 25 Cementless Cups Retrieved after Arthroplasty. *Acta Orthop Scand* 64:619-626, 1993.
19. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., Gilbert, J.L., Black, J. and Galante, J.O. Composition and Morphology of Wear Debris in Failed Uncemented Total Hip Replacement. *J. Bone Joint Surg.* 76-B:60-67, 1994.
20. Shanbhag, A.S., Jacobs, J.J., Black, J., Galante, J.O. and Glant, T.T. Macrophage/Particle Interactions: Effect of Size, Composition and Surface area. *J. Biomed. Mater. Res.* 28:81-90, 1994.
21. Gilbert, J.L., Buckley, C.A., Jacobs, J.J., Bertin, K.C., and Zernich, M.R. Intergranular Corrosion-Fatigue Failure of Cobalt-Alloy Femoral Stems: A Failure Analysis of Two Implants. *J. Bone Jt. Surg.* 76-A:110-115, 1994.
22. Skipor, A.K., Jacobs, J.J., Schavocky, J., Black, J., and Galante, J.O. The Determination of Titanium in Human Serum by Zeeman Electrothermal Atomic Absorption Spectroscopy. *Atomic Spectroscopy* 15:131-134, 1994.
23. Urban, R.M., Jacobs, J.J., Gilbert, J.L., and Galante, J.O. Migration of Corrosion Products from Modular Hip Prostheses. Particle Microanalysis and Histopathological Findings. *J. Bone Jt. Surg.* 76-A:1345-1359, 1994.
24. Jacobs, J.J., Shanbhag, A.S., Glant, T.T., Black, J., and Galante, J.O. Wear Debris in Total Joint Replacements. *J. Amer. Acad. Orthop. Surg.* 2:212-220, 1994.
25. Glant, T.T., Valyon, M., Mikecz, K., Cole, A., Jacobs, J.J., Yao, J., and Kuettner, K.E. Discoordinate Expression of IL-1 $\alpha$  and IL-1 $\beta$  in Interfacial Membranes of Failed Joint Prostheses. *Agents Actions* 41:C172-173, 1994.
26. Pidhorz, L.E., Urban, R.M., Jacobs, J.J., Sumner, D.R. and Galante, J.O. Etude Histologique du Revêtement Poreux de Cotyles non Cimentes. A Propos de 11 Implants Retires Lors D'Autopsie. *Chirurgie* 119:334-339, 1993-1994.
27. Glant, T.T. and Jacobs, J.J. Response of Three Murine Macrophage Populations to Particulate Debris: Bone Resorption in Organ Cultures. *J. Orthop. Res.* 12:720-731, 1994.
28. Sumner, D.R., Kienapfel, H., Jacobs, J.J., Urban, R.M., Turner, T.M., and Galante, J.O. Bone Ingrowth and Wear Debris in Well-fixed Cementless Porous- Coated Tibial Components Removed From Patients. *J. Arthrop.* 10:157-167, 1995.
29. Bobyn, J.D., Jacobs, J.J., Tanzer, M., Urban, R.M., Aribindi, R., Sumner, D.R., Turner, T.M., and Brooks, C.E. The Susceptibility of Smooth Implant Surfaces to Peri-Implant Fibrosis and Migration of Polyethylene Wear Debris. *Clin. Orthop.* 311:21-39, 1995.
30. Jacobs, J.J., Urban, R.M., Wall, J., Black, J., Reid, J.D. and Veneman, L. Unusual Foreign-Body Reaction to a Failed Total Knee Replacement: Simulation of a Sarcoma Clinically and a Sarcoid Histologically. A Case Report. *J. Bone Joint Surg.* 77-A:444-451, 1995.
31. Shanbhag, A.S., Jacobs, J.J., Black, J., Galante, J.O., and Glant, T.T. Cellular Mediators Secreted by Interfacial Membranes Obtained at Revision Total Hip Arthroplasty. *J. Arthrop.* 10:498-506, 1995.
32. Peters, C.L., Rivero, D.P., Kull, L.R., Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. Revision Total Hip Arthroplasty without Cement: Subsidence of Proximally Porous-Coated Femoral Components. *J Bone Jt Surg* 77-A:1217-1226, 1995.

33. Yao, J., Glant, T.T., Lark, M.W., Mikecz, K., Jacobs, J.J., Hutchinson, N.I., Hoerrner, L.A., Kuettner, K.E., and Galante, J.O. The Potential Role of Fibroblasts in Periprosthetic Osteolysis. Fibroblast Response to Titanium Particles. *J. Bone Mineral Res.* 10:1417-1427, 1995.
34. Jacobs, J.J., Urban, R.M., Gilbert, J.L., Skipor, A.K., Black, J., Jasty, M., Galante, J.O. Local and Distant Products from Modularity. *Clin Orthop* 319:94-105, 1995.
35. Jacobs, J.J., Kull, L.R., Frey, G.A., Gitelis, S., Sheinkop, M.B., Kramer, T.S. and Rosenberg, A.G. Early Failure of Acetabular Components Inserted Without Cement after Previous Pelvic Irradiation. *J. Bone Jt. Surg.* 77-A:1829-1835, 1995.
36. Shanbhag, A.S., Jacobs, J.J., Black, J., Galante, J.O., and Glant, T.T. Human Monocyte Response to Particulate Biomaterials Generated *In Vivo* and *In Vitro*. *J. Orthop. Res.* 13:792-801, 1995.
37. NIH Consensus Conference. Total Hip Replacement. Speaker "Particulate Wear". *JAMA*, 273:1950-1956, 1995.
38. Glant, T.T., Jacobs, J.J., Mikecz, K., Yao, J., Chubinskaja, S., Williams, J.W., Urban, R.M., Shanbhag, A.S., Lee, S. and Sumner, D.R. Particulate-induced, Prostaglandin- and Cytokine-mediated Bone Resorption in an Experimental System and in Failed Joint Replacements. *Amer. J. Therap.* 3:27-41, 1996.
39. Silverton, C.D., Jacobs, J.J., Rosenberg, A.G., Kull, L., Conley, A., and Galante, J.O.. Complications of a Cable Grip System. *Journal of Arthroplasty* 11:400-404, 1996.
40. Glant, T.T., Yao, J., and Jacobs, J.J. Induction of Bone Resorbing Agents By Titanium Particulates: Responses of Macrophages, Fibroblasts and Osteoblasts *In Vitro*. Medical Applications of Titanium and Its Alloys: The Material and Biological Issues. ASTM STP 1272, S. A. Brown and J. E. Lemons, Eds, American Society for Testing and Materials, Philadelphia, Pa, 1996, pp 333-345.
41. Jacobs, J.J., Skipor, A.K., Black, J., Patterson, L.M., Paprosky, W.P., and Galante, J.O. A 3-Year Prospective Study of Serum Titanium Levels in Patients With Primary Total Hip Replacements. Medical Applications of Titanium and Its Alloys: The Material and Biological Issues. ASTM STP 1272, S. A. Brown and J. E. Lemons, Eds, American Society for Testing and Materials, Philadelphia, Pa, 1996, pp 400-408.
42. Urban, R.M., Jacobs, J.J., Sumner, D.R., Peters, C.L., Voss, F.R., and Galante, J.O. The Bone-Implant Interface of Femoral Stems With Non-Circumferential Porous Coating. A Study of Specimens Retrieved at Autopsy. *J Bone Jt Surg* 78-A:1068-1081, 1996.
43. Jacobs, J.J., Skipor, A.K., Doorn, P.F., Campbell, P., Schmalzried, T.P., Black, J., and Amstutz, H.C. Cobalt and Chromium Concentrations in Patients with Metal-on-Metal Total Hip Replacements. *Clin Orthop* 329S:S256-S263, 1996.
44. Amstutz, H.C., Campbell, P., McKellop, H., Schmalzried, T.P., Gillespie, W.J., Howie, D., Jacobs, J., Medley, J., and Merritt, K. Metal on Metal Total Hip Replacement Workshop Consensus Document. *Clin Orthop* 329S:S297-S303, 1996.
45. McGovern, T.E., Black, J., Jacobs, J.J., Graham, R.M., and LaBerge, M. In Vivo Wear of Ti6Al4V Femoral Heads: A Retrieval Study. *J Biomed Mater Res* 32:447-457, 1996.
46. Jacobs, J.J. and Goodman, S.L. What In Vitro, In Vivo and Combined Approaches Can Be Used to Investigate the Biologic Effects of Particles? In: Implant Wear: The Future of Total Joint Replacement. Wright, T.M. and Goodman, S.B. eds. American Academy of Orthopedic Surgeons, Rosemont, IL, 1996, pp. 41-44.
47. Yao, J., Cs-Szabo, G., Jacobs, J.J., Kuettner, K.E., and Glant, T.T. Suppression of Osteoblast Function By Titanium

Particles. *J Bone Jt Surg* 79-A:107-112, 1997.

48. Tompkins, G.S., Jacobs, J.J., Kull, L.R., Rosenberg, A.G., and Galante, J.O. Primary Total Hip Arthroplasty with a Porous-Coated Acetabular Component: Seven to Ten Year Results. *J Bone Jt Surg* 79-A:169-176, 1997.

49. Lee, S.H., Brennan, F.R., Jacobs, J.J., Urban, R.M., Ragasa, D.R., and Glant, T.T. Human Monocyte/Macrophage Response to Cobalt-Chromium Corrosion Products and Titanium Particles in Patients with Total Joint Replacements. *J Ortho Res* 15:40-49, 1997.

50. Yu, L., Koirtiyohann, S.R., Rueppel, M.L., Skipor, A.K., and Jacobs, J.J. Simultaneous Determination of Al, Ti, and V in Serum by Electrothermal Vaporization Inductively Coupled Plasma Mass Spectrometry. *Journal of Analytical Atomic Spectrometry* 12:69-74, 1997

51. Gilbert, J.L. and Jacobs, J.J. The Mechanical and Electrochemical Processes Associated with Taper Fretting Crevice Corrosion: A Review. Modularity of Orthopedic Implants, ASTM STP 1301, Donald E. Marlow, Jack E. Parr, and Michael B. Mayor, Eds., American Society for Testing and Materials, Philadelphia, PA, 1997, pp.45-59.

52. Goldberg, J.R., Buckley, C.A., Jacobs, J.J., and Gilbert, J.L. Corrosion Testing of Modular Hip Implants. Modularity of Orthopedic Implants, ASTM STP 1301, Donald E. Marlow, Jack E. Parr, and Michael B. Mayor, Eds., American Society for Testing and Materials, Philadelphia, PA, 1997, pp 157-176.

53. Urban, R.M., Jacobs, J.J., Gilbert, J.L., Rice, S.B., Jasty, M., Bragdon, C.R., and Galante, J.O. Characterization of Solid Products of Corrosion Generated by Modular-Head Femoral Stems of Different Designs and Materials. Modularity of Orthopedic Implants, ASTM STP 1301, Donald E. Marlow, Jack E. Parr, and Michael B. Mayor, Eds., American Society for Testing and Materials, Philadelphia, PA, 1997, pp. 33-44.

54. Peters, C.L., Kull, L., Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. The Fate of Well Fixed Cemented Femoral Components Left in Place at the Time of Revision of the Acetabular Component. *J Bone Jt Surg* 79-A:701-706, 1997.

55. Shanbhag, A.S., Jacobs, J.J., Black, J., Galante, J.O. and Glant, T.T. Effects of Particles on Fibroblast Proliferation and Bone Resorption In Vitro. *Clin Ortho* 342:205-217, 1997.

56. Trousdale, R.T., Berry, D.J., Jacobs, J.J. and Gilbert, J.L. Fracture of an Acetabular Component Inserted without Cement: A Case Report. *J Bone Joint Surg* 79-A:901-905, 1997.

57. Berger, R.A., Jacobs, J.J., Quigley, L.R., Rosenberg, A.G. and Galante, J.O. Primary Cementless Acetabular Reconstruction In Patients Less Than 50 Years Old: 7 to 11 Year Results. *Clin Orthop* 344:216-226, 1997.

58. Peoc'h, M., Chenal, P., Jacobs, J.J., Pasquier, D., Ducros, V., Moulin, C., Urban, R., and Pasquier, B. Reactions Granulomateuses et Prothese de Hanche Aspects Anatomopathologiques. *Rev Med Interne* 18(Suppl 5):437s-440s, 1997.

59. Jacobs, J.J., Gilbert, J.L., and Urban, R.M. Current Concepts Review: Corrosion of Metal Orthopaedic Implants. *J. Bone Jt. Surg* 80-A:268-282, 1998.

60. Glant, T.T., Cs-Szabo, G., Nagase, H., Jacobs, J.J. and Mikecz, K. Progressive Polyarthritis Induced in Balb/C Mice by Aggrecan from Normal and Osteoarthritic Human Cartilages. *Arthritis Rheum* 41:1007-1018, 1998.

61. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Hallab, N.J., Paprosky, W.P., Black, J. and Galante, J.O. Metal Release in Patients Who Have Had A Primary Total Hip Arthroplasty. A Prospective, Controlled, Longitudinal Study. *J Bone Jt Surg* 80-A:1447-1458, 1998.

62. Berger, R.A., Crossett, L.S., Jacobs, J.J., and Rubash, H.E. Malrotation Causing Patellofemoral Complications After Total Knee Arthroplasty. *Clin Orthop* 356:144-153, 1998.

63. Jacobs, J.J., Silverton, C., Hallab, N.J., Skipor, A.K., Patterson, L.M., Black, J. and Galante, J.O. Metal Release and Excretion from Cementless Titanium-Alloy Total Knee Replacements. *Clin Orthop* 358:173-180, 1999.
64. Skipor, A.K., Jacobs, J.J., Yu, L. and Black, J. Comparison of Zeeman Background Corrected Atomic Absorption Spectrometric and Inductively Coupled Plasma Mass Spectrometric Detection of Trace Elements in Electrothermally Vaporized Serum. *J Biomed Mater Res (Appl Biom)* 48:90-93, 1999.
65. Jacobs, J.J., Patterson, L.M., Skipor, A.K., Hall, D.J., Urban, R.M., Black, J. and Galante, J.O. Postmortem Retrieval of Total Joint Replacement Components. *J Biomed Mater Res (Appl Biomater)* 48:385-391, 1999.
66. Roebuck, K.A., Jacobs, J.J. and Glant, T.T. Editorial. New Horizons in Orthopaedic Research: Elucidation of Cellular Signal Transduction Pathways. *J Bone Jt Surg* 81-A:599-602, 1999.
67. Leopold, S.S., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Quigley, L.R. and Galante, J.O. Impaction Allografting With Cement for Revision of the Femoral Component: A Minimum Four-year Follow-up Study with Use of a Precoated Femoral Stem. *J Bone Jt Surg* 81-A:1080-1092, 1999.
68. Hallab, N.J., Jacobs, J.J., Skipor, A., Black, J., Mikecz, K. and Galante, J.O. Serum Protein Carriers of Chromium in Patients with Cobalt-base Alloy Total Joint Replacement Components. Cobalt-Base Alloys for Biomedical Applications. ASTM STP 1365. J.A. Disegi, R.L. Kennedy and R. Pillar, Eds. American Society for Testing and Materials, West Conshohocken, PA, 1999 pp 210-219.
69. Berger, R.A., Nedeff, D.D., Barden, R.M., Sheinkop, M.B., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Unicompartamental Knee Arthroplasty. Clinical Experience at 6- to 10-Year Followup. *Clin Orthop* 367:50-60, 1999.
70. Berger, R.A., Quigley, L.R., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. The Fate of Stable Cemented Acetabular Components Retained During Revision of a Femoral Component of a Total Hip Arthroplasty. *J Bone Jt Surg* 81-A:1682-1691, 1999.
71. Maloney, W.J., Galante, J.O., Anderson, M., Goldberg, V., Harris, W.H., Jacobs, J.J., Kraay, M., Lachiewicz, P., Rubash, H.E., Schutzer, S. and Woolson, S.T. Fixation, Polyethylene Wear, and Pelvic Osteolysis in Primary Total Hip Replacement. *Clin Orthop* 369:157-164, 1999.
72. Hallab, N.J., Jacobs, J.J., Skipor, A.K., Black, J., Mikecz, K. and Galante, J.O. Systemic Metal-Protein Binding Associated with Total Joint Replacement Arthroplasty. *J Biomed Mater Res* 49:353-361, 2000.
73. Leopold, S.S., Jacobs, J.J., Rosenberg, A.G. Cancellous Allograft in Revision Total Hip Arthroplasty. A Clinical Review. *Clin Orthop* 371:86-97, 2000.
74. Urban, R.M., Jacobs, J.J., Tomlinson, M.J., Gavrilovic, J., Black, J., and Peoc'h, M. Dissemination of Wear Particles to Liver, Spleen and Abdominal Lymph Nodes of Patients with Hip or Knee Replacement. *J Bone Jt Surg* 82-A:457-477, 2000.
75. Hallab, N.J., Jacobs, J.J., and Black, J. Hypersensitivity to Metallic Biomaterials: A Review of Leukocyte Migration Inhibition Assays. *Biomaterials* 21:1301-1314, 2000.
76. Vermes, C., Roebuck, K.A., Chandrasekaran, R., Dobai, J.G., Jacobs, J.J. and Glant, T.T. Particulate Wear Debris Activates Protein Tyrosine Kinases and Nuclear Factor-kB Which Down-Regulates Type I Collagen Synthesis in Human Osteoblasts. *J Bone Miner Res* 15:1756-1765, 2000.
77. Hallab, N.J., Mikecz, K., and Jacobs, J.J. A Triple Assay Technique for the Evaluation of Metal-Induced, Delayed-Type Hypersensitivity Responses in Patients with or Receiving Total Joint Arthroplasty. *J Biomed Mater Res (Appl Biomater)* 53:480-489, 2000.

78. Cannestra, V.P., Berger, R.A., Quigley, L.R., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Hybrid Total Hip Arthroplasty with a Precoated Offset Stem. Four to Nine-Year Results. *J Bone Jt Surg* 82-A:1291-1299, 2000.
79. Archibeck, M.J., Jacobs, J.J. and Black, J. Alternate Bearing Surfaces in Total Joint Arthroplasty: Biological Considerations. *Clin Orthop* 379:12-21, 2000.
80. Archibeck, M.J., Jacobs, J.J., Roebuck, K.A., and Glant, T.T. The Basic Science of Periprosthetic Osteolysis. *J Bone Jt Surg* 82-A:1478-1489, 2000.
81. Leopold, S.S., Berger, R.A., Patterson, L., Skipor, A.K., Urban, R.M. and Jacobs, J.J. Serum Titanium Level for Diagnosis of a Failed, Metal-Backed Patellar Component. *J Arthrop* 15:938-943, 2000.
82. Felson, D.T., Lawrence, R.C., Hochberg, M.C., McAlindon, T., Dieppe, P.A., Minor, M.A., Blair, S.N., Berman, B.M., Fries, J.F., Weinberger, M., Lorig, K.R., Jacobs, J.J. and Goldberg, V. Osteoarthritis: New Insights. Part 2: Treatment Approaches. *Ann Intern Med.* 133:726-737, 2000.
83. Leopold, S.S., McStay, C., Klafeta, K., Jacobs, J.J., Berger, R.A. and Rosenberg, A.G. Primary Repair of Intraoperative Disruption of the Medial Collateral Ligament Total Knee Arthroplasty. *J Bone Jt. Surg.* 83-A:86-91, 2001.
84. Vermes, C., Chandrasekaran, R., Jacobs, J.J., Galante, J.O., Roebuck, K.A. and Glant, T.T. The Effects of Particulate Wear Debris, Cytokines, and Growth Factors on the Functions of MG-63 Osteoblasts. *J Bone Jt Surg* 83-A:201-211, 2001.
85. Hallab, N.J., Bundy, K.J., O'Connor, K., Moses, R.L. and Jacobs, J.J. Evaluation of Metallic and Polymeric Biomaterial Surface Energy and Surface Roughness Characteristics for Directed Cell Adhesion. *Tissue Engineering* 7:55-71, 2001.
86. Hallab, N.J., Merritt, K., Jacobs, J.J. Metal Sensitivity In Patients With Orthopaedic Implants. Current Concepts Review. *J Bone Jt Surg* 83-A:428-436, 2001.
87. Jones, D.M., Marsh, J.L., Nepola, J.V., Jacobs, J.J., Skipor, A.K., Urban, R.M., Gilbert, J.L. and Buckwalter, J.A. Focal Osteolysis At The Junctions Of A Modular Stainless-Steel Femoral Intramedullary Nail. *J Bone Jt Surg* 83-A:537-548, 2001.
88. Bellabarba, C., Berger, R.A., Bentley, C.D., Quigley, L.R., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B. and Galante, J.O. Cementless Acetabular Reconstruction After Acetabular Fracture. *J Bone Jt Surg* 83-A:868-876, 2001.
89. Hallab, N.J., Mikecz, K., Vermes, C., Skipor, A.K. and Jacobs, J.J. Differential Lymphocyte Reactivity to Serum-Derived Metal-Protein Complexes Produced From Cobalt-Based and Titanium-Based Implant Alloy Degradation. *J Biomed Mater Res* 56:427-436, 2001.
90. Berger, R.A., Rosenberg, A.G., Barden, R.M., Sheinkop, M.B., Jacobs, J.J. and Galante, J.O. Long-Term Followup of the Miller-Galante Total Knee Replacement. *Clin Orthop* 388:58-67, 2001.
91. Archibeck, M.J., Berger, R.A., Barden, R.M., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Posterior Cruciate Ligament-Retaining Total Knee Arthroplasty in Patients with Rheumatoid Arthritis. *J Bone Jt Surg* 83-A:1231-1236, 2001.
92. Hallab, N.J., Mikecz, K., Vermes, C., Skipor, A.K. and Jacobs, J.J. Orthopaedic Implant Related Metal Toxicity in Terms of Human Lymphocyte Reactivity to Metal-Protein Complexes Produced From Cobalt-Base and Titanium-Base Implant Alloy Degradation. *Molecular and Cellular Biochemistry* 222:127-136, 2001.
93. Jacobs, J.J. What Are the Systemic Consequences of Wear Debris Clinically? In: Implant Wear in Total Joint

- Replacement: Clinical and Biologic Issues, Material and Design Considerations. Wright, T.M. and Goodman, S.B. eds. American Academy of Orthopedic Surgeons, Rosemont, IL, 2001, pp. 31-42.
94. Archibeck, M.J., Berger, R.A., Jacobs, J.J., Quigley, L.R., Gitelis, S., Rosenberg, A. G. and Galante, J.O. Second-Generation Cementless Total Hip Arthroplasty. Eight to Eleven-Year Results. *J Bone Jt Surg* 83-A:1666-1673, 2001.
95. Berger, R.A., Lyon, J.H., Jacobs, J.J., Barden, R.M., Berkson, E. M., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Problems With Cementless Total Knee Arthroplasty at 11 Years Followup. *Clin Orthop* 392:196-207, 2001.
96. Archibeck, M.J., Rosenberg, A.G., Sheinkop, M.B., Berger, R.A. and Jacobs, J.J. Gout-Induced Arthropathy After Total Knee Arthroplasty. A Report of Two Cases. *Clin Orthop* 392:377-382, 2001.
97. Jacobs, J.J., Roebuck, K.A., Archibeck, M., Hallab, N.J. and Glant, T.T. Osteolysis: Basic Science. *Clin Orthop* 393:71-77, 2001.
98. Vermes, C., Glant, T.T., Hallab, N.J., Fritz, E.A., Roebuck, K.A. and Jacobs, J.J. The Potential Role of the Osteoblast in the Development of Periprosthetic Osteolysis. Review of In-Vitro Osteoblast Responses to Wear Debris, Corrosion Products and Cytokines and Growth Factors. *J Arthrop* 16 (Suppl. 1):95-100, 2001.
99. Hallab, N.J., Vermes, C., Messina, C., Roebuck, K.A., Glant, T.T. and Jacobs, J.J. Concentration- and Composition-Dependent Effects of Metal Ions on Human MG-63 Osteoblasts. *J Biomed Mater Res* 60:420-433, 2002.
100. Qureshi, A.A., Viridi, A.S., DiDonna, M.L., Jacobs, J.J., Masuda, K., Paprosky, W.P., Thonar, E.J.M.A. and Sumner, D.R. Implant Design Affects Markers of Bone Resorption and Formation in Total Hip Replacement. *J Bone Miner Res* 17:800-807, 2002.
101. Fritz, E.A., Glant, T.T., Vermes, C., Jacobs, J.J. and Roebuck, K.A. Titanium Particles Induce the Immediate Early Stress Responsive Chemokines IL-8 and MCP-1 in Osteoblasts. *J Orthop Res* 20:490-498, 2002.
102. Vermes, C., Jacobs, J.J., Zhang, J., Firneisz, G., Roebuck, K.A. and Glant, T.T. Shedding of the Interleukin-6 (IL-6) Receptor (gp80) Determines the Ability of IL-6 to Induce gp130 Phosphorylation in Human Osteoblasts. *J Biol Chem* 277:16879-16887, 2002.
103. Goldberg, J.R., Gilbert, J.L., Jacobs, J.J., Bauer, T.W., Paprosky, W. and Leurgans, S. A Multicenter Retrieval Study of the Taper Interfaces of Modular Hip Prostheses. *Clin Orthop* 401:149-161, 2002.
104. Berzins, A., Jacobs, J.J., Berger, R., Ed, C., Natarajan, R., Andriacchi, T. and Galante, J.O. Surface Damage in Machined Ram-Extruded and Net-Shape Molded Retrieved Polyethylene Tibial Inserts of Total Knee Replacements. *J Bone Jt Surg* 84-A:1534-1540, 2002.
105. Surace, M.F., Berzins, A., Urban, R.M., Jacobs, J.J., Berger, R.A., Natarajan, R.N., Andriacchi, T.P. and Galante, J.O. Backsurface Wear and Deformation in Polyethylene Tibial Inserts Retrieved Post-Mortem. *Clin Orthop* 404:14-23, 2002.
106. Skipor, A.K., Campbell, P.A., Patterson, L.M., Amstutz, H.C., Schmalzried, T.P., and Jacobs, J.J. Serum and Urine Metal Levels in Patients with Metal on Metal Surface Arthroplasty. *Journal of Materials Science:Materials in Medicine* 13:1227-1234, 2002.
107. Rosenberg, A.G., Jacobs, J.J., Saleh, K.J., Kassim, R.A., Christie, M.J., Lewallen, D.G., Rand, J.A. and Rubash, H.E. The Patella in Revision Total Knee Arthroplasty. *J Bone Jt Surg* 85-A, Suppl 1:63-70, 2003.
108. Urban, R.M., Jacobs, J.J., Gilbert, J.L., Skipor, A.K., Hallab, N.J., Mikecz, K., Glant, T.T., Marsh, J.L. and Galante, J.O. Corrosion Products Generated from Mechanically Assisted Crevice Corrosion of Stainless Steel Orthopaedic Implants. *Stainless Steels for Medical and Surgical Applications, ASTM STP 1438*, G.L. Winters and M.J. Nutt, Eds.,

ASTM International, West Conshohocken, PA, 2003, pp262-272.

109. Martell, J.M., Berkson, E., Berger, R. and Jacobs, J. Comparison of Two and Three-Dimensional Computerized Polyethylene Wear Analysis After Total Hip Arthroplasty. *J Bone Jt Surg* 85-A:1111-1117, 2003.
110. Hallab, N.J., Skipor, A. and Jacobs, J.J. Interfacial Kinetics of Titanium- and Cobalt-Based Implant Alloys in Human Serum: Metal Release and Biofilm Formation. *J Biomed Mater Res* 65A:311-318, 2003.
111. Jacobs, J.J., Hallab, N.J., Skipor, A.K., and Urban, R.M. Metal Degradation Products: A Cause for Concern in Metal-Metal Bearings? *Clin Orthop* 417:139-147, 2003.
112. Della Valle, C.J., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Sheinkop, M.B., and Paprosky, W.G. Extended Trochanteric Osteotomy in Complex Primary Total Hip Arthroplasty. A Brief Note. *J Bone Jt Surg* 85-A:2385-2390, 2003.
113. Hallab, N.J., Cunningham, B.W., and Jacobs, J.J. Spinal Implant Debris-Induced Osteolysis. *Spine* 28:S125-S138, 2003.
114. Hallab, N.J., Messina, C., Skipor, A.K., and Jacobs, J.J. Differences in the Fretting Corrosion of Metal-Metal and Ceramic-Metal Modular Junctions of Total Hip Replacements. *J Orthop Res* 22:250-259, 2004.
115. Hirakawa, K., Jacobs, J.J., Urban, R., and Saito, T. Mechanisms of Failure of Total Hip Replacements: Lessons Learned from Retrieval Studies. *Clin Orthop* 420:10-17, 2004.
116. Glant, T.T., Adarichev, V.A., Nesterovitch, A.B., Szanto, S., Oswald, J.P., Jacobs, J.J., Firneisz, G., Zhang, J., Finnegan, A., and Mikecz, K. Disease-Associated Qualitative and Quantitative Trait Loci in Proteoglycan-Induced Arthritis and Collagen-Induced Arthritis. *Am J Med Sci* 327:188-195, 2004.
117. Della Valle, C.J., Berger, R.A., Shott, S., Rosenberg, A.G., Jacobs, J.J., Quigley, L. and Galante, J.O. Primary Total Hip Arthroplasty With a Porous-Coated Acetabular Component. A Concise Follow-Up of a Previous Report. *J Bone Jt Surg* 86-A:1217-1222, 2004.
118. Vermes, C., Chandrasekaran, R., Dobai, J.G., Jacobs, J.J., Andersson, G.B.J., An, H., Hallab, N.J., Galante, J.O. and Glant, T.T. The Combination of Pamidronate and Calcitriol Reverses Particle- and TNF- $\alpha$ -Induced Altered Functions of Bone-Marrow-Derived Stromal Cells with Osteoblastic Phenotype. *J Bone Jt Surg* 86-B:759-770, 2004.
119. Berger, R.A., Meneghini, R.M., Sheinkop, M.B., DellaValle, C.J., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. The Progression of Patellofemoral Arthrosis after Medial Unicompartment Replacement. *Clin Orthop* 428:92-99, 2004.
120. Berger, R.A., Jacobs, J.J., Meneghini, R.M., DellaValle, C., Paprosky, W. and Rosenberg, A.G. Rapid Rehabilitation and Recovery with Minimally Invasive Total Hip Arthroplasty. *Clin Orthop* 429:239-247, 2004.
121. Urban, R.M., Tomlinson, M.J., Hall, D.J., and Jacobs, J.J. Accumulation in Liver and Spleen of Metal Particles Generated at Nonbearing Surfaces in Hip Arthroplasty. *J Arthrop* 19 (Suppl 3):94-101, 2004.
122. Jacobs, J.J., Skipor, A.K., Campbell, P.A., Hallab, N.J, Urban, R.M., and Amstutz, H.C. Can Metal Levels Be Used to Monitor Metal-on-Metal Hip Arthroplasties? *J Arthrop* 19 (Suppl 3):59-65, 2004.
123. Hallab, N.J., Anderson, S., Caicedo, M., Skipor, A.K., Campbell, P. and Jacobs, J.J. Immune Responses Correlate with Serum-Metal in Metal-on-Metal Hip Arthroplasty. *J Arthrop* 19 (Suppl 3):88-93, 2004.
124. MacDonald, S.J., Brodner, W., and Jacobs, J.J. A Concensus Paper on Metal Ions in Metal-on-Metal Hip Arthroplasties. *J Arthrop* 19(Suppl 3):12-16, 2004.

125. Burnett, R.S.J., Berger, R.A., Paprosky, W.G., Della Valle, C.J., Jacobs, J.J. and Rosenberg, A.G. Extensor Mechanism Allograft Reconstruction After Total Knee Arthroplasty. A Comparison of Two Techniques. *J Bone Jt Surg* 86-A:2694-2699, 2004.
126. Kunze, J., Wimmer, M.A., Reich, M., Koelling, S. and Jacobs, J.J. The Effects of Residual Carbon on the Determination of Chromium in Blood and Tissue Samples Using Quadrupole ICP-MS. *Atomic Spectroscopy* 26:8-13, 2005.
127. Hallab, N.J., Anderson, S., Stafford, T., Glant, T., and Jacobs, J.J. Lymphocyte Responses in Patients With Total Hip Arthroplasty. *J Orthop Res* 23:384-391, 2005.
128. Heisel, C., Silva, M., Skipor, A.K., Jacobs, J.J. and Schmalzried, T.P. The Relationship Between Activity and Ions in Patients With Metal-on-Metal Bearing Hip Prostheses. *J Bone Jt Surg* 87-A:781-787, 2005.
129. Berger, R.A., Meneghini, R.M., Jacobs, J.J., Sheinkop, M.B., Della Valle, C.J., Rosenberg, A.G., and Galante, J.O. Results of Unicompartmental Knee Arthroplasty at a Minimum of Ten Years of Follow-Up. *J Bone Jt Surg* 87-A:999-1006, 2005.
130. Della Valle, C.J., Shuaipaj, T., Berger, R.A., Rosenberg, A.G., Shott, S., Jacobs, J.J., and Galante, J.O. Revision of the Acetabular Component Without Cement After Total Hip Arthroplasty. A Concise Follow-Up, At Fifteen to Nineteen Years, of a Previous Report. *J Bone Jt Surg* 87-A:1795-1800, 2005.
131. Hallab, N.J., Anderson, S., Caicedo, M., Brasher, A., Mikecz, K., and Jacobs, J.J. Effects of Soluble Metals on Human Peri-Implant Cells. *J Biomed Mater Res* 74A:124-140, 2005.
132. Burnett, R.S., Berger, R.A., Della Valle, C.J., Sporer, S.M., Jacobs, J.J., Paprosky, W.G., and Rosenberg, A.G. Extensor Mechanism Allograft Reconstruction After Total Knee Arthroplasty. *J Bone Jt Surg* 87-A Suppl 1, Part 2:175-194, 2005.
133. Urban, R.M., Gilbert, J.L., and Jacobs, J.J. Corrosion of Modular Titanium Alloy Stems in Cementless Hip Replacement. *J ASTM Int* Vol 2, No. 10, Paper ID JAI12810, 2005.
134. Sprecher, C.M., Kunze, J., Burian, B., Villinger, N., Jacobs, J.J., Schneider, E., and Wimmer, M.A. A Methodology to Fabricate Titanium and Stainless Steel Wear Debris for Experimental Use: A Comparison of Size, Shape, and Chemistry. *J ASTM Int* Vol. 2, No 7, Paper ID JAI12814, 2005.
135. Fritz, E.A., Jacobs, J.J., Glant, T.T., and Roebuck, K.A. Chemokine IL-8 Induction by Particulate Wear Debris in Osteoblasts is Mediated by NF-kB. *J Orthop Res* 23:1249-1257, 2005.
136. Berger, R.A., Sanders, S., Gerlinger, T., Della Valle, C., Jacobs, J.J. and Rosenberg, A.G. Outpatient Total Knee Arthroplasty With a Minimally Invasive Technique. *J Arthrop* 20(Suppl. 3):33-38, 2005.
137. Wasielewski, R.C., Jacobs, J.J., Arthurs, B., and Rubash, H.E. The Acetabular Insert-Metal Backing Interface. An Additional Source of Polyethylene Wear Debris. *J Arthrop* 20:914-922, 2005.
138. Hallab, N.J., Anderson, S., Caicedo, M., and Jacobs, J.J. Zirconium and Niobium Affect Human Osteoblasts, Fibroblasts, and Lymphocytes in a Similar Manner to More Traditional Implant Alloy Metals. *J ASTM Int* Vol 3, No. 1, Paper ID JAI12817, 2006.
139. Berger, R.A., Deirmengian, C.A., Della Valle, C.J., Paprosky, W.G., Jacobs, J.J. and Rosenberg, A.G. A Technique for Minimally Invasive, Quadriceps-Sparing Total Knee Arthroplasty. *J Knee Surg* 19:63-70, 2006.
140. Crowninshield, R., Wimmer, M.A., Jacobs, J.J. and Rosenberg, A.G. Clinical Performance of Contemporary Tibial Polyethylene Components. *J Arthrop* 21:754-761, 2006.

141. Fritz, E.A., Glant, T.T., Vermes, C., Jacobs, J.J. and Roebuck, K.A. Chemokine Gene Activation in Human Bone-Marrow Derived Osteoblasts Following Exposure to Particulate Wear Debris. *J Biomed Mater Res* 77A:192-201, 2006.
142. Jacobs, J.J., Galante, J.O., Mirza, S. and Zdeblick, T. Relationships with Industry: Critical for New Technology or an Unnecessary Evil? *J Bone Jt Surg* 88A:1650-1663, 2006.
143. Sporer, S.M., Della Valle, C., Jacobs, J., and Wimmer, M. A Case of Disassociation of a Modular Femoral Neck Trunion After Total Hip Arthroplasty. *J Arthrop* 21:918-921, 2006.
144. Rasquinha, V.J., Ranawat, C.S., Weiskopf, J., Rodriguez, J.A., Skipor, A.K. and Jacobs, J.J. Serum Metal Levels and Bearing Surfaces in Total Hip Arthroplasty. *J Arthrop* 21(Suppl. 2):47-52, 2006.
145. Meneghini, R.M., Hallab, N.J., Berger, R.A., Jacobs, J.J., Paprosky, W.G. and Rosenberg, A.G. Stem Diameter and Rotational Stability in Revision Total Hip Arthroplasty: A Biomechanical Analysis. *Journal of Orthop Surg and Res* 1:5, 2006.
146. Honl, M., Schwieger, K., Salineros, M., Jacobs, J., Morlock, M. and Wimmer, M. Orientation of the Acetabular Component. A Comparison of Five Navigation Systems with Conventional Surgical Technique. *J Bone Jt Surg* 88B:1401-1405, 2006.
147. Levine, B.R., Sporer, S., Poggie, R.A., Della Valle, C.J., and Jacobs, J.J. Experimental and Clinical Performance of Porous Tantalum in Orthopaedic Surgery. *Biomaterials* 27:4671-4681, 2006.
148. Koreny, T., Tunyogi-Csapo, M., Gal, I., Vermes, C., Jacobs, J.J. and Glant, T.T. The Role of Fibroblasts and Fibroblast-Derived Factors in Periprosthetic Osteolysis. *Arthritis and Rheumatism* 54:3221-3232, 2006.
149. Levine, B., Della Valle, C.J., Jacobs, J.J. Applications of Porous Tantalum in Total Hip Arthroplasty. *J Am Acad Orthop Surg* 14:646-655, 2006.
150. Farley, F.A., Weinstein, J.N., Aamoth, G.M., Shapiro, M.S., Jacobs, J.J., McCarthy, J.C., and Kramer, J. Workforce Analysis in Orthopaedic Surgery: How Can We Improve the Accuracy of Our Predictions? *J Amer Acad Ortho Surg* 15:268-273, 2007.
151. Levine, B.R., Sporer, S., Della Valle, C.J., Jacobs, J.J., and Paprosky, W.P. Porous Tantalum in Reconstructive Surgery of the Knee: A Review. *J Knee Surg.* 20:185-194, 2007.
152. Tunyogi-Csapo, M., Koreny, T., Vermes, C., Galante, J.O., Jacobs, J.J. and Glant, T.T. The Role of Fibroblasts and Fibroblast-derived Growth Factors in Periprosthetic Angiogenesis. *J Orthop Res* 25:1378-1388, 2007.
153. Della Valle, C.J., Sporer, S.M., Jacobs, J.J., Berger, R.A., Rosenberg, A.G., and Paprosky, W. G. Preoperative Testing for Sepsis Before Revision Total Knee Arthroplasty. *J Arthrop* 22 (Suppl 6):90-93, 2007.
154. Bitsch, R.G., Zamorano, M., Loidolt, T., Heisel, C., Jacobs, J.J. and Schmalzried, T.P. Ion Production and Excretion in a Patient with a Metal-on-Metal Bearing Hip Prosthesis. A Case Report. *J Bone Jt Surg* 89A:2758-2763, 2007.
155. Salineros, M.J., Crowninshield, R.D., Laurent, M., Wimmer, M.A., and Jacobs, J.J. Analysis of Retrieved Acetabular Components of Three Polyethylene Types. *Clin Orthop* 465:140-149, 2007.
156. Hallab, N.J., Caicedo, M., Finnegan, A., and Jacobs, J.J. Th1 Lymphocyte Reactivity to Metals in Patients with Total Hip Arthroplasty. *J. Orthop. Surg. and Res.* 3:6, 2008.
157. Goldberg, S.H., Urban, R.M., Jacobs, J.J., King, G.J.W., O'Driscoll, S.W. and Cohen, M.S. Modes of Wear After Semiconstrained Total Elbow Arthroplasty. *J Bone Jt Surg* 90-A:609-619, 2008.

158. Jacobs, J.J., Campbell, P.A., and Konttinen, Y.T. How Has the Biologic Reaction to Wear Particles Changed With Newer Bearing Surfaces? *J Am Acad Orthop Surg* 16:S49-S55, 2008.
159. Caicedo, M., Jacobs, J.J., Reddy, A., and Hallab, N.J. Analysis of Metal Ion-Induced DNA Damage, Apoptosis, and Necrosis in Human (Jurkat) T-cells Demonstrates Ni<sup>2+</sup> and V<sup>3+</sup> Are More Toxic Than Other Metals: Al<sup>3+</sup>, Be<sup>2+</sup>, Co<sup>2+</sup>, Cr<sup>3+</sup>, Cu<sup>2+</sup>, Fe<sup>3+</sup>, Mo<sup>5+</sup>, Nb<sup>5+</sup>, Zr<sup>2+</sup>. *J Biomed Mater Res* 86A:905-913, 2008.
160. Tunyogi-Csapo, M., Kis-Toth, K., Radacs, M., Farkas, B., Jacobs, J.J., Finnegan, A., Mikecz, K., and Glant, T.T. Cytokine-Controlled RANKL and Osteoprotegerin Expression by Human and Mouse Synovial Fibroblasts. Fibroblast-Mediated Pathologic Bone Resorption. *Arthritis and Rheumatism* 58:2397-2408, 2008.
161. Henley, M.B., Turkelson, C., Jacobs, J.J. and Haralson, R.H. AOA Symposium. Evidence-Based Medicine, the Quality Initiative, and P4P: Performance or Paperwork? *J Bone Jt Surg* 90-A:2781-2790, 2008.
162. Rodrigues, D.C., Urban, R.M., Jacobs, J.J. and Gilbert, J.L. In Vivo Severe Corrosion and Hydrogen Embrittlement of Retrieved Modular Body Titanium Alloy Hip-Implants. *J Biomed Mater Res* 88B:206-219, 2009.
163. Jacobs, J.J., Urban, R.M., Hallab, N.J., Skipor, A.K., Fischer, A. and Wimmer, M.A. Metal-on-Metal Bearing Surfaces. *J. Am. Acad. Ortho. Surg.* 17:69-76, 2009.
164. Caicedo, M.S., Desai, R., McAllister, K., Reddy, A., Jacobs, J.J., and Hallab, N.J. Soluble and Particulate Co-Co-Mo Alloy Implant Metals Activate the Inflammasome Danger Signaling Pathway in Human Macrophages: A Novel Mechanism for Implant Debris Reactivity. *J Orthop Res* 27:847-854, 2009.
165. Turkelson, C. and Jacobs, J.J. Role of Technology Assessment in Orthopaedics. *Clin Orthop* 467:2570-2576, 2009.
166. Della Valle, C.J., Mesko, N.W., Quigley, L., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Primary Total Hip Arthroplasty with a Porous-Coated Acetabular Component. A Concise Follow-up, at a Minimum of Twenty Years, of Previous Reports. *J Bone Joint Surg* 91A:1130-1135, 2009.
167. Hallab, N.J. and Jacobs, J.J. Biologic Effects of Implant Debris. *Bull NYU Hosp Jt Dis.* 67:182-188, 2009.
168. Wimmer, M.A., Fischer, A., Buscher, R., Pourzal, R., Sprecher, C., Hauert, R., and Jacobs, J.J. Wear Mechanisms in Metal-on-Metal Bearings: The Importance of Tribochemical Reaction Layers. *J Orthop Res* 28:436-443, 2010.
169. Hallab, N.J., Caicedo, M., Epstein, R., McAllister, K., and Jacobs, J.J. In Vitro Reactivity to Implant Metals Demonstrates a Person-Dependent Association with Both T-Cell and B-Cell Activation. *J Biomed Mater Res* 92A:667-682, 2010.
170. Schemitsch, E.H., Bhandari, M., Boden, S.D., Bourne, R.B., Bozic, K.J., Jacobs, J.J. and Zdero, R. The Evidence-Based Approach in Bringing New Orthopaedic Devices to Market. *J. Bone Joint Surg* 92A:1030 – 1037, 2010.
171. Caicedo, M.S., Pennekamp, P.H., McAllister, K., Jacobs, J.J. and Hallab, N.J. Soluble Ions More Than Particulate Cobalt-Alloy Implant Debris Induce Monocyte Costimulatory Molecule Expression and Release of Proinflammatory Cytokines Critical to Metal-Induced Lymphocyte Reactivity. *J Biomed Mater Res* 93A:1312-1321, 2010.
172. Wright, G.W., Sporer, S., Urban, R., Jacobs, J. Fracture of a Modular Femoral Neck After Total Hip Arthroplasty. A Case Report. *J Bone Joint Surg* 92A:1518-1521, 2010.
173. Deirmengian, C., Hallab, N., Tarabishy, A., Della Valle, C., Jacobs, J.J., Lonner, J., and Booth, R.E. Synovial Fluid Biomarkers for Periprosthetic Infection. *Clin Orthop* 468:2017-2023, 2010.
174. Schwartz, A.J., Della Valle, C.J., Rosenberg, A.G., Jacobs, J.J., Berger, R.A. and Galante, J.O. Cruciate-Retaining

TKA Using a Third-Generation System with a Four-Pegged Tibial Component: A Minimum 10-year Followup Note. *Clin Orthop* 468:2160-2167, 2010.

175. Bedair, H., Berli, M., Gezer, S., Jacobs, J.J., and Della Valle, C.J. Hematologic Genetic Testing in High-Risk Patients Before Knee Arthroplasty: A Pilot Study. *Clin Orthop* 469:131-137, 2011.

176. Guyer, R.D., Shellock, J., MacLennan, B., Hanscom, D., Knight, R.Q., McCombe, P., Jacobs, J.J., Urban, R.M., Bradford, D., and Ohnmeiss, D.D. Early Failure of Metal-on-Metal Artificial Disc Prostheses Associated with Lymphocytic Reaction:Diagnosis and Treatment Experience in 4 Cases. *Spine* 36:E492-E497, 2011.

177. Laurent, M.P., Pourzal, R., Fischer, A., Bertin, K.C., Jacobs, J.J. and Wimmer, M.A. In Vivo Wear of a Squeaky Alumina-on-Alumina Hip Prosthesis: A Case Report. *J Bone Joint Surg Am* 93:27, 2011.

178. Gallardo, L.A., Knowlton, C.B., Kunze, J., Jacobs, J.J., Wimmer, M.A. and Laurent, M.P. Effect of Europium(II) Stearate on the Mechanical Properties and the Oxidation Resistance of UHMWPE. *J Mech Behav of Biomed Mater* 4:821-826, 2011.

179. Mont, M.A., Jacobs, J.J., Boggio, L.N., Bozic, K.J., Della Valle, C.J., Goodman, S.B., Lewis, C.G., Yates, A.J., Watters, W.C., Turkelson, C.M., Wies, J.L., Donnelly, P., Patel, N. and Sluka, P. Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Hip and Knee Arthroplasty. *J Amer Acad Orthop Surg* 19:768-776, 2011.

180. Mont, M.A. and Jacobs, J.J. Case Study. AAOS Clinical Practice Guideline: Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Hip and Knee Arthroplasty. *J Amer Acad Orthop Surg* 19:777-778, 2011.

181. Graves, S.E., Rothwell, A., Tucker, K., Jacobs, J.J. and Sedrakyan. A Multinational Assessment of Metal-on-Metal Bearings in Hip Replacement. *J Bone Joint Surg* 93A Suppl 3(E):43-47, 2011.

182. Liao, Y., Pourzal, R., Wimmer, M.A., Jacobs, J.J., Fischer, A., and Marks, L.D. Graphitic Tribological Layers in Metal-on-Metal Hip Replacements. *Science* 334:1687-1690, 2011.

183. Mathew, M.T., Runa, M.J., Laurent, M., Jacobs, J.J., Rocha, L.A., and Wimmer, M.A. Tribocorrosion Behavior Of CoCrMo Alloy For Hip Prosthesis As a Function Of Loads: A Comparison Between Two Testing Systems. *Wear* 271:1210-1219, 2011.

184. Wimmer, M.A., Laurent, M.P., Haman, J.D., Jacobs, J.J. and Galante, J.O. Surface Damage Versus Tibial Polyethylene Insert Conformity. A Retrieval Study. *Clin Orthop* 470:1814–1825, 2012.

185. Gilbert, J.L., Mali, S., Urban, R.M., Silverton, C.D. and Jacobs, J.J. In-Vivo Oxide-Induced Stress Corrosion Cracking of Ti-6Al-4V in a Neck-Stem Modular Taper: Emergent Behavior in a New Mechanism of In-Vivo Corrosion. *J Biomed Mater Res Part B* 100B:584-594, 2012.

186. Kwon, Y-M, Jacobs, J.J., MacDonald, S.J., Potter, H.G., Fehring, T.K., and Lombardi, A.V. Evidence-Based Understanding of Management Perils for Metal-on-Metal Hip Arthroplasty Patients. *J Arthrop* 27 (Suppl. 1):20-25, 2012.

187. Meneghini, R.M., Hallab, N.J., and Jacobs, J.J. Evaluation and Treatment of Painful Total Hip Arthroplasties with Modular Metal Taper Junctions. *Orthopaedics* 35:386-391, 2012.

188. Cooper, H.J., Della Valle, C.J., Berger, R.A., Tetreault, M., Pappas, W.G., Sporer, S.M. and Jacobs, J.J. Corrosion at the Head-Neck Taper as a Cause for Adverse Local Tissue Reactions After Total Hip Arthroplasty. *J Bone Jt Surg Am* 94:1655-1661, 2012.

189. Urban, R.M., Hall, D.J., Della Valle, C., Wimmer, M.A., Jacobs, J.J. and Galante, J.O. Successful Long-Term Fixation and Progression of Osteolysis with First-Generation Cementless Acetabular Components Retrieved Post Mortem. *J Bone Jt Surg Am* 94:1877-1885, 2012.

190. Mathew M.T., Jacobs, J.J., and Wimmer, M.A. Wear-Corrosion Synergism in a CoCrMo Hip Bearing Alloy Is Influenced by Proteins. *Clin Orthop* 470:3109–3117, 2012.
191. Lombardi, A.V., Barrack, R.L., Berend, K.R., Cuckler, J.M., Jacobs, J.J., Mont, M.A., and Schmalzried, T. P. The Hip Society. Algorithmic Approach To Diagnosis And Management of Metal-On-Metal Arthroplasty. *J Bone Joint Surg Br* 94-B, Suppl A:14–18, 2012.
192. Wimmer, M.A., Mathew, M.T., Laurent, M.P., Nagelli, C., Liao, Y., Marks, L.D., Pourzal, R., Fischer, A., and Jacobs, J.J. Tribochemical Reactions in Metal-on-Metal Hip Joints Influence Wear and Corrosion. *ASTM STP* (In Press).
193. Stemmer, P., Pourzal, R., Liao, Y., Marks, L., Morlock, M., Jacobs, J.J., Wimmer, M.A. and Fischer, A. Microstructure of Retrievals Made from Standard Cast HC-CoCrMo Alloys. *ASTM STP* (In Press).
194. Liao, Y., Pourzal, R., Stemmer, P., Wimmer, M.A., Jacobs, J.J., Fischer, A., and Marks, L.D. New Insights into Hard Phases of CoCrMo Metal-on-Metal Hip Replacements. *J Mech Behav Biomed Mater* 12:39-49, 2012.
195. Levine, B.R., Hsu, A.R., Skipor, A.K., Hallab, N.J., Paprosky, W.G., Galante, J.O. and Jacobs, J.J. Ten-Year Outcome of Serum Metal Ion Levels after Primary Total Hip Arthroplasty. A Concise Follow-up of a Previous Report. *J Bone Jt Surg Am* 95:512-518, 2013.
196. Amstutz, H.C., Campbell, P.A., Dorey, F.J., Johnson, A.J., Skipor, A.K. and Jacobs, J.J. Do Ion Concentrations after Metal-on-Metal Hip Resurfacing Increase Over Time? A Prospective Study. *J Arthroplasty* 28:695-700, 2013.
197. Gornet, M.F., J.K. Burkus, J.K., Harper, M.L., Chan, F.W., Skipor, A.K., and Jacobs, J.J. Prospective Study on Serum Metal Levels in Patients with Metal-on-Metal Lumbar Disc Arthroplasty. *Europ. Spine J* 22:741-746, 2013.
198. Cooper, H.J., Jacobs, J.J., Leikin, J.B., Barden, R. M., and Rosenberg, A.G. Elevated Serum Metal Levels from Vitamin Supplementation: A Case Report. *JBJS Case Connector* Feb 27;3(1):e18 1-4, 2013.
199. Hallab, N.J., Caicedo, M, McAllister, K, Skipor, A, Amstutz H, and Jacobs, J.J. Asymptomatic prospective and retrospective cohorts with metal-on-metal hip arthroplasty indicate acquired lymphocyte reactivity varies with metal ion levels on a group basis. *J Orthop Res* 31: 173–182, 2013.
200. Cooper, H.J., Urban, R.M., Wixson, R.L., Meneghini, R.M., and Jacobs, J.J. Adverse Local Tissue Reaction Arising from Corrosion at the Neck-Body Junction in a Dual Taper Stem with a CoCr Modular Neck. *J Bone Jt Surg Am* 95:865-72, 2013.
201. Liao, Y., Hoffman, E., Wimmer, M.A., Fischer, A., Jacobs, J.J., and Marks, L.D. CoCrMo Metal-on-Metal Hip Replacements. *Phys Chem Chem Phys* 15:746-756, 2013.
202. Leikin, J.B., Karydes, H.C., Whiteley, P.M., Wills, B.K., Cumpston, K.L. and Jacobs, J.J. Outpatient Toxicology Clinic Experience of Patients With Hip Implants. *Clinical Toxicology* 51: 230–236, 2013.
203. Maa, Y., Ren, Y., Han, E.Q., Li, H., Chen, D., Jacobs, J.J., Gitelis, S., O’Keefe, R.J., Kontinen, Y.T., Yin, G., and Li, T-F. Inhibition of the Wnt-b-Catenin and Notch Signaling Pathways Sensitizes Osteosarcoma Cells to Chemotherapy. *Biochemical and Biophysical Research Communications* 431:274–279, 2013.
204. Caicedo, M. S., Samelko, L., McAllister, K., Jacobs, J. J. and Hallab, N. J. Increasing both CoCrMo-alloy particle size and surface irregularity induces increased macrophage inflammasome activation in vitro potentially through lysosomal destabilization mechanisms. *J. Orthop. Res.* doi: 10.1002/jor.22411, 2013.
205. Samelko L, Caicedo MS, Lim S-J, Della-Valle C, Jacobs J, and Hallab, N.J. Cobalt-Alloy Implant Debris Induce

HIF-1 $\alpha$  Hypoxia Associated Responses: A Mechanism for Metal-Specific Orthopedic Implant Failure. PLoS ONE 8(6): e67127. doi:10.1371/journal.pone.0067127, 2013.

206. Jacobs, J.J., King, T.R.W., Klippel, J.H., Berven, S.H., Burr, D.B., Caskey, P.M., Elderkin, A.L., Esposito, P.W., Gall, E.P., Goldring, S.R., Pollak, A.N., Sandborg, C.I., and Templeton, K.J. Beyond the Decade: Strategic Priorities to Reduce the Burden of Musculoskeletal Disease. *J Bone Jt. Surg* 95:e125(1-6), 2013.

207. Kwon, Y.-M., Lombardi, A.V. Fehring, T.K., Lewis, C.G., Cabanela, M.E. and Jacobs, J.J. Risk Stratification Algorithm for Management of Patients with Metal-on-Metal Hip Arthroplasty: Consensus Statement of the American Association of Hip and Knee Surgeons, the American Academy of Orthopaedic Surgeons and the Hip Society. *J Bone Jt. Surg* (In Press).

208. Mathew, M.T., Nagelli, C., Pourzal R., Fischer, A., Laurent, M.P., Jacobs, J.J., and Wimmer, M.A. Tribolayer Formation in a Metal-on-Metal (MoM) Hip Joint: An Electrochemical Investigation. *J Mech Beh of Biomed Mater* (In Press).

#### Manuscripts (Non-peer reviewed)

1. Kienapfel, H., Sumner, D.R., Jacobs, J.J., Turner, T.M., Urban, R.M., and Galante, J.O. A Quantitative Topographic Evaluation of Bone Ingrowth in Tibial Components Removed from Human Patients. Clinical Implant Materials, edited by G. Heimke, U. Soltesz and A. J. C. Lee, Advances in Biomaterials, Volume 9, Elsevier, Amsterdam, 1990, p. 415.

2. Collier, J., Dorr, L.D., Jacobs, J.J., Li, S., Moreland, J., and Whiteside, L.A. Mechanisms of Material and Design-Related Implant Failure. *Ortho Rev* Volume 20 Supplement, 1991.

3. Mayor, M.B., Collier, J.P., Engh, C.A., Geesink, R.G.T., and Jacobs, J.J. Symposium: Use of Coatings on Hip Prostheses. *Cont. Orthop.* 26:511-540, 1993.

4. Jacobs, J.J., Sumner, D.R., and Galante, J.O. Mechanisms of Bone Loss Associated with Total Hip Replacement. *Orthop. Clin. of North America* 24:583-590, 1993.

5. Shanbhag, A.S., Gilbert, J.L., Jacobs, J.J., Glant, T.T., Galante, J.O., and Black, J. Microchemical Characterization of Wear Debris From Uncemented Total Hip Replacements. 1993 *Advances in Bioengineering American Society of Mechanical Engineers, BED - Vol 26:227-229*, 1993.

6. Berger, R.A. and Jacobs, J.J. Prosthesis Benefit Should Come Before Lower Cost. *Bulletin of the American Academy of Orthopedic Surgeons* 44:20-21, 1996.

7. Hallab, N.J., Jacobs, J.J., Black, J., Iverson, M.J. Biomaterials Crisis Looms. *AAOS Bulletin* 45:13-15, 1997.

8. Rodgers, K., Klykken, P., Jacobs, J.J., Frondoza, C., Tomazic, V., and Zelikoff, J. Symposium Overview: Immunotoxicity of Medical Devices. *Fundamental and Applied Toxicology* 36:1-14, 1997.

9. Jacobs, J.J. The Impact of Biomaterial Product Liability on Orthopedic Practice. *The AIMBE News* Volume 4, Number 2, pp. 6-8, 1997.

10. Shanbhag, A.S., Dowd, J.E., Jacobs, J.J., Tramaglino, D.M., Glant, T.T., Black, J. and Rubash, H.E. Biological Response to Particulate Debris: In-vitro and In-vivo studies. *Cells and Materials* 7:175-182, 1997.

11. Jacobs, J.J., Pierson, R.H., Rosenberg, A.G., Andriacchi, T., and Galante, J.O. Cementless Total Hip Arthroplasty with Titanium Fiber-Metal Composite Prostheses. In *Hipp and Ascherl International Symposium on Cementless Hip Prostheses*. (In Press).

12. Urban, R.M., Sapienza, C., Tomlinson, M.J., Gavrilovic, J., Jacobs, J.J. and Galante, J.O. Systemic Diffusion of

Wear Debris. Italian Journal of Orthopedics and Traumatology (In Press).

13. Black, J and Jacobs, J.J. Materials for Alternate Bearings: Biological Considerations. *Seminars in Arthroplasty* 9:157-164, 1998.
14. Jacobs, J.J., Hallab, H.J., Skipor, A.K., Urban, R.M., Mikecz, K., and Glant, T.T. Metallic Wear and Corrosion Products: Biological Implications. in "Metasul. A Metal-on-Metal Bearing Jubilee". Rieker, C., Windler, M. and Wyss, U. eds. Hans Huber, Bern, 1999, pp.125-132.
15. Jacobs, J.J., Urban, R.M., and Gilbert, J.L. Corrosion of Metal Orthopaedic Implants. In "Proceedings of the International Symposium: Titanium or Steel for Osteosynthesis?" Synos Publications, Munsingen-Bern, 1999, Volume 1-A:I-6 pp. 1-6.
16. Jacobs, J.J. and Glant, T.T. Cellular Response to Particulate Corrosion and Wear Debris. In "Proceedings of the International Symposium: Titanium or Steel for Osteosynthesis?" Synos Publications, Munsingen-Bern, 1999, Volume 1-A:III-5 pp. 1-7.
17. Jacobs, J.J. and Glant, T.T. The Biology of Corrosion and Wear Debris From Orthopaedic Implants in Biomedical Materials - Drug Delivery, Implants and Tissue Engineering. Neenan, T., Marcolongo, M. and Valentini, R.F., eds. MRS Proceedings Volume 550, Materials Research Society, Warrendale, PA, 1999, pp.321-330.
18. Skipor, A.K., Jacobs, J.J., Patterson, L.M., Paprosky, W.P., and Galante, J.O. Serum Chromium Concentration in Patients with Cobalt-Chromium Total Hip Replacement Components. In: "Metal Ions in Biology and Medicine, Volume 6". Centeno, J.A., Collery, P. Vernet, G. et al John Libbey Eurotext, Paris, 2000, pp. 342-344.
19. Wimmer, M.A., Loos, J., Kunze, J., Drechsler, D., Jacobs, J.J., Schneider, E. and Andriacchi, T.P. Salt Impurities in UHMWPE and their Relationship to Wear in Total Knee Replacement. *Proceedings of the International Conference on Knee Replacement*, April, 99, London. (In Press).
20. Black J, Jacobs JJ: Biological effects of implanted metallic devices. in: Willmann G, Zweymuller K (eds), *Proc. 5th International CeramTec Symposium*, Feb 18/19, 2000, Stuttgart: Georg Thieme, p. 110-114, 2000.
21. Jacobs, J.J., Hallab, N.J., Urban, R., and Skipor, A.K..Systemic Implications Of Total Joint Replacement. *World Tribology Forum in Arthroplasty*. Rieker, C., Oberholzer, S., and Wyss, U. eds. Hans Huber, Bern, pp. 77-82, 2001.
22. Jacobs, J.J. and Glant, T.T. The Role of Wear Debris in Long-Term Implant Fixation. Bridging the Gap Between Dental and Orthopaedic Implants. *Proceedings of the 3<sup>rd</sup> Annual Indiana Bone Meeting*. Garetto, L.P., Turner, C.H., Duncan, R.L., and Burr, D.B., eds. Indiana University School of Dentistry, Indianapolis, 2002, pp. 33 – 43.
23. Illgen, R., Shanbhag, A. and Jacobs, J.J. Periprosthetic Osteolysis: Pathophysiology and Medical Management. *Seminars in Arthroplasty* 13:238-254, 2002.
24. Bozic, K.J. and Jacobs, J.J. Why the Bearing Surface Matters: The Problems Caused by Bearing Surface Wear. *Seminars in Arthroplasty* 14:57-68, 2003.
25. Urban, R.M. and Jacobs, J.J. Allergic and Systemic Effects of Particles. *Bioceramics in Joint Arthroplasty*. 8<sup>th</sup> BioloX Symposium Proceedings. Zippel, H. and Dietrich, M. eds. Steinkopff Verlag, Darmstadt, pp. 97 – 102.
26. Jacobs, J.J., Hallab, N.J., Urban, R.M. and Wimmer, M.A. Wear Particles. *Proceedings of the AAOS/NIH/ORS Intervertebral Disc Degeneration Workshop*. *J Bone Jt Surg* 88-A(Suppl 2):99-102, 2006.
27. Deirmengian, C.A. and Jacobs, J.J. Trends in Joint Arthroplasty. Minimally Invasive Surgery, Wear-Resistant Materials, and Biologics. *J Clin Rheum* 13:153-158, 2007.

28. Caicedo, M., Jacobs, J.J., and Hallab, N.J. Inflammatory Bone Loss in Joint Replacements: The Mechanisms. *J Musculoskel Med* 27:209-216, 2010.
29. Caicedo, M., Jacobs, J.J., and Hallab, N.J. Inflammatory Bone Loss in Joint Replacements: The Key Mediators. *J Musculoskel Med* 27:262-265, 2010.
30. Srinivasan, A., Levine, B.R. and Jacobs, J.J. Metal-on-Metal Articulation in Total Hip Arthroplasty: Update. *Current Orthopaedic Practice* 22:231-235, 2011.
31. Jacobs, J.J. Building for the Future: AAOS Announces Plans to Relocate. *AAOS Now*: pp 1, 48, September 2012.
32. Mihalko W.M., Goodman, S.B., Hallab, N.J., and Jacobs, J.J. Skin Patch Testing and Associated Total Knee Outcomes. *AAOS Now*: pp 40 – 41, September, 2012.
33. Cooper, H.J., Della Valle, C.J. and Jacobs, J.J. Biologic Implications of Taper Corrosion in Total Hip Arthroplasty. *Seminars in Arthroplasty* 23:273-278, 2012.

#### Books

1. Alternative Bearing Surfaces in Total Joint Replacement. ASTM STP 1346, Jacobs, J.J. and Craig, T.L., eds. American Society for Testing and Materials, West Conshohocken, PA, 1998.
2. Joint Replacement and Bone Resorption. Pathology, Biomaterials, and Clinical Practice. Shanbhag, A., Rubash, H.E., and Jacobs, J.J., eds. Taylor & Francis, New York, NY, 2006.
3. Principles of Orthopaedics. Jacobs, J.J., Keenan, M.A., Moore, T.J. and Yoon, S.T. Section Editors. Orthopaedic Knowledge Update 9. Fischgrund, J.S., Ed. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2008.
4. Current Status of Metal-on-Metal Hip Resurfacing, Amstutz, H.C., Jacobs, J.J. and Ebramzadeh, E. Guest Eds. *Orthopaedic Clinics of North America*, Volume 42, Number 2, W. B. Saunders, Philadelphia, PA, April 2011.
5. Bone and Joint Decade Report: Moving Together Beyond the Decade. Woolf, A.D., Walsh, N.E., Akesson, K., Jacobs, J., Klippel, J.H., Mody, G.M., and Kokubun, S. Guest Eds., *Best Practice & Research Clinical Rheumatology*, Volume 26, Number 2, Elsevier, New York, New York, April 2012.
6. Orthopaedic Basic Science. Foundations of Clinical Practice. Fourth Edition. O’Keefe, R.J., Jacobs, J.J., Chu, C.R. and Einhorn, T.A. eds. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2013.

#### CD ROM/ELECTRONIC MEDIA

1. Biomaterials. Section Editor. *The Arthritic Knee*. Rosenberg, A.G., Mabrey, J.D., Woolson, S.T., and Cole, B.J., eds. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2000.
2. Johanson NA, Jacobs JJ, Schafer MF, Lachiewicz PF, Pellegrini VD Jr: Prevention of Symptomatic Pulmonary Embolism CME. American Academy of Orthopaedic Surgeons Web site: *Orthopaedic Knowledge Online* 2009;7(11): [http://www5.aaos.org/oko/cme/templates/template\\_2/information.cfm?topic=CME077](http://www5.aaos.org/oko/cme/templates/template_2/information.cfm?topic=CME077) <[http://www5.aaos.org/oko/cme/templates/template\\_2/information.cfm?topic=CME077](http://www5.aaos.org/oko/cme/templates/template_2/information.cfm?topic=CME077)> . Accessed October 30, 2009.

#### Book Chapters

1. Woodman, J.L., Jacobs, J.J., Galante, J.O. and Urban, R.M. Titanium, Aluminum, Vanadium Release From Titanium Based Prosthetic Segmental Replacements of Long Bones in Baboons. In J.L. Lewis and J.O. Galante (eds.): Bone-

- Implant Interface Workshop Report. Chicago, American Academy of Orthopedic Surgeons. 1985, pp.184-195.
2. Jacobs, J.J., Galante, J.O., Sumner, D.R. Local Response to Biomaterials: Bone Loss in Cementless Femoral Stems. In Eilert, R. ed. Instructional Course Lectures, Vol. 41, pp 119-125, 1992. American Academy of Orthopedic Surgeons, Park Ridge, IL.
  3. Martell, J.H., Galante, J.O., Pierson, R.H., Jacobs, J.J., Rosenberg, A.G., and Maley, M. Clinical Experience with Primary Cementless Total Hip Arthroplasty. In: La Chirurgia Degli Organi di Movimento. Campanacci, M. (ed.), Bologna, Cappelli Editore, 1992, pp383-396.
  4. Jacobs, J.J., Galante, J. O., Sumner, D. R. Cementless Total Hip Arthroplasty. In Chapman, M.W. and Madison, M. eds. Operative Orthopedics 2nd Edition, pg. 1889-1909, J.B. Lippincott Co., Philadelphia, 1993.
  5. Galante, J.O. and Jacobs, J.J. Discussion of the Uncemented Interface. In Morrey, B.F., ed. Biological, Material and Mechanical Considerations of Joint Replacement. Raven Press, New York, 1993, pp. 237-239.
  6. Jacobs, J.J., Sumner, D.R., Urban, R.M. and Galante, J.O. Retrieval: Successful Uncemented Implants. In Morrey, B.F. ed. Biological, Material, and Mechanical Considerations of Joint Replacement. Raven Press, New York, 1993, pp. 185-195.
  7. Friedman, R.J., Black, J., Galante, J.O., Jacobs, J.J., and Skinner, H. Current Concepts in Orthopedic Biomaterials and Implant Fixation. In Schaffer, M. Instructional Course Lectures, Vol. 43 American Academy of Orthopedic Surgeons, Park Ridge, IL., 1994, pp. 233-255.
  8. Jacobs, J.J., Gilbert, J.L., Urban, R.M. Corrosion of Metallic Implants. In Stauffer, R.N. ed. Advances in Operative Orthopedics, Volume 2, Mosby, St. Louis, 1994, pp. 279-320.
  9. Urban, R.M., Jacobs, J.J., Tomlinson, M.J., Gavrilovic, J., and Andersen, M. Migration of Corrosion Products From the Modular Head Junction to the Polyethylene Bearing Surface and Interface Membranes of Hip Prostheses. In Galante, J.O., Rosenberg, A.G., and Callahan, J.J. Total Hip Revision Surgery, Raven Press, New York, 1995, pp. 61-71.
  10. Glant, T.T. and Jacobs, J.J. Experimental Models of Osteolysis. Assays for Bone Resorbing Cytokines and Metalloproteinases. In Galante, J.O., Rosenberg, A.G., and Callahan, J.J. Total Hip Revision Surgery, Raven Press, New York, 1995, pp. 127 - 136.
  11. Jacobs, J.J., Urban, R.M., Glant, T.T., and Galante, J.O. Clinical Implications of Osteolysis. In Galante, J.O., Rosenberg, A.G., Callahan, J.J. Total Hip Revision Surgery, Raven Press, New York, 1995, pp. 81 - 90.
  12. Ballard, W.T., Shanbhag, A.S. and Jacobs, J.J. Particle Debris. In Callaghan, J.J., Rosenberg, A.G., and Rubash, H. eds. The Adult Hip Lippincott-Raven Publishers, Philadelphia, 1998, pp. 267 - 277.
  13. Shanbhag, A.S., Hasselman, C.T., Jacobs, J.J. and Rubash, H.E. Biological Response to Wear Debris. In Callaghan, J.J., Rosenberg, A.G., and Rubash, H. eds., The Adult Hip Lippincott-Raven Publishers, Philadelphia, 1998, pp. 279 - 288.
  14. Black, J and Jacobs, J.J. Effect of Material on Long-term Survivorship. In Steinberg, M.E. and Garino, J.P. eds. Revision Total Hip Arthroplasty, Lippincott Williams and Wilkins, Philadelphia, PA pp.73-87, 1999.
  15. Jacobs, J.J., Goodman, S.B., Sumner, D.R., and Hallab, N.J. Biologic Response to Orthopaedic Implants in Orthopaedic Basic Science: Biology and Biomechanics of the Musculoskeletal System, 2nd Edition, Buckwalter, J.A., Einhorn, T.A., and Simon, S.R., eds., American Academy of Orthopaedic Surgeons, Rosemont, IL pp 401-426, 2000.
  16. Trindade, M.C.D., Smith, R.L., Jacobs, J.J. and Goodman, S.B. New Insights in the Biological Effects of Wear Debris from Total Joint Replacements. D.L. Wise, ed. Biomaterials and Bioengineering Handbook. Marcel Dekker, New

York, 2000, pp.407-432.

17. Hallab, N.J., Jacobs, J.J. and Black, J. Hypersensitivity Associated with Metallic Biomaterials. D.L. Wise, et. al. eds. Biomaterials Engineering and Devices: Human Applications. Volume 1. Humana Press, Totowa, NJ, 2000, pp. 15-23.

18. Archibeck, M.J., Jacobs, J.J., Roebuck, K.A., and Glant, T.T. The Basic Science of Periprosthetic Osteolysis. Instructional Course Lectures Volume 50, Sim, F.H., Ed. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2001, pp. 185-195.

19. Nelsen-Freund, E.M., Jacobs, J.J., and Maloney, W.J. Ceramic Bearing Surfaces in Total Hip Arthroplasty in Arthroplasty 2000: Recent Advances in Total Joint Replacement, Matsui, N., Taneda, Y., Yoshida, Y. Eds., Springer-Verlag, Tokyo, 2001, pp. 41-48.

20. Hofer, S., Leopold, S.S. and Jacobs, J.J. Clinical Perspectives on the Use of Bone Graft Based on Allografts. Bone Graft Substitutes, Laurencin, C.T., Ed. ASTM International, West Conshohocken, PA, 2003, pp. 68-95.

21. Hallab, N.J., Urban, R. and Jacobs, J. J., "Corrosion and Biocompatibility of Orthopaedic Implants" in Biomaterials in Orthopaedics, Eds M.J. Yaszemski, and D.J. Trantolo, Marcel Dekker, New York, 2003, pp. 63-92.

22. Hallab, N.J., and Jacobs, J. J., "Metals" in The Adult Knee, Eds. J.J. Callaghan, A.G. Rosenberg, and H.E. Rubash, P.T. Simonian, and T.L. Wickiewicz, Lippincott Williams & Wilkins, Philadelphia, PA, 2003, pp. 269-288.

23. Hallab, N.J. and Jacobs, J. J., "Orthopedic Implant Fretting Corrosion" in Corrosion Reviews, 2003, pp. 183 – 213

24. Hallab, N.J., Jacobs, J.J. and Katz, J.L. Orthopaedic Applications in Biomaterials Science: An Introduction to Materials in Medicine. Second Edition. Ratner, B.D., Hoffman, A.S., Schoen, F.J. and Lemons, J.E. Eds., Elsevier, San Diego, CA, 2004, pp. 526-555.

25. Hallab, N.J., and Jacobs, J.J. "Implant: Total Hip" in Encyclopedia of Biomaterials and Biomedical Engineering, Eds. Wnek, G., and Bowlin, G., Marcel Dekker, New York, 2004, pp. 802-815.

26. Jacobs, J.J. "Bearing Surfaces" in Advanced Reconstruction: Hip. Eds. J. Lieberman and D. Berry. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2005, pp. 99-104.

27. Meneghini, R.M., Hallab, N.J., Jacobs, J.J. The Biology of Alternative Bearing Surfaces in Total Joint Arthroplasty. Instr Course Lect 54:481-493, 2005.

28. Moucha, C.S., Urban, R.M., Turner, T.M., Jacobs, J.J. and Sumner, D.R. Fixation of Implants. In Joint Replacement and Bone Resorption. Pathology, Biomaterials, and Clinical Practice. Shanbhag, A., Rubash, H.E., and Jacobs, J.J., eds. Taylor & Francis, New York, NY, 2006, pp 13-52.

29. Hallab, N.J., Jacobs, J. J., and Gilbert, J.L. Corrosion of Metallic Implants. In Joint Replacement and Bone Resorption. Pathology, Biomaterials, and Clinical Practice. Shanbhag, A., Rubash, H.E., and Jacobs, J.J., eds. Taylor & Francis, New York, NY, 2006, pp 211-254.

30. Black, J., Levine, B., and Jacobs, J.J." Biomaterials Overview" in The Adult Hip, Second Edition. Callaghan, J.J., Rosenberg, A.G., and Rubash, H.E., eds. Lippincott Williams & Wilkins, Philadelphia, PA, 2007, pp. 102 – 111.

31. Levine, H., Ballard, W.T., Shanbhag, A., and Jacobs, J.J. "Particle Debris" in The Adult Hip, Second Edition. Callaghan, J.J., Rosenberg, A.G., and Rubash, H.E., eds. Lippincott Williams & Wilkins, Philadelphia, PA, 2007, pp. 276-285.

32. Wimmer, M.A. and Jacobs, J.J. "Question 9: I Have a 43-Year Old Male Who Needs a Total Knee: Should I Use Highly Cross-Linked Polyethylene as a Bearing Surface?" in Curbside Consultation in Knee Arthroplasty: 49 Clinical

Questions. Della Valle, C.J. ed. Slack, Inc., Thorofare, NJ, 2008, pp. 35-37.

33. Hallab, N.J., Wimmer, M.A., and Jacobs, J.J. “Material Properties and Wear Analysis” in Motion Preservation Surgery of the Spine. Advanced Techniques and Controversies. Yue, J.J., Bertagnoli, R., McAfee, P.C. and An, H. S. eds. Saunders, Philadelphia, PA, 2008, pp. 52-62.

34. Manning, D., and Jacobs, J.J. “Wear and Osteolysis” in Complications in Orthopaedics: Total Hip Arthroplasty. Della Valle, C.J., ed. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2009, pp. 57 – 73.

35. Catelas, I. and Jacobs, J.J. Biologic Activity of Wear Particles. Instructional Course Lectures Volume 59, O’Connor, M.I., Egol, K.A., Eds. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2010, pp. 3-16.

36. Jacobs, J.J. and Sah, A.P. “Bearing Surfaces in Total Knee Arthroplasty” in Advanced Reconstruction Knee, Lieberman, J.R., Berry, D.J., and Azar, F.M., Eds. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2011, pp. 55-59.

37. Hartman, C.W., Hallab, N.J., Jacobs, J.J. and Bobyn, J.D. “Biologic Response to Implants” in Orthopaedic Knowledge Update 4: Hip and Knee Reconstruction, Glassman, A.H., Lachiewicz, P.F., and Tanzer, M. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2011, pp. 41- 57.

38. McKenzie, J.G., Jacobs, J.J., Caruso, G.M., Holmes, E.B., Jones, A.L., Kaufman, L.R., MacDonald, C.W., McCarthy, J.C., McGrory, B.J., Safron, M., Stark, J. and Wood, E.M. Hip and Groin Disorders. In: Hegmann, K.T. ed. Occupational Medicine Practice Guidelines. Evaluation and Management of Common Health Problems and Functional Recovery in Workers. 3<sup>rd</sup> Ed. Elk Grove Village (IL): American College of Occupational and Environmental Medicine; 2011. p. 1-440.

39. Catelas, I. and Jacobs, J.J. Biologic Activity of Wear Particles. Instructional Course Lectures Hip 2, Della Valle, C., J., Ed. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2013, pp. 139-152.

#### Published Abstracts

1. Jacobs, J.J., Lautenschlager, E.P., Greener, E.H., and Marshall, G.W. Brittle and Ductile Failures of Endodontic Instruments. 2nd Annual Meeting of the Society for Biomaterials and 8th International Biomaterials Symposium, Apr. 1976. Philadelphia, Abstract #48.

2. Woodman, J.L., Jacobs, J.J., Galante, J.O., and Urban, R.M. Titanium Release from Fiber Metal Composites in Baboons-A Long Term Study. Trans. ORS 7:166, 1982.

3. Woodman, J.L., Jacobs, J.J., Urban, R.M., and Galante, J.O. Vanadium and Aluminum Release from Fiber Metal Composites in Baboons - A Long Term Study. Trans. ORS 8:238, 1983

4. Jacobs, J.J., Latanision, R.M., Rose, R.M., and Veeck, S.J. The Effect of Porous Coating Processing on the Corrosion Behavior of Cast Co-Cr-Mo Surgical Implant Alloys. Trans. ORS 11:113, 1986.

5. Sumner, D.R., Jacobs, J.J., Turner, T.M., Urban, R.M., and Galante, J.O. Incidence of Bone Ingrowth in Porous Coated Femoral Stems Removed for Reasons Other than Looosening. Transactions of the Society for Biomaterials 11:34, 1988.

6. Black, J., Skipor, A.K., Jacobs, J.J., Urban, R.M., and Galante, J.O. Release of Metal Ions from Titanium-base Alloy Total Hip Replacement Prosthesis. Trans. ORS 14:501, 1989.

7. Sumner, D.R., Jacobs, J.J., Turner, T.M., Urban, R.M., Galante, J.O. The Amount and Distribution of Bone Ingrowth in Tibial Components Retrieved from Human Patients. Trans ORS 14:375, 1989.

8. Caviglia, H.A., Sumner, D.R., Jacobs, J.J., Urban, R.M., Galante, J.O. A Quantitative Assessment of Bone Ingrowth in Femoral THR Components Retrieved from Human Patients. *Trans ORS* 14:580, 1989.
9. Sumner, D.R., Jacobs, J.J., Turner, T.M., Urban, R.M., and Galante, J.O. Quantitative Study of Bone Ingrowth in Tibial Components Retrieved From Human Patients. *Trans Soc Biomat*, 12:89, 1989.
10. Jacobs, J.J., Sumner, D.R., Caviglia, H.A., Turner, T.M., Urban, R.M., Galante, J.O. A Quantitative Study of Bone Ingrowth Into Titanium Total Hip Femoral Components Removed for Reasons Other Than Loosening. *Ortho. Trans.* 13:524, 1989.
11. Pierson, R.H., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G., Gitelis, S.G., Landon, G.C., Maley, M.E., Galante, J.O. Primary Total Hip Reconstruction with a Cementless Titanium Fiber Coated Prosthesis. *Ortho. Trans.* 13:578, 1989.
12. Sumner, D.R., Jacobs, J.J., Turner, T.M., Urban, R.M., Galante, J.O. The Amount and Distribution of Bone Ingrowth in Tibial Components Retrieved From Human Patients. *Ortho Trans* 13:381, 1989.
13. Kienapfel, H., Sumner, D.R., Jacobs, J.J., Turner, T.M., Urban, R.M., and Galante, J.O. A Quantitative Topographic Evaluation of Bone Ingrowth in Tibial Components Removed From Human Patients. *Trans Europ Soc Biomaterials*, 1989.
14. Caviglia, H.A., Sumner, D.R., Jacobs, J.J., Urban, R.M., and Galante, J.O. A Quantitative Assessment of Bone Ingrowth in Femoral THA Components Retrieved From Human Patients. *Ortho Trans* 13:457, 1989.
15. Jacobs, J.J., Skipor, A.K., Black, J., Tuttle, M.C., Schavocky, J., Urban, R.M., and Galante, J.O. Metal Ion Release from Cementless Titanium Fiber Metal Total Knee Replacements. *Trans Soc Biomat* 13:199, 1990.
16. Jacobs, J.J., Skipor, A.K., Black, J., Hastings, M.C., Schavocky, J., Urban, R.M., and Galante, J.O. Metal Release and Excretion From Cementless Titanium Total Knee Replacements. *Trans ORS* 16:558, 1991.
17. Molnar, G.M., Jacobs, J.J., Erhardt, P., Urban, R.M., Glant, T.T., and Galante, J.O. Particulate Titanium Induced Bone Resorption in Organ Culture. *Trans ORS* 16:553, 1991.
18. Jacobs, J.J., Skipor, A.K., Black, J., Hastings, M.C., Schavocky, J., Urban, R.M., and Galante, J.O. Metal Release and Excretion from Cementless Titanium Total Knee Replacement. *Ortho Trans* 15:542-543, 1991.
19. Glant, T.T., Jacobs, J.J., Molnar, G., Galante, J.O. Particulate Titanium Induced Bone Resorption in Organ Culture. *Ortho Trans* 15:540, 1991
20. Jacobs, J.J., Urban, R.M., Kienapfel, H., Sumner, D.R., Glant, T.T., and Galante, J.O. Femoral Endosteal Osteolysis in Titanium-Base Alloy Cementless Total Hip Replacement. *Ortho Trans* 15:758, 1991.
21. Jacobs, J.J., Skipor, A.K., Black, J., Tuttle, M.C., Schavocky, J., Urban, R.M., and Galante, J.O. Metal Release and Excretion from Cementless Titanium Fiber Metal Total Knee Replacements. *Ortho Trans* 15:781, 1991.
22. Glant, T.T., Jacobs, J.J., Tabith, K., and Galante, J.O. Particulate- Induced Bone Resorption in Organ Culture. *Trans ORS* 17:44, 1992.
23. Jacobs, J.J., Skipor, A.K., Black, J., Manion, L.M., and Galante, J.O. A Prospective, Controlled, Longitudinal Study of Titanium Release in Patients Undergoing Primary Total Hip Replacement. *Trans ORS* 17:303, 1992.
24. Shanbhag, A.S., Glant, T.T., Jacobs, J.J., and Black, J. Macrophage Stimulation of Fibroblastic Proliferation is Affected by Size, Composition and Surface Area of Particulates. *Trans ORS* 17:342, 1992.
25. Skipor, A.K., Jacobs, J.J., Black, J. and Galante, J.O. The Determination of Titanium in Human Serum Using

Zeeman ETA-AAS. Trans Pittsburgh Conference #684, 1992.

26. Shanbhag, A.S., Jacobs, J.J., Black, J., Glant, T.T. Cellular Mediators Secreted by Interfacial Membranes Adjacent to Hip Prostheses. The FASEB Journal 6:A1333, 1992

27. Jacobs, J.J., Martell, J.M., Pierson, R.H., Rosenberg, A.G., and Galante, J.O. Fiber Metal Total Hip Endoprostheses. Transactions of the Fourth World Biomaterials Conference, Berlin W IV 2, 1992.

28. Jacobs, J.J., Skipor, A.K., Black, J., Manion, L., Urban, R.M., and Galante, J.O. Metal Release in Patients With Loose Titanium-Alloy Total Hip Replacements. Transactions of the Fourth World Biomaterials Conference, Berlin 266, 1992.

29. Gilbert, J.L., Buckley, C.A., Jacobs, J.J., Urban, R.M., Lautenschlager, E.P., and Galante, J.O. Mechanically Assisted Corrosive Attack in the Morse Taper of Modular Hip Prostheses. Transactions of the Fourth World Biomaterials Conference, Berlin 267, 1992.

30. Sumner, D.R., Kienapfel, H., Jacobs, J.J., Urban, R.M., Turner, T. and Galante, J.O. Technical Factors Influencing Bone Ingrowth in Porous Coated Tibial Components - A Quantitative Histomorphometric Analysis. Transactions of the Fourth World Biomaterials Conference, Berlin 502, 1992.

31. Black, J., Dillon, C.R., Yang, J., Urban, R.M., and Jacobs, J.J. Surface Characterization of Retrieved Cemented Ti6Al4V Femoral Total Hip Replacement Components. Trans. SFB Implant Retrieval Symp. XV:21, 1992.

32. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., Gilbert, J.L., Black, J., and Galante, J.O. Characterization of Wear Particles Retrieved From Failed Uncemented Total Hip Arthroplasty. Trans. SFB Implant Retrieval Symp. XV:29, 1992.

33. Pidhorz, L.E., Urban, R.M., Jacobs, J.J., Sumner, D.R., Schajowicz, F., and Galante, J.O. Fixation in Cementless Porous Coated Acetabular Components Retrieved at Autopsy. Trans. SFB Implant Retrieval Symp. XV:45, 1992.

34. Buckley, C.A., Gilbert, J.L., Urban, R.M., Sumner, D.R., Jacobs, J.J., and Lautenschlager, E.P. Mechanically Assisted Corrosion of Modular Hip Prosthesis Components in Mixed and Similar Metal Combinations. Trans. SFB Implant Retrieval Symp. XV:58, 1992.

35. Glant, T.T., Jacobs, J.J., Tabith, K., Sumner, D.R., and Galante, J.O. Particulate-Induced Bone Resorption in Organ Culture. Orthop. Trans. 16:398, 1992.

36. Jacobs, J.J., Skipor, A.K., Black, J., Manion, L.M., and Galante, J.O. A Prospective, Controlled, Longitudinal Study of Titanium Release in Patients Undergoing Primary Total Hip Replacement. Orthop. Trans. 16:473-474, 1992.

37. Shanbhag, A.S., Glant, T.T., Jacobs, J.J., and Black, J. Macrophage Release of Inflammatory Mediators is Affected by Size, Composition and Surface Area of Phagocytosable Particles. Orthop. Trans. 16:487-488, 1992.

38. Jacobs, J.J., Skipor, A.K., Manion, L.M., and Black, J. Titanium Release Following Cementless Total Knee Arthroplasty: A Prospective Study. Trans ORS 18:505, 1993.

39. Shanbhag, A.S., Jacobs, J.J., Black, J., Glant, T.T. Pro- and Anti-Inflammatory Mediators Secreted By Cells of Interfacial Membranes From Revision Total Hip Replacements. Trans ORS 18:517, 1993.

40. Urban, R.M., Jacobs, J.J., Gilbert, J.L., and Galante, J.O. Corrosion Products of Modular Hip Prostheses: Microchemical Identification and Histopathological Significance. Trans ORS 18:81, 1993.

41. Jacobs, J.J., Skipor, A.K., Black, J., Manion, L.M., Schavocky, J., Paprosky, W.P., and Galante, J.O. Serum Titanium Transport in Patients Following Primary Total Hip Replacement: A 2-Year Prospective Study. Trans SFB

XVI:217, 1993.

42. Shanbhag, A.S., Black, J., Jacobs, J.J., Galante, J.O., and Glant, T.T. Surface Area Ratio as a Parameter to Study Macrophage Response to Particulate Biomaterials. *Trans SFB XVI:190*, 1993.
43. Pidhorz, L.E., Urban, R.M., Jacobs, J.J., Sumner, D.R., Galante, J.O. Histological Study of Ingrowth in Porous-Coated Uncemented Sockets: An Autopsy Study of 11 Implants. *J. Bone Joint Surg. (Br) 75-B:Sup II*, p.121, 1993.
44. Rivero, D., Jacobs, J.J., Galante, J.O., and Rosenberg, A.G. Revision Cementless Total Hip Arthroplasty: Two to Five Year Results. *Orthop. Trans. 17:171*, 1993.
45. Jacobs, J.J., Shanbhag, A.S., Glant, T., Black, J., and Galante, J.O. Osteolysis: Cell, Tissue, and Organ Culture Studies. *Orthop. Trans. 17:582*, 1993.
46. Urban, R.M., Jacobs, J.J., Gilbert, J.L., and Galante, J.O. Corrosion Products of Modular Hip Prostheses: Microchemical Identification and Histopathological Significance. *Orthop. Trans. 17:637-638*, 1993.
47. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., Gilbert, J.L., Black, J., and Galante, J.O. Characterization of Polyethylene and Other Wear Debris in Failed Uncemented Total Hip Replacement. *Orthop. Trans. 17:716-717*, 1993.
48. Jacobs, J.J., Skipor, A.K., Manion, L.M., and Black, J. Titanium Release Following Cementless Total Knee Arthroplasty: A Prospective Study. *Orthop. Trans. 17:791*, 1993.
49. Shanbhag, A.S., Jacobs, J.J., Black, J., Galante, J.O., and Glant, T.T. Inflammatory Mediators Secreted by Cells of Interfacial Membranes From Revision Total Hip Replacements. *Orthop. Trans. 17:796*, 1993.
50. Glant, T.T., Mikecz, K., Cole, A., Bittar, T., Lark, M.W., Sandell, L., Jacobs, J.J., and Kuettner, K.E. *In Situ* Localization of Metalloproteinases and TIMP In Interfacial Membranes of Loosened Total Hip Arthroplasties. *Trans. ORS 19:138*, 1994.
51. Glant, T.T., Valyon, M., Dellacqua, D., Walcz, E., Mikecz, K., Chubinskaja, S., Jacobs, J.J., Rosenberg, A., Gitelis, S., Sheinkop, M., and Galante, J.O. Quantitative Measurement of Genes Coding for "Bone-Resorbing" Cytokines in Periprosthetic Inflammatory Tissues of Failed Total Hip Arthroplasties. *Trans. ORS 19:152*, 1994.
52. Urban, R.M., Turner, T.M., Sumner, D.R., Bentley, C.D., Jacobs, J.J., and Galante, J.O. Pathways of Polyethylene Wear Debris Migration and Endosteal Osteolysis in Cementless Femoral Stems with Different Porous Coating Configurations. *Trans. ORS 19:197*, 1994.
53. Berzins, A., Sumner, D.R., Igloria, R., Jacobs, J.J., Urban, R.M., and Galante, J.O. Interface Micromotion in Tibial Components Retrieved at Autopsy. *Trans. ORS 19:247*, 1994.
54. Jacobs, J.J., Skipor, A.K., Urban, R.M., Black, J., Manion, L.M., Starr, A., Talbert, L.F., and Galante, J.O. Systemic Distribution of Metal Degradation Products From Titanium Alloy Total Hip Replacements: An Autopsy Study. *Trans. ORS 19:838*, 1994.
55. Shanbhag, A.S., Black, J., Jacobs, J.J., Galante, J.O., and Glant, T.T. Human Monocyte Response to Submicron Fabricated and Retrieved Polyethylene, Ti-6Al-4V and Ti Particles. *Trans. ORS 19:849*, 1994.
56. Urban, R.M., Turner, T.M., Sumner, D.R., Bentley, C.D., Jacobs, J.J., and Galante, J.O. Migration of Polyethylene Wear Debris and Development of Endosteal Osteolysis as a Function of the Extent of Femoral Stem Coverage by Porous Coating. *Trans. SFB 17:77*, 1994.
57. Shanbhag, A.S., Black, J., Jacobs, J.J., Galante, J.O., and Glant, T.T. Human Monocyte Response to Submicron

- Titanium-6%Aluminum-4%Vanadium, Titanium and Polyethylene Particles. Trans. SFB 17:79, 1994.
58. Easter, T.L., Graham, R.M., Jacobs, J.J., Black, J., and LaBerge, M. Clinical Performance of Ti6Al4V Femoral Components: Wear Mechanisms vs Surface Profile. Trans. SFB 17:185, 1994.
59. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., Talbert, L.F., Leigh, H.D., and Black, J. Submicron Particulate Polyethylene and Titanium-Alloy Stimulated Bone Resorptive and Fibroblast Stimulatory Activity. Trans. SFB 17:242, 1994.
60. Jacobs, J.J., Skipor, A.K., Urban, R.M., Black, J., Manion, L.M., and Galante, J.O. Transport of Metal Degradation Products of Titanium Alloy Total Hip Replacements to Reticuloendothelial Organs: An Autopsy Study. Trans. SFB 17:318, 1994.
61. Jacobs, J.J., Skipor, A.K., Urban, R.M., Manion, L.M., Gilbert, J.L., and Black, J. Serum and Urine Metal Content in Patients With Fretting Corrosion of Modular Femoral THR Components. Trans. SFB 17:320, 1994.
62. Jacobs, J.J., Urban, R.M., Gilbert, J.L., Buckley, C.A., Pidhorz, L.E., and Galante, J.O. Migration of Corrosion Products in Tissues Surrounding Modular Hip Prostheses. Orthop Trans 17:992, 1994.
63. Glant, T.T., Mikecz, K., Cole, A., Lark, M.W., Sandell, L., Jacobs, J.J., and Kuettner, K.E. *In Situ* Localization of Metalloproteinases and TIMP in Interfacial Membranes of Loosened Total Hip Arthroplasties. Orthop Trans 18:408-409, 1994.
64. Glant, T.T., Valyon, M., Dellacqua, D., Mikecz, K., Chubinskaja, S., Jacobs, J.J., and Galante, J.O. "Bone-Resorbing" Cytokines in Periprosthetic Inflammatory Tissues of Failed Total Hip Arthroplasties. Orthop Trans 18:411-412, 1994.
65. Jacobs, J.J., Skipor, A.K., Urban, R.M., Black, J., Manion, L.M., Starr, A., Talbert, L.F., and Galante, J.O. Systemic Distribution of Metal Degradation Products From Titanium Alloy Total Hip Replacements: An Autopsy Study. Orthop Trans 18:621-622, 1994.
66. Shanbhag, A.S., Black, J., Jacobs, J.J., Galante, J.O., and Glant, T.T. Human Monocyte Response to Submicron Fabricated and Retrieved Polyethylene, Ti-6Al-4V and Ti Particles. Orthop Trans 18:627, 1994.
67. Conley, A., Kull, L., and Jacobs, J.J. Complications of Cable Grip Trochanteric Fixation: Nonunion and Debris Generation. Orthop Trans 18:927, 1994.
68. Jacobs, J.J. Particulate Wear. NIH Consensus Development Conference on Total Hip Replacement, 1994, pp. 83-87.
69. Gilbert, J.L., Buckley, C.A., Jacobs, J.J., and Lautenschlager, E.P. In-Vitro Mechanical-Electrochemical Testing of the Fretting Corrosion Process in Modular Femoral Tapers. Trans ORS 20:240, 1995.
70. Urban, R.M., Jacobs, J.J., Tomlinson, M.J., Black, J., Turner, T.M., and Galante, J.O. Particles of Metal Alloys and Their Corrosion Products in the Liver, Spleen, and Para-Aortic Lymph Nodes of Patients With Total Hip Replacement Prostheses. Trans ORS 20:241, 1995.
71. Jacobs, J.J., Urban, R.M., Otternes I., Ragasa, D. and Glant, T.T. Biological Activity of Particulate Chromium-Phosphate Corrosion Products. Trans SFB 18:398, 1995.
72. Urban, R.M., Jacobs, J.J., Gilbert, J.L., Rice, S.B., Jasty, M., Bragdon, C.R. and Galante, J.O. Corrosion Products From Modular Head Femoral Stems of Different Designs and Material Couples. Trans SFB 18:326, 1995.
73. Wasielewski, R.C., Jacobs, J.J., Rubash, H.E. The Acetabular Insert-Metal Backing Articulation as an Important Source of Polyethylene Wear Debris. Orthop Trans 19:229, 1995.

74. Lee, S.H., Brennan, F.R., Ragasa, D.R., Urban, R.M., Yao, J., Jacobs, J.J., Galante, J.O., and Glant, T.T. The Macrophage/Monocyte Response to Chromium Orthophosphate Corrosion Products. *Trans. 2nd Combined ORS*, November, 1995, San Diego, CA, pg. 113.
75. Kull, L.R., Jacobs, J.J., Tompkins, G.S., Silverton, C.D., and Galante, J.O. Primary Cementless Acetabular Reconstruction: Osteolysis and Interface Changes at Seven to Ten Year Follow-up. *Orthop Trans* 19:401, 1995.
76. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., and Black, J. Human Monocyte Response to Wear Debris: Comparison of Titanium-Alloy and Ultrahigh Molecular Weight Polyethylene. *Orthop Trans* 19:481-482, 1995.
77. Yao, J., Glant, T.T., Jacobs, J.J., Kuettner, K.E. and Galante, J.O. Particulate Debris Suppress Collagen Gene Expression in Osteoblast-Like Cells In Vitro. *Orthop Trans* 19:999-1000, 1996.
78. Urban, R.M., Jacobs, J.J., Tomlinson, M.J., Black, J., Turner, T.M., Sauer, P.A., and Galante, J.O. Particles of Metal Alloys and Their Corrosion Products in the Liver, Spleen and Para-Aortic Lymph Nodes of Patients With Total Hip Replacement Prostheses. *Orthop Trans* 19:1107-1108, 1996.
79. Urban, R.M., Jacobs, J.J., Sapienza, C.L., Hall, D.J., Infanger, S., Sumner, D.R., Berzins, A., Turner, T.M., and Galante, J.O. Interface Tissues and Modes of Particulate Debris Infiltration in 25 Cementless Acetabular Components Retrieved at Autopsy. *Trans ORS* 21:45, 1996.
80. Skipor, A.K., Jacobs, J.J., Paprosky, W.P., Patterson, L.M., Black, J., and Galante, J.O. Serum and Urine Chromium Concentrations in Patients with Cobalt-Chromium THR Components. *Trans ORS* 21:46, 1996.
81. Yao, J., Jacobs, J.J., Galante, J.O., Kuettner, K.E. and Glant, T.T. The Effect of 1,25-Dihydroxyvitamin D<sub>3</sub> on Ti Particle-Suppressed Collagen Gene Expression in Osteoblast-Like Cells In Vitro. *Trans. ORS* 21:497, 1996.
82. Jacobs, J.J., Skipor, A.K., Doorn, P.F., Campbell, P., Schmalzried, T.P., and Amstutz, H.C. Wear in Metal-on-Metal THR: Serum and Urine Chromium Concentrations. *Trans. ORS* 21:498, 1996.
83. Mikecz, K., Brennan, F.R., Yao, J., Finnegan, A., Jacobs, J.J., Schnitzer, T.J., Nuki, G. and Glant, T.T. Anti-CD44 Treatment May Have a Therapeutic Potential in Rheumatoid Arthritis. *Trans. ORS* 21:755, 1996.
84. Jacobs, J.J., Shanbhag, A.S., Black, J., and Glant, T.T. Biology of Degradation Products from Orthopaedic Biomaterials. *The Toxicologist* 30:266, 1996.
85. Jacobs, J.J., Black, J., Skipor, A.K., Paprosky, W.P., Patterson, L.M., and Galante, J.O. Chromium Release From Co-Cr THR Components in Patients. *Trans. 5th World Biomaterials Congress* 1:243, 1996.
86. Urban, R.M., Jacobs, J.J., Sapienza, C.I., Hall, D.J., Infanger, S., Sumner, D.R., Berzins, A., and Galante, J.O. The Ingress of Particle-Induced Granulomas Into the Bone-Implant Interface of Cementless Acetabular Components Retrieved at Autopsy. *Trans. 5th World Biomaterials Congress* 1:654, 1996.
87. Urban, R.M., Jacobs, J.J., Gavrilovic, J., Tomlinson, M.J., Black, J., Turner, T.M., and Galante, J.O. Dissemination of Metal-Alloy Particles to the Liver and Spleen of Patients with Total Hip or Knee Replacement Prostheses. *Trans. 5th World Biomaterials Congress* 1:660, 1996.
88. Goldberg, J.R., Jacobs, J.J., and Gilbert, J.L. In-Vitro Fretting Corrosion Testing of Modular Hip Implants. *Trans. 5th World Biomaterials Congress* 1:865, 1996.
89. Jacobs, J.J., Skipor, A.K., Doorn, P.F., Campbell, P., Schmalzried, T.P., Black, J., and Amstutz, H.C. Cobalt and Chromium Concentrations in Patients with Metal-on-Metal Total Hip Replacements. *Trans. 5th World Biomaterials Congress* 1:918, 1996.

90. Maloney, W.J., Galante, J.O., Anderson, M., Jacobs, J., Lachiewicz, P., Rubash, H., Schutzer, S., Woolson, S.T. Polyethylene Wear and Pelvic Osteolysis in Association With The Harris-Galante Socket in Primary Total Hip Replacement. *Orthop Trans* 20:2, 1996.
91. Sauer, P.A., Rosenberg, A.G., Jacobs, J.J., Kull, L.R., and Galante, J.O. Results of Impaction Grafting for Revision Total Hip Arthroplasty Using a Precoat Collared Femoral Stem at Two to Four Years. *Orthop Trans* 20:93-94, 1996.
92. Tucker, W.F., Kull, L.R., Jacobs, J.J., Galante, J.O. Interface Phenomena and Remodeling Changes With a Second Generation Cementless Femoral Component at Minimum 5 Year Follow-Up. *Orthop Trans* 20:140, 1996.
93. Peters, C.L., Kull, L., Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. The Fate of Well-Fixed Cemented Femoral Components Left in Place at the Time of Acetabular Component Revision. *Orthop Trans* 20:156-157, 1996.
94. Mikecz, K., Brennan, F.R., Cs-Szabo, G., Jacobs, J.J., Dennis, K. and Schnitzer, T.J. Expression and Shedding of CD44 By Synovial Fibroblasts and Mononuclear Leukocytes in Rheumatoid Arthritis. *Arthritis and Rheumatism* 39:S35, 1996.
95. Yu, L., Koirtyohann, S.R., Rueppel, M.L., Skipor, A.K. and Jacobs, J.J. Simultaneous Determination of Al, Ti and V in Serum by Electrothermal Vaporization Inductively Coupled Plasma Mass Spectrometry. *Trans ORS* 22:47, 1997.
96. Glant, T.T., Cs-Szabo, G., Mativi, Y.M., Jacobs, J.J. and Mikecz, K. Aggrecan of Human Osteoarthritic Cartilage Induces Progressive Polyarthritis in Balb/c Mice. *Trans ORS* 22:195, 1997.
97. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Black, J. and Galante, J.O. Serum Titanium Concentration in Patients with Cementless TKR: A 5-Year Prospective Study. *Trans ORS* 22:235, 1997.
98. Cs-Szabo, G., Chubinskaya, S., Roughley, P.J., Jacobs, J.J., Cole, A.A., Kuettner, K.E. and Glant, T.T. Expression of Proteoglycans in Different Areas of Human Osteoarthritic Knee Joints. *Trans ORS* 22:437, 1997.
99. Skipor, A.K., Jacobs, J.J., Paprosky, W.P., Patterson, L.M., Black, J., and Galante, J.O. Serum and Urine Chromium Concentration in Patients with Cobalt-Chromium THR Components. *Ortho Trans* 20:561 - 562, 1997.
100. Yao, J., Jacobs, J.J., Galante, J.O., Kuettner, K., and Glant, T.T. 1,25-Dihydroxyvitamin D<sub>3</sub> Can Preserve Collagen Gene Expression and Synthesis in Osteoblasts Exposed to Particulates *In Vitro*. *Ortho Trans* 20:732-733, 1997.
101. Jacobs, J.J., Skipor, A.K., Doorn, P.F., Campbell, P., Schmalzried, T.P., Black, J., and Amstutz, H.C. Wear in Metal-on-Metal THR: Serum and Urine Chromium Concentrations. *Ortho Trans* 20:733-734, 1997.
102. Mikecz, K., Brennan, F.R., Yao, J., Finnegan, A., Jacobs, J.J., Schnitzer, T.J., Nuki, G., and Glant, T.T. Anti-CD44 Treatment May Have A Therapeutic Potential in Rheumatoid Arthritis. *Ortho Trans* 20:817-818, 1997.
103. Berger, R.A., Barden, R.M., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., and Galante, J.O. The Efficacy of Posterior Cruciate Ligament Retaining Total Knee Arthroplasty in Patients with Rheumatoid Arthritis. *Trans AAHKS* 7:129, 1997.
104. Berger, R.A., Crossett, L.S., Jacobs, J.J., and Rubash, H.E. Patellofemoral Complications Following TKA: The Consequences of Malrotation with Normal Axial Alignment. *Trans AAHKS* 7:91-92, 1997.
105. Sapienza, C.I., Urban, R.M., Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. Patterns of Bone Ingrowth and Osteolysis in Cementless Total Knee Replacement Tibial Components Retrieved at Autopsy. *Orthop. Trans.* 21:57-58, 1997.
106. Yu, L., Koirtyohann, S.R., Rueppel, M.L., Skipor, A.K., and Jacobs, J.J. Simultaneous Determination of Al, Ti and

V in Serum by Electrothermal Vaporization Inductively Coupled Plasma Mass Spectrometry. Orthop. Trans. 21:733-734, 1997-1998.

107. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Black, J. and Galante, J.O. Serum Titanium Concentration in Patients with Cementless TKR: A 5-Year Prospective Study. Orthop. Trans. 21:809, 1997-1998.

108. Cs-Szabo, G., Chubinskaya, S., Roughley, P.J., Jacobs, J.J., Cole, A.A., Kuettner, K.E. and Glant, T. Expression of Proteoglycans in Different Areas of Human Osteoarthritic Knee Joints. Orthop. Trans. 21:888-889, 1997-1998.

109. Urban, R.M., Hall, D.J., Sapienza, C.I., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Interface Tissues in Cemented and Cementless Total Knee Replacement Tibial Components Retrieved at Autopsy. Trans ORS 23:246, 1998.

110. Goldberg, J.R., Jacobs, J.J. and Gilbert, J.L. Effects of Material Combination and a Novel Surface Coating on In-Vitro Fretting Corrosion of Modular Hip Tapers. Trans. SFB 21:62, 1998.

111. Goldberg, J.R., Gilbert, J.L., Jacobs, J.J., Bauer, T., Paprosky, W.G. and Leurgans, S. Effects of Material Combination, Metallurgical History, and Geometric Variables on In-Vivo Fretting and Corrosion of Modular Hip Taper Interfaces. Trans. SFB 21:65, 1998.

112. Hallab, N.J., Jacobs, J.J., Skipor, A.K., Black, J., Glant, T.T. and Mikecz, K. In Vitro Testing of Metal Induced Leukocyte Activation. Trans. SFB 21:76, 1998.

113. Hallab, J.J., Jacobs, J.J., Skipor, A.K., Black, J. and Galante, J.O. Serum Metalloprotein Carriers of Metal in Patients with Total Joint Arthroplasty. Trans. SFB 21:211, 1998.

114. Urban, R.M., Hall, D.J., Sapienza, C.I., Jacobs, J.J., Sumner, D.R., Rosenberg, A.G. and Galante, J.O. A Comparative Study of Interface Tissues in Cemented vs. Cementless Total Knee Replacement Tibial Components Retrieved at Autopsy. Trans. SFB 21:255, 1998.

115. King, R., Gsell, R., Lin, S., Crowninshield, R., Urban, R., Jacobs, J., Jahan, S., and McKinny, K. The Effects of Shelf Storage and Implantation on Ultra-High-Molecular-Weight Polyethylene. Trans. SFB 21:158, 1998.

116. Jacobs, J.J. Wear - the Clinical Problem: Total Hip Replacement. Trans. SFB 21:XLVII, 1998.

117. Glant, T.T. and Jacobs, J.J. Osteolysis - In Vitro Models of Pathogenesis and Treatment. Trans. SFB 21:XLIX, 1998.

118. Jacobs, J.J., Rosenberg, A.G., Berger, R.A. and Galante, J.O. The Posterior Cruciate Ligament in Total Knee Arthroplasty. International Symposium, The 71st Annual Meeting of the Japanese Orthopaedic Association pp. 37 -38, 1998.

119. Garelick, D.H., Jacobs, J.J., Quigley, L.R., Martell, J.M. and Galante, J.O. Results of Primary Total Hip Reconstruction with a Cemented Titanium Alloy Femoral Stem: Minimum 84 Months. Orthop. Trans. 21:1184-1185, 1998.

120. Jacobs, J.J. and Glant, T.T. The Biology of Corrosion and Wear Debris from Orthopaedic Implants. Materials Research Society Fall Meeting: 614, 1998.

121. Berger, R.A., Quigley, L.R., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., and Galante, J.O. The Natural History of Stable Cemented Acetabular Components Retained During Femoral Revision. Trans AAHKS 8:63, 1998.

122. Berger, R.A., Crossett, L.S., Jacobs, J.J. and Rubash, H.E. Patellofemoral Complications Following TKA: The Consequences of Malrotation with Normal Axial Alignment. Orthop. Trans. 22:18, 1998-1999.

123. Berger, R.A., Barden, R.M., Ballard, W.T., Sheinkop, M.B., Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. Cemented Total Knee Arthroplasty Retaining the Posterior Cruciate Ligament: 5-11 Year Follow-up. *Orthop. Trans.* 22:44-45, 1998-1999.
124. Andriacchi, T.P., Tarnowski, L.E., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Galante, J.O. Anterior-Posterior Movement of the Femur During Functional Testing of Patients with TKA. *Orthop. Trans.* 22:107-108, 1998-1999.
125. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Black, J., and Galante, J.O. Titanium Release in Patients with Cemented TKR and THR: A Prospective Study. *Orthop. Trans.* 22:120-121, 1998-1999.
126. Berger, R.A., Quigley, L.R., Smink, D., Sheinkop, M.B., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Factors Contributing to Osteolysis and Failure in Primary Cementless THA: 8-12 Year Results. *Orthop. Trans.* 22:129, 1998-1999.
127. Dobai, J.G., Chandrasekaran, R., Yao, J., Andersson, G.B.J., An, H.S., Jacobs, J.J., Mueschler, G.F., Boehm, C., Finnegan, A., Carpenter, L., Roebuck, K. and Glant, T.T. Suppressed Collagen Gene Expression and Diminished Collagen Synthesis Induced by Particulate Wear Debris in Bone Marrow-Derived Osteoblasts are Reversed by 1,25(OH)<sub>2</sub>D<sub>3</sub>. *Trans. ORS 45th Annual Meeting*:898, 1999.
128. Surace, M.F., Berzins, A., Urban, R.M., Jacobs, J.J., Andriacchi, T.P. and Galante, J.O. Backsurface Wear and Deformation in Post Mortem Retrieved TKA Polyethylene Inserts. *Trans. ORS 45th Annual Meeting*:855, 1999.
129. Wimmer, M.A., Loos, J., Birken, L.M.O., Andriacchi, T.P. and Jacobs, J.J. The Effect of Sodium- and Potassium-Chloride Inclusions in UHMWPE on the Wear of TKR. *Trans. ORS 45th Annual Meeting*:862, 1999.
130. Cs-Szabo, G., Liu, W., Chubinskaya, S., Roughley, P.J., Buzas, E., Jacobs, J.J. and Glant, T.T. Loading and Osteoarthritic Changes Influence the Levels and Distribution of Small Proteoglycans in Human Knee Joints. *Trans. ORS 45th Annual Meeting*: 400, 1999.
131. Qureshi, A.A., Masuda, K., Pietryla, D., Jacobs, J.J., Thonar, E.J.M.A. and Sumner, D.R. Implant Design Affects Urinary Markers of Bone Resorption in THR. *Trans. ORS 45th Annual Meeting*: 123, 1999.
132. Jacobs, J.J., Skipor, A.K., Jones, D.M., Marsh, J.L., Nepola, J.V., and Urban, R.M. Osteolysis and Serum Chromium Elevations in Patients with Modular Femoral Intramedullary Nails. *Trans. ORS 45th Annual Meeting*: 965, 1999.
133. Skipor, A.K., Jacobs, J.J., Patterson, L.M., Black, J. and Galante, J.O. Metal Levels in Serum Following Total Hip Replacement Revision Surgery. A Prospective Study. *Trans SFB* 22:156, 1999.
134. Berzins, A., Ed C., Jacobs, J.J., Urban, R.M., Natarajan, R.N., Andriacchi, T.P. and Galante, J.O. Surface Damage in Machined and Molded Retrieved Polyethylene Tibial Inserts. *Trans SFB* 22:300, 1999.
135. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Sheinkop, M.B. and Galante, J.O. The Effects of Centralization and Vacuum Mixing on Femoral Cementing and Surgeon Variability. *Orthop. Trans.*22:1090, 1999.
136. Sheinkop, M.B., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., and Galante, J.O. Factors Contributing to Osteolysis and Failure in Primary Cementless Total Hip Arthroplasty: 8 to 12 Year Results. *Orthop. Trans.* 22:1091, 1999.
137. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Sheinkop, M.B. and Galante, J.O. The Natural History of Stable Cemented Acetabular Components Retained During Femoral Revision. *Orthop. Trans.* 22:1091, 1999.
138. Silverton, C.D., Jacobs, J.J., Urban, R.M., Gilbert, J.L., and Clark, D.W. Dislocations Associated with Corrosion at the Head-Neck Interface of Modular Femoral THA Components. *Orthop. Trans.* 22:1297, 1999.

139. Silverton, C.D., Jacobs, J.J., Rosenberg, A.G., Kull, L., Conley, A. and Galante, J.O. Complications of a Cable Grip System for Trochanteric Osteotomy Fixation in Total Hip Arthroplasty at Seven to Ten Year Follow-Up. *Orthop. Trans.* 22:1297-1298, 1999.
140. Silverton, C.D., Cummings, M., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Comparison of Single Dose 400 Centigray Radiation to 700 Centigray in the Prevention of Heterotopic Ossification After Total Hip Arthroplasty. *Orthop. Trans.* 22:1298-1299, 1999.
141. Vermes, C., Raman, C., Dobai, J., Carpenter, L., Narayanan, R., Kim, J.H., Andersson, G.B.J., An, H.S., Lovasz, G., Galante, J.O., Jacobs, J.J., Roebuck, K.A. and Glant, T.T. Phagocytosis of Particulate Wear Debris Activates Protein Tyrosine Kinase (PTK) Pathway and Transcription Factor NF- $\kappa$ B, and Suppresses Collagen Synthesis in MG-63 and Primary Osteoblast Cells. 63rd Annual Meeting of the American College of Rheumatology. Abstract 502, 1999.
142. Poon, E.D., Quigley, L.R., Berger, R.A., Jacobs, J.J. and Rosenberg, A.G. Alternatives for Complex Acetabular Reconstructions: High Hip Center Versus Jumbo Cup. *Proceedings of the 66<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* p.68, 1999.
143. Berger, R.A., Curran, A., Van, U., Sheinkop, M.B., Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. Complications of Simultaneous Versus Staged Bilateral Total Hip Arthroplasty. *Proceedings of the 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 1:504, 2000.
144. Berzins, A., Jacobs, J.J., Rimnac, C.M., Cannestra, V., Natarajan, R.N., Berger, R.A., Andriacchi, T.P., Schmitt, S., Goldberg, V.M. and Galante, J.O. Surface Damage in Retrieved Polyethylene Tibial Inserts: Conforming Versus Nonconforming Geometries. *Proceedings of the 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 1:547, 2000.
145. Archibeck, M., Berger, R.A., Barden, R.M., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. The Efficacy of Posterior Cruciate Ligament Retaining Total Knee Arthroplasty in Patients With Rheumatoid Arthritis. *Proceedings of the 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 1:548-549, 2000.
146. Berger, R.A., Barden, R.M., Chassin, E.P., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G., Galante, J.O. Cruciate-Retaining Cemented Total Knee Arthroplasty Using Pegged Tibial Component Without a Central Post: 8 to 14 Years Follow-Up. *Proceedings of the 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 1:586-587, 2000.
147. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Black, J., Galante, J.O. Serum Metal Levels in Patients Following Total Hip Replacement Revision Surgery: A Prospective Study. *Proceedings of the 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 1:331, 2000.
148. Martell, J.M., Berkson, E. and Jacobs, J.J. The Performance of 2D Versus 3D Computerized Wear Analysis in Total Hip Arthroplasty. *Proceedings of the 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 1:324-325, 2000.
149. Hallab, J., Mikecz, K., Akrami, J. and Jacobs, J.J. Differential Activation of Human Lymphocytes to Serum Proteins Complexed with Metal Released From Cobalt-Chromium Implant Alloy Degradation. *Trans ORS* 25:74, 2000.
150. Skipor, A.K., Jacobs, J.J., Patterson, L.M., Galante, J.O. Metal Concentrations in Serum Following Hip Replacement Revision Surgery: A Prospective Study. *Trans ORS* 25:508, 2000.
151. Turner, T.M., Urban, R.M., Jacobs, J.J., Berzins, A., Hall, D.J., Lawrence-Smith, A.M., Bjursten, L.M., Bruce, L. and Andersson, G.B.J. Fixation of a Femoral Hip Stem by Vibration Into Porous Titanium Granules in a Canine Model. *Trans ORS* 25:532, 2000.

152. Martell, J., Berkson, E. and Jacobs, J.J. The Performance of 2D Vs. 3D Computerized Wear Analysis in the Harris Galante Acetabular Component. *Trans ORS* 25:564, 2000.
153. Vermes, C., Chandrasekaran, R., Patel, J., Dobai, J., Galante, J.O., Jacobs, J.J., Roebuck, K.A. and Glant, T.T. Upstream Events of Phagocytic Process, Without Internalization of Particle Wear Debris, Are Sufficient to Activate Signaling Pathways and Influence Gene Regulation in Osteoblasts and Fibroblasts. *Trans ORS* 25:595, 2000.
154. Hallab, N.H., Mikecz, K., Akrami, J. and Jacobs, J.J. Titanium and Chromium Release Into and Binding With Human Serum From Titanium and Cobalt-Chromium Implant Alloy Degradation. *Trans ORS* 25:658, 2000.
155. Skipor, A.K., Jacobs, J.J., Patterson, L.M., Paprosky, W.P., and Galante, J.O. Serum Chromium Concentration in Patients with Cobalt-Chromium Total Hip Replacement Components. 6<sup>th</sup> International Symposium on Metal Ions in Biology and Medicine:154, 2000.
156. Hallab, N.J., Mikecz, K., Akrami, J. and Jacobs, J.J. Delayed Type Hypersensitivity Responses of Human Lymphocytes to Serum Proteins Complexed with Cobalt Alloy (ASTM F-75) Degradation Products. *Transactions of the 6<sup>th</sup> World Biomaterials Conference*, p. 398, 2000.
157. Glant, T.T., Vermes, C., Chandrasekaran, R., Jacobs, J.J., Andersson, G.B.J., An, H., Galante, J.O. and Roebuck, K.A. Particulate Biomaterial Activates Protein Tyrosine Kinases (PTK) and Nuclear Transcription Factor-kappaB (NF- $\kappa$ B) and Suppresses Type I Collagen Synthesis in Osteoblasts. *Transactions of the 6<sup>th</sup> World Biomaterials Conference*, p. 996, 2000.
158. Hallab, N.J., Mikecz, K., Akrami, J. and Jacobs, J.J. The Release and Differential Binding of Titanium and Chromium with Human Serum From Titanium and Cobalt-Chromium Implant Alloy Degradation. *Transactions of the 6<sup>th</sup> World Biomaterials Conference*, p. 1139, 2000.
159. Hallab, N.J., Mikecz, K., Vermes, C. and Jacobs, J.J. Differential Effects of Specific Metal-Protein Complexes From Implant Alloy Degradation on Human Lymphocyte Reactivity. *Transactions of the Autumn Immunology Conference*, p. 18, 2000.
160. Hallab, N.J., Mikecz, K., Vermes, C., Skipor, A.K., and Jacobs, J.J. Human Lymphocyte Reactivity to Metal-Protein Complexes Produced from Cobalt-Base and Titanium-Base Implant Alloy Degradation. *Transactions of Molecular Mechanisms of Metal Toxicity*, p. 35, 2000.
161. Hallab, N., Mikecz, K., Vermes, C., Skipor, A.K. and Jacobs, J.J. Differential Effects of Metal-Protein Complexes Produced from Cobalt-Base and Titanium-Base Implant Alloy Degradation on Human Lymphocyte Reactivity In Vitro. *Trans ORS* 26:963, 2001.
162. Urban, R.M., Jacobs, J.J., Tomlinson, M.J. and Galante, J.O. Renal Tubular Chromium Deposition in Patients with Failed or Long-Term Joint Replacement. *Trans ORS* 26:165, 2001.
163. Hallab, N., Vermes, C., Rao, A., Messina, C. and Jacobs, J.J. Concentration Dependant Effects of Implant Alloy Metals on Human Osteoblast Function In Vitro. *Trans ORS* 26:5, 2001.
164. Berger, R.A., Nelson-Fruend, E.M., Quigley, L.R., Sheinkop, M.B., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Long-Term Results of Hybrid Total Hip Arthroplasty Using a Femoral Component with a Roughened and Polymethylmethacrylate Precoated Finish. *Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 2:582, 2001.
165. Bellabarba, C., Berger, R.A., Bentley, C.D., Quigley, L.R., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., and Galante, J.O. Cementless Acetabular Reconstruction After Acetabular Fracture. *Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 2:636, 2001.

166. Archibeck, M.J., Berger, R.A., Quigley, L.R., Cohen, R., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. An Anatomically Designed, Second Generation Cementless Femoral Component: Clinical and Radiographic Results at Eight to Eleven-Year Follow-Up. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:640, 2001.
167. Skipor, A.K., Campbell, P.A., Patterson, L.M., Amstutz, H.C. and Jacobs, J.J. Serum and Urine Metal Levels in Patients With Metal-on-Metal Surface Replacements of the Hip. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:642, 2001.
168. Greenwald, A.S., Garino, J.P., Ayers, D.C. and Jacobs, J.J. Alternative Bearing Surfaces: The Good, Bad and Ugly. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:665, 2001.
169. Hodge, W.A., Harman, M.K., Banks, S.A., Jacobs, J.J., Urban, R.M., Skipor, A.K., Campbell, P., and Amstutz, H.C. Early Clinical Experience with Contemporary Metal-on-Metal Total Hip Arthroplasty: A Multicenter Collaboration. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:672, 2001.
170. Jacobs, J.J. Biological Concerns: Caveat Emptor! Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:39-42, 2001.
171. Urban, R.M., Jacobs, J.J., Sapienza, C.I., Hall, D.J., Rosenberg, A.G., Berger, R.A. and Galante, J.O. Histological Analysis of Intermediate and Long-Term Cementless Acetabular Components With Screws: A Postmortem Study. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:490, 2001.
172. Leopold, S.S., Silverton, C.D., Urban, R.M., Jacobs, J.J. and Galante, J.O. Late Dislocations Associated With Corrosion at the Head-Neck Interface of Modular THA Components. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:502-503, 2001.
173. Silverton, C.D., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Comparison of Single Dose 400 Centigray Radiation to 700 Centigray in the Prevention of Heterotopic Ossification After Total Hip Arthroplasty. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:507, 2001.
174. Leopold, S.S., Mcstay, C., Klafeta, K., Jacobs, J.J. and Rosenberg, A.G. Treatment of Iatrogenic Medial Collateral Ligament Disruption During Primary TKA With Primary Repair and Without a Constrained Prosthesis. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:524, 2001.
175. Jacobs, J.J., Surace, M., Berzins, A., Berger, R.A., Andriacchi, T.P., Natarajan, R. and Galante, J.O. Backsided Tibial Polyethylene Wear in Modular Tibial Components: Retrieval of Well-Functioning Total Knee Arthroplasties. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:525, 2001.
176. Jacobs, J.J., Berzins, A., Ed, C., Berger, R.A., Andriacchi, T.P., Natarajan, R. and Galante, J.O. The Benefit of Net-Shape Molded Polyethylene in Total Knee Arthroplasty: A Retrieval Study. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:525, 2001.
177. Berger, R.A., Barden, R.M., Sheinkop, M.B., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Don't Abandon the Unicompartamental Knee Arthroplasty. Proceedings of the 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 2:530, 2001.
178. Yao, J.Q., Laurent, M.P., Gilbertson, L., Jacobs, J.J. and Crowninshield, R.D. Viscosity of Fresh and Thermally Degraded Bovine Calf Serum and Its Implications for In-Vitro Wear Testing. Trans SFB 24:34, 2001.
179. Hallab, N. J., Mikecz, K., Vermes, C., Skipor, A. and Jacobs, J.J. Differential Human Lymphocyte Reactivity to Serum Based Metal-Protein Complexes Produced from Cobalt-Base and Titanium-Base Implant Alloy Degradation. Trans SFB 24:220, 2001.

180. Turner, T.M., Urban, R.M., Hall, D.J., Lawrence-Smith, A.M, Jacobs, J.J., Sumner, D.R and Galante, J.O. The Effect of Femoral Stem Surface Roughness on the Extent of Fibrous Membrane Formation and Bone in a Canine Total Hip Replacement Model. *Trans SFB* 24:298, 2001.
181. Urban, R.M., Jacobs, J.J., Tomlinson, M.J., Hall, D.J. and Galante, J.O. Renal Tubular Chromium Deposition But Not Wear Particles in the Kidneys of Patients with Failed or Long-Term Joint Replacement. *Trans SFB* 24:300, 2001.
182. Hallab, N., Vermes, C., Messina, C. and Jacobs, J.J. Effects of Implant Alloy Metals on Human Osteoblast Function In Vitro. *Trans SFB* 24:461, 2001.
183. Urban, R.M., Jacobs, J.J., Sapienza, C.I., Hall, D.J., Rosenberg, A.G., Berger, R.A., and Galante, J.O. Histological and Electron Microprobe Analysis of Intermediate and Long-Term, Cementless, Porous-Coated Acetabular Components Retrieved Post Mortem. *Trans. 4<sup>th</sup> Combined Meeting of the ORS, Abstract #4*, 2001.
184. Urban, R.M., Jacobs, J.J., Tomlinson, M.J., Hall, D.J. and Galante, J.O. Renal Tubular Chromium Deposition But Not Dissemination of Wear Particles in the Kidneys of Patients with Failed or Long-Term Joint Replacement. *Trans. 4<sup>th</sup> Combined Meeting of the ORS, Abstract #35*, 2001.
185. Urban, R.M., Turner, T.M., Hall, D.J., Lawrence-Smith, A.M., Jacobs, J.J., Sumner, D.R. and Galante, J.O. Femoral Stem Surface Roughness Affects Fibrous Membrane Formation and Distal Migration of Wear Debris. *Trans. 4<sup>th</sup> Combined Meeting of the ORS, Abstract #89*, 2001.
186. Vermes, C., Raman, C., Dobai, J., Andersson, G.B.J., An, H.S., Jacobs, J.J. and Glant, T.T. Pamidronate and 1,25-Dihydroxy-Vitamin-D<sub>3</sub> Inhibit Tumor Necrosis Factor-Alpha (TNF- $\alpha$ ) and Wear Debris-Induced Interleukin-6 (IL-6) Release and Recover Suppressed Type I Collagen Synthesis in Bone-Marrow-Derived Primary Human Osteoblasts. 65th Annual Meeting of the American College of Rheumatology. Abstract 1817, 2001.
187. Chang, H.J., Mehta, P.S., Boghani, S., Jacobs, J.J. and Scrimshaw, S.C. Variation by Race/Ethnicity and Gender in Total Joint Replacement Decisions. 65th Annual Meeting of the American College of Rheumatology. Abstract 1599, 2001.
188. Hallab, N.J., Messina, C., Vermes, C., and Jacobs, J.J. Differential Effects of Implant Alloy Metals on Human Periprosthetic Cell Populations: Osteoblasts, Fibroblasts and Lymphocytes. *Trans ORS* 27:6, 2002.
189. Urban, R.M., Jacobs, J.J., Sapienza, C.I., Hall, D.J., Martell, J.M., Rosenberg, A.G., Berger, R.A. and Galante, J.O. Polyethylene Wear and Interface Tissues in Intermediate and Long-Term Modular Porous-Coated Acetabular Components Retrieved Post Mortem. *Trans ORS* 27:25, 2002.
190. Hallab, N.J., Messina, C., Caicedo, M., Skipor, A. and Jacobs, J.J. Decreased Release of Metal From Fretting Corrosion of Ceramic-Metal Modular Junctions Compared to Metal-Metal Junctions. *Trans ORS* 27:98, 2002.
191. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Hallab, N.J., Paprosky, W.P., Black, J. and Galante, J.O. Metal Concentrations in Patients with UHMWPE/CoCr THR: An 84 Month Prospective Study. *Trans ORS* 27:131, 2002.
192. Hallab, N.J., Messina, C., Stafford, T., Mikecz, K., and Jacobs, J.J. Th1 Mediated Responses to Metals Dominate In-Vitro Hypersensitivity Reactions Detected in Total Joint Arthroplasty Patients. *Trans ORS* 27:188, 2002.
193. Fritz, E.A., Glant, T.T., Jacobs, J.J., Vermes, C. and Roebuck, K.A. Titanium Particles Induce Il-8 Gene Expression in Osteoblasts. *Trans ORS* 27:222, 2002.
194. Urban, R.M., Turner, T.M., Hall, D.J., Lawrence-Smith, A.M., Jacobs, J.J., Sumner, D.R. and Galante, J.O. Surface Roughness of Femoral Stems Affects Fibrous Membrane Formation and Distal Migration of Wear Debris. *Trans ORS*

27:262, 2002.

195. Hallab, N.J., Messina, C., Skipor, A. and Jacobs, J.J. Modular Junction Fretting Preferentially Produces Metal-Protein Immunoglobulin Complexes. *Trans ORS* 27:314, 2002.

196. Vermes, C., Roebuck, K., Hallab, N., Jacobs, J., An, H., Andersson, G., Galante, J. and Glant, T. Shedding of Osteoblast Cell Surface Expressed, Non-Functional Interleukin-6 Receptor Results in the Activation of GP130-Mediated Signaling in Osteoblasts. *Trans ORS* 27:336, 2002.

197. Vermes, C., Bardos, T., Czipri, M., Hanyecz, A., Lovasz, G., Bellyei, A., Fritz, E., Roebuck, K., Jacobs, J., Galante, J., Andersson, G. and Glant, T. Differential Effects of Bacterial Lipopolysaccharide (LPS) and Tumor Necrosis Factor-Alpha on the Functions of Human Osteoblast Cells. *Trans ORS* 27:537, 2002.

198. Yao, J.Q., Laurent, M.P., Gilbertson, L.N., Blanchard, C.R., Crowninshield, R.D. and Jacobs, J.J. A Comparison of Biological Lubricants to Bovine Calf Serum for Total Joint Wear Testing. *Trans ORS* 27:1004, 2002.

199. Martell, J., Manning, D., Jacobs, J., Wixson, R. and Stulberg, D. The Repeatability of Computerized Wear Analysis in Five Different Acetabular Designs. *Trans ORS* 27:1021, 2002.

200. Hallab, N.J., Brasher, A., Messina, C., Rao, A., and Jacobs, J.J. Specific Metal Ions Enhance Osteoblast Adhesion Strength: Implications for Cementless Implant Fixation. *Trans ORS* 27:1055, 2002.

201. Skipor, A.K., Patterson, L.M., Gitelis, S., Berger, R.A. and Jacobs, J.J. Metal Levels in Patients with Metal-on-Metal Total Hip Replacements. *Proceedings of the 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 3:665-666, 2002.

202. Berger, R.A., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G., Cannestra, V., Galante, J.O. and Barden, R.M. The Results of a Semi-Constrained (CCK) Total Knee Design in Revision TKA. *Proceedings of the 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 3:628, 2002.

203. Archibeck, M.J., DiDonna, M., Berger, R.A., Rosenberg, A.G. and Jacobs, J.J. The Extended Trochanteric Osteotomy: A Radiographic Evaluation. *Proceedings of the 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 3:392, 2002.

204. Kruse, R.L., Jacobs, J.J., Chillag, K. and Albus, T.E. Preliminary Results of Metal-on-Metal Total Hip Replacements. *Proceedings of the 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 3:401-402, 2002.

205. Greenwald, A.S., Garino, J.P., Ayers, D.C., Jacobs, J.J. and Skipor, A.K. Alternative Bearing Surfaces: The Good, Bad & Ugly. *AAOS Committees on Hip and Knee Arthritis and Biomedical Engineering. Proceedings of the 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 3:735, 2002.

206. Hallab, N.J., Messina, C., Stafford, T., Mikecz, K. and Jacobs, J.J. Th1 Lymphocyte Responses to Metals Dominate In-Vitro Hypersensitivity Reactions of Patients with Total Joint Arthroplasty. *Trans. SFB* 25:23, 2002.

207. Skipor, A.K., Campbell, P.A., Patterson, L.M., Gitelis, S., Berger, R.A., Amstutz, H.C. and Jacobs, J.J. Metal Ion Levels in Patients with Metal-on-Metal Hip Replacements. *Trans. SFB* 25:24, 2002.

208. Hallab, N.J., Messina, C., Vermes, C. and Jacobs, J.J. Effects of Implant Alloy Degradation on Human Periprosthetic Cell Populations: Osteoblasts, Fibroblasts and Lymphocytes. *Trans. SFB* 25:107, 2002.

209. Hallab, N.J., Messina, C., Skipor, A.K. and Jacobs, J.J. Metal-Protein Immunoglobulin Complexes are Preferentially Produced from Modular Junction Fretting. *Trans. SFB* 25:109, 2002.

210. Yao, J.Q., Laurent, M.P., Gilbertson, L.N., Blanchard, C.R., Crowninshield, R.D. and Jacobs, J.J. A Comparison of Biological Lubricants to Bovine Calf Serum in Total Joint Wear Testing. *Trans. SFB* 25:294, 2002.
211. Hallab, N.J., Messina, C., Caicedo, M., Skipor, A.K. and Jacobs, J.J. Electrochemical Fretting of Ceramic-Metal Modular Junctions Release Less Metal than Metal-Metal Junctions. *Trans. SFB* 25:301, 2002.
212. Hallab, N.J., Brasher, A., Messina, C. and Jacobs, J.J. Implant Fixation can be Affected by Specific Metal Ions which Enhance Osteoblast Adhesion Strength. *Trans. SFB* 25:703, 2002.
213. Fritz, E.A., Glant, T.T., Jacobs, J.J. and Roebuck, K.A. Titanium Particles Activate IL-8 and MCP-1 Chemokine Genes in Human Osteoblasts. *Experimental Biology* 2002:A724, 520.7.
214. Jacobs, J.J. The Likelihood of Systemic Effects of Ions. *SICOT/SIROT XXII*:187, 2002.
215. Wimmer, M.A., Nechtow, W., Kleingries, M., Schwenke, T., Rosenberg, A.G., Jacobs, J.J. and Andriacchi, T.P. TKR Wear Scar Formation is Influenced by the Host's Gait Pattern. *Trans ORS* 28:4, 2003.
216. Haman, J.D., Bechtol, N., Jacobs, J.J., Rosenberg, A.G., Berger, R.A. and Wimmer, M.A. Tibial Post Damage in TKA'S is Associated with Tibial Plateau Damage. *Trans ORS* 28:6, 2003.
217. Fritz, E.A., Glant, T.T., Jacobs, J.J. and Roebuck, K.A. Titanium Particles and TNF-Alpha Activate Chemokine Expression in Osteoblasts by Potentially Distinct Mechanisms. *Trans ORS* 28:281, 2003.
218. Hallab, N.J., Messina, C., Stafford, T. and Jacobs, J.J. Metal Specific Responses Dominate In Vitro Hypersensitivity Reactions in Patients with Total Joint Arthroplasty. *Trans ORS* 28:286, 2003.
219. Urban, R.M., Turner, T.M., Hall, D.J., Skipor, A.K., Infanger, S.I., Lim, T-H., Minevski, Z.S. and Jacobs, J.J. Electrolytic Phosphate Surface Treatment Increased Bone and Marrow and Reduced Fibrous Tissue at Titanium Alloy Implant-Bone Interfaces. *Trans ORS* 28:1369, 2003.
220. Hallab, N.J., Messina, C., Skipor, A.K. and Jacobs, J.J. In Vitro Electrochemical Fretting of Titanium- and Cobalt-Based THA Modular Junctions Are Dependent on Material Couple and Electrolyte Composition. *Trans ORS* 28:1386, 2003.
221. Hallab, N.J., Messina, C. and Jacobs, J.J. Implant Metals Act Synergistically with Bacterial Immunogens (Endotoxins, Mitogens and Superantigens) to Activate Lymphocytes Indicating a Novel Mechanism of Implant Bioreactivity. *Trans ORS* 28:1455, 2003.
222. Jacobs, J.J. Biological Concerns: Caveat Emptor! *Proceedings of the 70<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 4:145-147, 2003.
223. Aadalen, K.J., Lyon, J., Wixson, R., Housain, S., Jacobs, J.J. and Galante, J.O. The Effect of Polymethylmethacrylate Precoating on the Fixation of a Roughened Cemented Femoral Component with a Rectangular Geometry. *Proceedings of the 70<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 4:376, 2003.
224. Berger, R.A., Meneghini, R.M., Sheinkop, M.B., Della Valle, C., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. The Modern Unicompartmental Knee Arthroplasty at a Minimum of Ten Years Follow-up. *Proceedings of the 70<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 4:561-562, 2003.
225. Della Valle, C.J., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Gitelis, S., Sheinkop, M.B., Quigley, L. and Galante, J.O. Primary Total Hip Arthroplasty with a Cementless Acetabular Component: Evaluation at a Minimum of 15 Years. *Proceedings of the 70<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 4:618-619, 2003.

226. Berger, R.A., Sheinkop, M.B., Quigley, L., Della Valle, C.J., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Primary Cementless Acetabular Reconstruction in Patients Less Than 50 Years Old: A Rationale for Improving Bearing Surfaces. Proceedings of the 70<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons 4:620, 2003.
227. Minevski, Z.S., Nelson, C.J., Urban, R.M., Turner, T.M. and Jacobs, J.J. Corrosion and Wear Resistant Bioactive Surgical Implants. Trans SFB 26:45, 2003.
228. Skipor, A.K., Campbell, P.A., Amstutz, H.C. and Jacobs, J.J. Two Year Metal Ion Levels in Patients with Metal-on-Metal Surface Arthroplasty. Trans SFB 26:125, 2003.
229. Vermes, C., Jacobs, J.J., Hallab, N.J., Andersson, G.B.J., Galante, J.O. and Glant, T.T. Pamidronate and 1- $\alpha$ , 25-dihydroxy-vitamin-D<sub>3</sub> Reverse Titanium Particle- and Tumor Necrosis Factor-alpha-induced Altered Functions of Bone Marrow-derived Primary Human Osteoblasts. Trans SFB 26:186, 2003.
230. Hallab, N.J., Messina, C., Stafford, T. and Jacobs, J.J. Specific Metals Mediate In Vitro Hypersensitivity Reactions in Patients with Total Joint Arthroplasty. Trans SFB 26:319, 2003.
231. Urban, R.M., Turner, T.M., Hall, D.J., Skipor, A.K., Infanger, S.I., Lim, T-H., Nelson, C.J., Minevski, Z.S. and Jacobs, J.J. Increased Bone and Marrow and Reduced Fibrous Tissue at Ti-Alloy Implant Surfaces with Electrolytic Phosphate Treatment. Trans SFB 26:320, 2003.
232. Berzins, A., Haman, J.D., Bechtol, N., Jacobs, J.J. and Wimmer, M.A. Tibial Plateau Damage in Retrieved Conforming and Non-Conforming TKAs. Trans SFB 26:383, 2003.
233. Hallab, N.J., Messina, C., Caicedo, M., Skipor, A.K. and Jacobs, J.J. Alloy and Electrolyte Dependant Fretting Corrosion of Titanium and Cobalt-Based THA Modular Junctions. Trans SFB 26:537, 2003.
234. Hallab, N.J., Messina, C., Stafford, T. and Jacobs, J.J. Soluble Metallic Debris Can Act Synergistically with Bacterial Immunogens: A Novel Mechanism of Implant Bioreactivity. Trans SFB 26:581, 2003.
235. Jacobs, J.J. Effects of Patient and Surgical Factors on Total Knee Replacement Outcomes. Transactions of the NIH Consensus Development Conference on Total Knee Replacement Program, pp. 35–39, December 8 – 10, 2003.
236. Wimmer, M.A., Moisiu, K.C., Genge, R., Rosenberg, A.G., Jacobs, J.J., Andriacchi, T.P. and Martell, J. Hip Joint Moments Predict Polyethylene Wear in Total Hip Arthroplasty. Trans ORS 29:121, 2004.
237. Skipor, A.K., Campbell, P.A., Gitelis, S., Berger, R.A., Amstutz, H.C. and Jacobs, J.J. Three Year Prospective Study of Serum and Urine Metal Levels in Patients with Metal-on-Metal Total Hip and Surface Arthroplasty. Trans ORS 29:124, 2004.
238. Crowninshield, R.D., Yao, J.Q., Wimmer, M.A., Jacobs, J.J., Rosenberg, A.G., and Blanchard, C.R. An Assessment of Polyethylene Backside Wear in a Modular Tibial Total Knee System. Trans ORS 29:214, 2004.
239. Schwenke, T., Wimmer, M.A., Schneider, E., Sumner, D.R., Rosenberg, A.G., Andriacchi, T.P., and Jacobs, J.J. Joint Moments Affect Tibial Polyethylene Failure in TKA. Trans ORS 29:295, 2004.
240. Natarajan, R.N., Hussain, M., Wimmer, M.A., Rosenberg, A.G., and Jacobs, J.J. Wear of UHMWPE Components of Total Knee Replacements Depend Upon Walking Pattern. Trans ORS 29:1035, 2004.
241. Hallab, N.J., Anderson, S., Stafford, T., Skipor, A.K., Campbell, P., and Jacobs, J.J. Correlation Between Lymphocyte Reactivity and Metal Ion Levels in Patients with Metal-on-Metal Hip Arthroplasty. Trans ORS 29:1489, 2004.

242. Hallab, N.J., Anderson, S., Stafford, T., and Jacobs, J.J. T-Cell vs. B-Cell Metal-Hypersensitivity Responses in Patients with Arthroplasty. *Trans ORS* 29:1490, 2004.
243. Rubash, H., Dorr, L., Jacobs, J., Maloney, W., Saag, K., Malbecq, W., and Leung, A. Does Alendronate Inhibit the Progression of Periprosthetic Osteolysis? *Trans ORS* 29:1492, 2004.
244. Hallab, N.J., Caicedo, M., Koreny, T., Glant, T.T. and Jacobs, J.J. Systemic Markers of Bone Resorption and Bioreactivity in Patients with Total Hip Arthroplasty. *Trans ORS* 29:1493, 2004.
245. Urban, R.M., Jacobs, J.J., Gilbert, J., Maloney, W.J., and Hallab, N. Corrosion of Modular Titanium-Alloy Femoral Stems in Cementless Primary and Revision Hip Replacement. *Proceedings of the 71<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 5:376 (Paper 93), 2004.
246. Hickman, J.M., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Elrashidy, H., Paprosky, W.G., and Galante, J.O. Impaction Allografting with Cement for Revision of the Femoral Component. *Proceedings of the 71<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 5:380 (Paper 205), 2004.
247. Burnett, R.S., Berger, R.A., Della Valle, C., Jacobs, J.J., Paprosky, W.G., Leopold, S.S., Barden, R.M. and Rosenberg, A.G., A Change in Technique Transforms the Results of Extensor Mechanism Allograft Reconstructions in TKA. *Proceedings of the 71<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 5:441 (Poster 112), 2004.
248. Crowninshield, R.D., Wimmer, M., Yao, J., and Jacobs, J.J. An Assessment of Polyethylene Backside Wear in a Modular Tibial Total Knee System. *Proceedings of the 71<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 5:447-448 (Poster 134), 2004.
249. Hallab, N.J., Anderson, S., Caicedo, M., Skipor, A., Campbell, P., and Jacobs, J.J. Lymphocyte Reactivity and Metal Ion Levels in Patients With Metal-on-Metal Hip Arthroplasty. *Trans 7<sup>th</sup> World Biomaterials Congress*: 1338, 2004.
250. Reddy, A., Caicedo, M., Anderson, S., Jacobs, J.J., and Hallab, N.J. Implant Alloy Particles Can Activate Human Lymphocytes in a Person-, Alloy-, and Dose-Dependant Manner. *Trans ORS* 30:150, 2005.
251. Hallab, N.J., Caicedo, M., Anderson, S., Reddy, A., and Jacobs, J.J. Metal Sensitivity Responses Are Not MHC Class II Restricted, A New Paradigm for Metal-Induced Lymphocyte Reactivity. *Trans ORS* 30:284, 2005.
252. Popoola, O.O., Patil, A.Y., Johnson, T.S., Blanchard, C.R., Crowninshield, R.C., Jacobs, J., Wimmer, M., and Rosenberg, A. In Vitro Wear of UHMWPE Articulating Against Explanted and New Co-Cr-Mo Femoral Components. *Trans ORS* 30:311, 2005.
253. Urban, R.M., Jacobs, J.J., Gilbert, J.L., Hall, D.J., and Wright, J.L. Corrosion of Modular-Body Titanium Alloy Femoral Stems for Hip Replacement. *Trans ORS* 30:315, 2005.
254. Hallab, N.J., Caicedo, M., Reddy, A., Anderson, S. and Jacobs, J.J. Carcinogenicity of Implant Metals on Human Peri-Implant Cells. *Trans ORS* 30:465, 2005.
255. Hallab, N.J., Caicedo, M., Anderson, S., Reddy, A., and Jacobs, J.J. In Vitro Metal-Induced Lympho-Toxicity is Not Preferentially Mediated by DNA Damage, Diminishing Possible Linkage Between Implants and Lymphoma. *Trans ORS* 30:466, 2005.
256. Skipor, A.K., Campbell, P.A., Gitelis, S., Berger, R.A., Schmalzried, T.P., Amstutz, H.C. and Jacobs, J.J. Metal Ion Levels in Patients with Metal on Metal Bilateral Surface and Total Hip Arthroplasty. *Trans ORS* 30:834, 2005.
257. Schwenke, T., Wimmer, M.A., Schneider, E., Rosenberg, A.G. and Jacobs, J.J. Kinetics and Wear of Retrieved and Simulator Tested Implants in TKA. *Trans ORS* 30:835, 2005.

258. Schwenke, T., Borgstede, L., Schneider, E., Rosenberg, A.G., Jacobs, J.J., Andriacchi, T.P., and Wimmer, M.A. Slip Velocities and Their Influence on Wear in TKA. *Trans ORS* 30:902, 2005.
259. Heisel, C., Silva, M., Skipor, A.K., Jacobs, J.J. and Schmalzried, T.P. The Relationship Between Activity and Ions in Patients With Metal-Metal Bearing Hip Prosthesis. *Trans ORS* 30:1141, 2005.
260. Wimmer, M.A., Paul, P., Haman, J., Schwenke, T., Rosenberg, A.G., and Jacobs, J.J. Differences in Damage Between Revision and Postmortem Retrieved TKA Implants. *Trans ORS* 30:1204, 2005.
261. DellaValle, C., Shuaipaj, T., Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Revision Total Hip Arthroplasty with a Cementless Acetabular Component: Evaluation at 15 to 19 Years. *Proceedings of the 72<sup>nd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 6:358-359 (Paper 273), 2005.
262. Schmalzried, T.P., Heisel, C., Silva, M., Skipor, A.K., and Jacobs, J.J. The Relationship Between Activity and Ions in Patients with Metal-Metal Bearing Hip Prostheses. *Proceedings of the 72<sup>nd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 6:387 (Poster 055), 2005.
263. Goldberg, S.H., Urban, R.M., Cohen, M.S., King, G.J.W., O'Driscoll, S.W., and Jacobs, J.J. Wear Pattern Analysis from Retrieved Total Elbow Prostheses Obtained During Revision Arthroplasty. *Proceedings of the 72<sup>nd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 6:516 (Poster 235), 2005.
264. Turner, T.M., Urban, R.M., Tomlinson, M.J., Jacobs, J.J., Hall, D.J., and Gebhardt, J.A. Reduced Articular Cartilage Wear Using An Elastomer Compared to a CoCr Femoral Head in Canine Hemiarthroplasty. *Trans 30<sup>th</sup> Annual Meeting SFB* p. 82, 2005.
265. Schwenke, T., Muller, M., Schneider, E., Jacobs, J.J. and Wimmer, M.A. TKR Wear Scar Dimensions Are Sensitive to Simulator Input. *Trans 30<sup>th</sup> Annual Meeting SFB* p. 195, 2005.
266. Hallab, N.J., Caicedo, M., Anderson, S., Reddy, A., and Jacobs, J.J. Metal-Induced Lymphotoxicity Is Not Preferentially Mediated by DNA Damage, Diminishing the Likelihood of Implant Induced Lymphoma. *Trans 30<sup>th</sup> Annual Meeting SFB* p. 204, 2005.
267. Hallab, N.J., Caicedo, M., Anderson, S., Reddy, A., and Jacobs, J.J. In Vitro Metal Hypersensitivity Responses of Orthopaedic Patients Are Not MHC Class II Restricted, Defying the Current Paradigm. *Trans 30<sup>th</sup> Annual Meeting SFB* p. 295, 2005.
268. Reddy, A., Caicedo, M., Anderson, S., Jacobs, J.J. and Hallab, N.J. Human Lymphocytes Are Activated By Implant Alloy Particles in a Person-, Alloy- and Dose-Dependent Manner. *Trans 30<sup>th</sup> Annual Meeting SFB* p. 317, 2005.
269. Urban, R.M., Jacobs, J.J., Gilbert, J.L., and Hall, D.J. Corrosion of Cementless, Modular-body Titanium Alloy Stems For Hip Replacement. *Trans 30<sup>th</sup> Annual Meeting SFB* p. 486, 2005.
270. Hallab, N.J., Caicedo, M., Reddy, A., Anderson, S., and Jacobs, J.J. Differential Carcinogenicity of Implant Metals on Human Peri-Implant Cells. *Trans 30<sup>th</sup> Annual Meeting SFB* p.487, 2005.
271. Jacobs, J.J., Urban, R.M., Hallab, N.J., and Skipor, A.K. Systemic Implications of Joint Replacement. *Osteologie* 14(Suppl 2):18-19, 2005.
272. Jacobs, J.J. and Hallab, N.J. Metal Hypersensitivity in Patients with MOM Bearings. *Osteologie* 14(Suppl 2):22, 2005.
273. Heisel, C., Silva, M., Skipor, A.K., Jacobs, J.J. and Schmalzried, T.P. The Relationship Between Activity and Ions in Patients with Metal-Metal Bearing Hip Prostheses. *J Bone Jt Surg* 88-B(Supp 1):75, 2006.

274. Schwenke, T., Hobbs, W.A., Schneider, E., Rosenberg, A.G., Jacobs, J.J. and Wimmer, M.A. Changing Slip Velocity Angles Impact Wear in Total Knee Replacements. *Trans ORS* 31:121, 2006.
275. Koreny, T., Tunyogi-Csapo, M., Vermes, C.S., Gal, I., Jacobs, J.J. and Glant, T.T. The Role of Fibroblasts and Fibroblast-Derived Factors in Periprosthetic Osteolysis. *Trans ORS* 31:360, 2006.
276. Honl, M., Schwieger, K., Morlock, M.M., Schwenke, T., Jacobs, J.J. and Wimmer, M.A. The Medial Approach in Primary Total Hip Replacement Surgery, A Microinvasive Single Incision Technique in a Prospective Study. *Trans ORS* 31:449, 2006.
277. Turner, T.M., Urban, R.M., Tomlinson, M.J., Hall, D.J., Wright, J. and Jacobs, J.J. Reduced Articular Cartilage Wear Using Polycarbonate Urethane-Covered Vs. Cobalt-Chromium Femoral Heads in a Canine Hemiarthroplasty Model. *Trans ORS* 31:516, 2006.
278. Schwenke, T., Nechtow, W., Moisisio, K., Schneider, E., Jacobs, J.J. and Wimmer, M.A. Daily Activity Profile of Patients with Total Knee Replacements. *Trans ORS* 31:625, 2006.
279. Hallab, N.J., Mclachlan, B., Anderson, S., Reddy, A., and Jacobs, J.J. Differences between Volume- and Number-Based Methods of Characterizing Particulate Implant Debris. *Trans ORS* 31:689, 2006.
280. Caicedo, M., Anderson, S., Reddy, A., Jacobs, J.J. and Hallab, N.J. In Vitro Metal Reactivity Correlates with In Vivo Biomarkers of Inflammation and Bone Catabolism. *Trans ORS* 31:712, 2006.
281. Caicedo, M., Anderson, S., Reddy, A., Jacobs, J.J. and Hallab, N.J. In Vitro Metal-Reactivity is Associated With In Vivo Metal-Specific Antibodies (IgG) in Patients With Total Joint Arthroplasty. *Trans ORS* 31:713, 2006.
282. Hallab, N.J., Anderson, S., Reddy, A., Caicedo, M. and Jacobs, J.J. Dose Dependent Bioreactivity Responses Associated With Bone Cement. *Trans ORS* 31:719, 2006.
283. Jacobs, J.J. Biomarkers of Prosthetic Performance. *Proceedings of the 73<sup>rd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 7:9, 2006.
284. Sporer, S.M., Paprosky, W.G., Della Valle, C.J., Rosenberg, A.G., Jacobs, J.J. and Berger, R.A. The Use of Trabecular Metal for Type III Acetabular Defects. *Proceedings of the 73<sup>rd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 7:493, 2006.
285. Rasquinha, V.J., Ranawat, C.S., Jacobs, J.J., Skipor, A.K., Rodriguez, J.A., and Weiskopf, J. Serum Metal Ion Levels and Bearing Surfaces in Total Hip Arthroplasty. *Proceedings of the 73<sup>rd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 7:527, 2006.
286. Rosenberg, A.G., Berger, R.A., Leopold, S.S., and Jacobs, J.J. Disruption of the MCL during Primary TKA. *Proceedings of the Knee Society and the American Association of Hip and Knee Surgeons Combined Specialty Day Meeting*, p. 44, 2006.
287. Hallab, N.J., Mclachlan, B., Tarabishy, A., Jacobs, J.J. Differences Between Standard Methods Used to Characterize Particulate Implant Debris. *Trans SFB* 29:332, 2006.
288. Caicedo, M., Anderson, S., Reddy, A., Jacobs, J.J. and Hallab, N.J. Measuring the Biologic Reactivity of Implant Debris Using In Vitro Cellular Reactivity Correlated with In Vivo Serum Biomarkers. *Trans SFB* 29:403, 2006.
289. Caicedo, M.S., Reddy, A., Anderson, S., Jacobs, J.J. and Hallab, N.J. In Vitro Metal-Reactivity Is Associated With In Vivo Metal-Specific Antibodies (IgG) In Individuals with Metal Implants. *Trans SFB* 29:412, 2006.

290. Hallab, N.J., Anderson, S., Reddy, A., Caicedo, M., and Jacobs, J.J. Bioreactivity Responses to Bone Cement Are Dose Dependent. *Trans SFB* 29:477, 2006.
291. Caicedo, M., Tarabishy, A., Reddy, A., Jacobs, J.J. and Hallab, N.J. Metal Particulate and Soluble Debris Induce Similar Cytokine Profiles in Human Primary Monocytes. *Trans ORS* 32:203, 2007.
292. Urban, R.M., Gilbert, J.L., and Jacobs, J.J. Corrosion and Corrosion Products Generated by Three Designs of Cementless Hip Stems With A Ti-Alloy/Ti-Alloy Modular-Body Junction. *Trans ORS* 32:277, 2007.
293. Caicedo, M., Reddy, A., Jacobs, J.J. and Hallab, N.J. Characterizing Lymphocyte Reactivity to Molybdenum. *Trans ORS* 32:328, 2007.
294. Urban, R.M., Hall, D.J., Jacobs, J.J., Pourzal, R., Wimmer, M.A., Sumner, D.R., and Galante, J.O. Long-Term Fixation and Potential Failure Mechanisms in Cementless Acetabular Components Retrieved Postmortem. *Trans ORS* 32:1716, 2007.
295. Caicedo, M., Jacobs, J.J., and Hallab, N.J. Metal Implant Debris Affects MHC-Class II Expression in Macrophages/Monocytes. *Trans ORS* 32:1790, 2007.
296. Hallab, N.J., Reddy, A., Caicedo, M., and Jacobs, J.J. Particle Size Analysis Using Laser Diffraction Unexpectedly Preserves Volume Distribution Data with Diminishing Sample Size. *Trans ORS* 32:1795, 2007.
297. Wimmer, M.A., Jacobs, J.J., and Kunze, J. A Tracer to Accurately Determine Wear of UHMWPE in Lubricant Samples. *Trans ORS* 32:1797, 2007.
298. Schwenke, T., Honl, M., Schneider, E., Galante, J.O., Jacobs, J.J., and Wimmer, M.A. Wear Area Size is Associated With Joint Moments and Surgical Positioning in TKR. *Trans ORS* 32:1809, 2007.
299. Jacobs, J.J. Supporting Studies Designed to Bring Promising Research to the Bedside. *Proceedings of the 74<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 8:130, 2007.
300. Honl, M., Salineros, M.J., Wimmer, M., Schwenke, T., Jacobs, J.J. and Hille, E. The Medial Approach in Primary Hip Replacement Surgery, a Prospective Randomized Study. *Proceedings of the 74<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 8:405, 2007.
301. Salineros, M.J., Crowninshield, R.D., Wimmer, M., Pourzal, R., Galante, J.O., and Jacobs, J.J. Comparison of Crosslinked and Older Polyethylene Types in THR: An Implant Retrieval Study. *Proceedings of the 74<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 8:405, 2007.
302. Amstutz, H.C., LeDuff, M.J., Campbell, P.A., Dorey, F., Jacobs, J.J., and Skipor, A.K. 10 Years of Experience with Metal-on-Metal Hybrid Hip Resurfacing: A Review of 1000 Conserve Plus. *Proceedings of the 74<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 8:421, 2007.
303. Della Valle, C.J., Sporer, S.M., Jacobs, J.J., Berger, R.A., Rosenberg, A.G., and Paprosky, W.G. Perioperative Testing for Sepsis in Revision Total Knee Arthroplasty. *Proceedings of the 74<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 8:456, 2007.
304. Salineros, M.J., Laurent, M.P., Jacobs, J.J., Wimmer, M.A., and Crowninshield, R.D. Surface Evaluation and Wear of Explanted Conventional and Highly Cross-linked Polyethylene Acetabular Liners. *Trans SFB* 30:42, 2007.
305. Reddy, A., Caicedo, M., Jacobs, J.J., and Hallab, N.J. Number of Phagocytosed Particles (Dose) More Than Particle Size or Surface Area Affect THP-1 Monocyte Reactivity. *Trans SFB* 30:218, 2007.
306. Caicedo, M., Tarabishy, A., Reddy, A., Jacobs, J.J., and Hallab, N.J. Soluble Metal Debris Induce Pro-inflammatory

Cytokine Secretion in Human Monocytes Similar to Particulate Debris. Trans SFB 30:575, 2007.

307. Rodrigues, D.B.C., Urban, R.M., Jacobs, J.J., and Gilbert, J.L. Severe Corrosion and Hydrogen Embrittlement of Retrieved Modular Body Titanium Alloy Hip Implants. Trans SFB 30:592, 2007.

308. Caicedo, M., Jacobs, J.J. and Hallab, N.J. MHC-Class II Expression in Macrophages/Monocytes is Affected by Both Soluble and Particulate Metal Implant Debris. Trans SFB 30:597, 2007.

309. Jacobs, J.J. and Skipor, A.K. Preliminary Results of the A-Class<sup>TM</sup> Advanced Metal on Metal Bearing Serum Ion Study. Trans SFB 30:627, 2007.

310. Liu, Y., Wimmer, M.A., Jacobs, J.J., Wang, Q.J., and Martini, A. Modeling the Effect of Coating on the Contact in Artificial Hip Joints. Trans SFB 30:637, 2007.

311. Hallab, N.J., Samee, I., Reddy, A., and Jacobs, J.J. Preserving Particle Size Volume Distribution Data at Low Sample Masses Using Low Angle Laser Light Scattering (LALLS) Analysis. Trans SFB 30:638, 2007.

312. Caicedo, M., Reddy, A., Jacobs, J.J., and Hallab, N.J. Soluble Molybdenum Can Induce an Adaptive Immune Response. Trans SFB 30:640, 2007.

313. Gornet, M.F., Burkus, J.K., Skipor, A.K., and Jacobs, J.J. Prospective Study of Serum Metal: Ion Levels in Patients With Cobalt-Alloy Metal-on-Metal Lumbar Disc Replacement. 7<sup>th</sup> Annual Meeting of the Spine Arthroplasty Society, Berlin, p. 41, 2007.

314. Burkus, J.K., Jacobs, J.J., Skipor, A.K., Kattner, K.A., and Gornet, M.F. Serum Metal Ion Levels in Patients with Metal-on-Metal Cervical Disc Replacements. 7<sup>th</sup> Annual Meeting of the Spine Arthroplasty Society, Berlin, p. 5, 2007.

315. Corpe, R.S., Skipor, A., Amstutz, H., Markovitch, G., Parr, A., Barnes, L., Anderson, M., Campbell, P. and Jacobs, J.J. Metal Ion Levels in Hip Implant Patients Having Bearings With and Without Differential Hardness. Trans. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies, Paper #157, 2007.

316. Reddy, A., Caicedo, M., Jacobs, J.J., and Hallab, N.J. Serum-Protein Biofilm Composition Can Be Dependent on the Size of the Implant Alloy Particle. Trans. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies, Poster #502, 2007.

317. Caicedo, M.S., Reddy, A., Samee, I., Jacobs, J.J., and Hallab, N.J. Cobalt Ions and Co-Cr-Mo Alloy Particles Induce Human Monocyte Co-stimulatory Molecules CD-86, ICAM-1 and the Cytokine IL-8: Implications for Innate Activation of Adaptive Immune Responses. Trans. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies, Poster #535, 2007.

318. Samee, I., Caicedo, M., Reddy, A., Jacobs, J.J., and Hallab, N.J. Complement's Effect on Metal-Induced Lymphocyte Reactivity. Trans. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies, Poster #536, 2007.

319. Gornet, M.F., Burkus, J.K., Skipor, A.K., and Jacobs, J.J. Prospective Study of Serum Metal Ion Levels in Patients with Cobalt-Alloy Metal-on-Metal Lumbar Disc Replacements. Trans. 14<sup>th</sup> International Meeting on Advanced Spine Technologies, Paper 12, 2007.

320. Traynelis, V., Burkus, J.K., Gornet, M.F., Jacobs, J.J., Skipor, A.K., and Kattner, K. Prospective Study of Serum Metal Ion Levels in Patients with Stainless Steel Metal-on-Metal Cervical Disc Replacements. Proceedings of the North American Spine Society 22<sup>nd</sup> Annual Meeting/The Spine Journal 7:54S, 2007.

321. Skipor, A.K., Corpe, S., Amstutz, H.A., Anderson, M., Barnes, L., Markovich, G., Parr, A., Campbell, P., and Jacobs, J.J. Metal Ion Levels in Patients With Hip Implants Having Bearings With and Without Differential Hardness. Trans ORS 33:60, 2008.

322. Wimmer, M.A., Kunze, J., Orozco, D., Ngai, V., Laurent, M.P. and Jacobs, J.J. Rare Earth Tracers to Determine Backside Wear of TKA Polyethylene Inserts. *Trans ORS* 33:171, 2008.
323. Wimmer, M.A., Pacione, C.A., Shekhawat, V.K., Berggreen, P., Jacobs, J.J. and Chubinskaya, S. In Vitro Wear Testing of Living Cartilage Tissue. *Trans ORS* 33:393, 2008.
324. Caicedo, M.S., Reddy, A., Jacobs, J. and Hallab, N.J. Innate Monocyte Responses to Both Metal Ions (Cobalt and Nickel) and Metal Particles (Co-Cr-Mo Alloy) Demonstrate a Mechanism for Inducing Adaptive Immune Responses. *Trans ORS* 33:751, 2008.
325. Caicedo, M.S., Reddy, A., McAllister, K., Jacobs, J. and Hallab, N.J. Metal Implant Debris Induce Dendritic Cell Pro-Inflammatory Responses in a Metal-Dependent Manner. *Trans ORS* 33:753, 2008.
326. Laurent, M.P., Pourzal, R., Fischer, A., Bertin, K.C. Jacobs, J.J. and Wimmer, M.A. In Vivo Wear of a Squeaky Alumina-on-Alumina Hip Prosthesis. *Trans ORS* 33:1775, 2008.
327. Reddy, A., Caicedo, M.S., Jacobs, J. and Hallab, N.J. In Vitro Dosing of Primary Human Monocytes and Human Osteoblasts (MG-63) with 1 – 10µm Particles Indicate the Smallest Size Particles Are Not Always the Most Pro-Inflammatory. *Trans ORS* 33:1939, 2008.
328. Jacobs, J.J. Metallic Wear Debris: Biological Responses. *Proceedings of the 75<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 9:58-59, 2008.
329. Jacobs, J.J. Biocompatibility of Metal-on-Metal Bearings. *Proceedings of the 75<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 9:81, 2008.
330. Jacobs, J.J. Technology Assessment and the AAOS. *Proceedings of the 75<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 9:255-256, 2008.
331. Amenabar, P.P., Della Valle, C.J., Royce, B., Quigley, L.R., Berger, R.A., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Third Generation Cementless Acetabular Components: Results at a Minimum of 10 Years. *Proceedings of the 75<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 9:431, 2008.
332. Bozic, K.J., Breivis, J.S., Jacobs, J.J., Turkelson, C., and Wong, D.A. The Role of the AAOS in Technology Assessment: Where Evidence Meets Clinical Practice. AAOS Technology Assessment Workgroup. *Proceedings of the 75<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 9:375, 2008.
333. Gornet, M. F., Burkus, J.K., Skipor, A.K., and Jacobs, J.J. Prospective Study of Serum Metal Levels in Patients with Cobalt Alloy Metal-on-Metal Lumbar Disc Replacements. *Proceedings of the NASS 23<sup>rd</sup> Annual Meeting/The Spine Journal* 8:59-60S, 2008.
334. Jacobs, J.J., Skipor, A.K., Burkus, J.K., Gornet, M.F., Kattner, K.A., Harper, M.L., and Chan, F.W. Prospective Study of Serum Metal Levels in Patients with a Metal-on-Metal Cervical Disc Replacement. *Trans. 8<sup>th</sup> World Biomaterials Congress*, Abstract 1789, 2008.
335. Jacobs, J.J., Skipor, A.K., Gornet, M.F., Burkus, J.K., Harper, M.L., and Chan, F.W. Serum Metal Levels in a Metal-on-Metal Lumbar Disc Arthroplasty. *Trans. 8<sup>th</sup> World Biomaterials Congress*, Abstract 1790, 2008.
336. Pourzal, R., Laurent, M., Fischer, A., Jacobs, J.J., and Wimmer, M. Wear Mechanisms on a Squeaky Alumina-on-Alumina Hip Prosthesis. *Trans. 8<sup>th</sup> World Biomaterials Congress*, Abstract 2583, 2008.
337. Gornet, M., Burkus, J., Kattner, K., Skipor, A., and Jacobs, J. Serum Metal Levels in Patients with Stainless Steel Metal-on-Metal Cervical Disc Replacements. *Trans. of the Spine Arthroplasty Society*, Abstract #14, 2008.

338. Gornet, M., Burkus, J., Skipor, A., and Jacobs, J. Serum Metal Levels in Patients with Cobalt Alloy Metal-on-Metal Lumbar Disc Replacements. *Trans. of the Spine Arthroplasty Society*, Abstract #62, 2008.
339. Caicedo, M.S., Desai, R., Reddy, A., McAllister, K., Jacobs, J.J. and Hallab, N.J. Human Monocyte Co-Stimulatory Molecules Expression and Resulting CD4+ T Cell Activation Are Dependant on the Type of Metal Challenge. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Paper #195, 2009.
340. Caicedo, M.S., Desai, R., Reddy, A., McAllister, K., Jacobs, J.J. and Hallab, N.J. Soluble and Particulate Co-Cr-Mo Alloy Implant Debris Activate the Inflammasome “Danger” Signaling Pathway in Human Macrophages: A Novel Mechanism for Implant Debris Reactivity. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Paper #365, 2009.
341. Desai, R.J., Caicedo, M., Desai, K., McAllister, K., Jacobs, J.J. and Hallab, N.J. Metal, Polymer and Ceramic Particles Differentially Induce Interleukin-1 Beta Secretion by THP-1 Human Macrophages via Activation of the Inflammasome “Danger” Signal Pathway. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Poster #1563, 2009.
342. Skipor, A.K., Harper, M.L., Gornet, M.F., Burkus, J.K., Chan, F.W., and Jacobs, J.J. Serum Metal Levels in a Metal-on-Metal Lumbar Disc Arthroplasty. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Poster #1847, 2009.
343. Campbell, P., Dorey, F., Skipor, A., Esposito, C., Jacobs, J., and Amstutz, H.C. Ion Levels in Unilateral and Bilateral Hip Resurfacing Patients. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Poster #2265, 2009.
344. Hallab, N.J., McAllister, K., Skipor, A., Campbell, P., Amstutz, H., and Jacobs, J.J. Prospective Longitudinal Study of Lymphocyte Reactivity to Metals in Subjects with Metal on Metal Hip Arthroplasty. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Poster #2442, 2009.
345. Hallab, N.J., Desai, R., Meyer, J., Della Valle, C., and Jacobs, J.J. Predictors of Osteolysis and Aseptic Loosening of Total Joint Replacements. *Transactions of the 55<sup>th</sup> Annual Meeting of the Orthopaedic Research Society*, Poster #2458, 2009.
346. Schwartz, A., Galante, J.O., Della Valle, C.J., Jacobs, J.J., Rosenberg, A.G. and Berger, R.A. Cruciate-Retaining TKA Using a Four-Pegged Tibial Component: Minimum 10-Year Followup. *Proceedings of the 76<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 10:519, 2009.
347. Parvizi, J., Jafari, S.M., Della Valle, C.J., Orozco, F., Ong, A.C., Hallab, N., and Jacobs, J.J. Metal Hypersensitivity Following Total Knee Arthroplasty: Is it a Real Phenomenon? *Proceedings of the 76<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 10:571, 2009.
348. Jacobs, J.J. Metal Ions Should Be Used to Monitor Metal on Metal Hip Resurfacing: Negative. *Proceedings of the 76<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons* 10:68, 2009.
349. Caicedo, M.S., Desai, R., Reddy, A., McAllister, K., Jacobs, J. and Hallab, N. Co-alloy Implant Debris (Soluble and Particulate) Activate the Macrophage Inflammasome “Danger” Signaling Pathway: A Novel Intracellular wear Debris Sensing Mechanism. *Trans. SFB* 31:21, 2009.
350. Urban, R.M., Hall, D.J., Dahlmeier, E.L., Wright, J.L., and Jacobs, J.J. Wear Particles in Bone Marrow of Humerus, Spine and Sternum in Hosting a Hip or Knee Replacement. *Trans. SFB* 31:245, 2009.
351. Urban, R.M., Hall, D.J., Dahlmeier, E.L., Wright, J.L., and Jacobs, J.J. Reduced Backside Wear, Particle Migration, and Osteolysis in Third Generation Cementless Acetabular Components Retrieved Postmortem. *Trans.*

SFB 31:247, 2009.

352. Hallab, N.J., McAllister, K., Skipor, A., Campbell, P., Amstutz, H., and Jacobs, J.J.; Lymphocyte Reactivity to Metals in Subjects with Metal-On-Metal Hip Arthroplasty. *Trans. SFB 31:369*, 2009.
353. Caicedo, M., Steinberg, R., Desai, R., Michielutti, S., Reddy, A., McAllister, K., Jacobs, J.J. and Hallab, N.J. Co-Alloy Particles (DAMPS) Alone Induce Inflammasome Activation (Il-1beta) in Early Macrophages, but Two Signals are Required for Fully Differentiated Macrophages: Overlooked Suspects in Particle Inflammation. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Paper #195*, 2010.
354. Liu, S., Viridi, A.S., Sena, K., Hallab, N.J., Jacobs, J.J. and Sumner, D.R. Polyethylene Particle-induced Osteolysis Depresses Implant Fixation and Bone Formation in a Rat Model. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2133*, 2010.
355. Urban, R.M., Hall, D.J., Dahlmeier, E.L., Wright, J.L., and Jacobs, J.J. Metal Wear Particles in Red Bone Marrow of Humerus, Sternum, Vertebrae and Iliac Crest in Patients Hosting a Hip or Knee Arthroplasty. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2138*, 2010.
356. Steinberg, R.L., Caicedo, M.S., Desai, R.J., McAllister, K., Michielutti, S., Jacobs, J.J. and Hallab, N.J. Particulate Induced Osteoclast Activity is Affected by an Inflammasome-Like Pathway. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2154*, 2010.
357. Reddy, A., Caicedo, M., Jacobs, J.J. and Hallab, N.J. Metal Implant Debris Particle Size Affects Biofilm Properties and Reactivity. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2161*, 2010.
358. Hallab, N.J., McAllister, K., Caicedo, M. and Jacobs, J.J. Mild, Moderate and High Levels of Lymphocyte Reactivity to Metals in Reactive Subjects. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2166*, 2010.
359. Mathew, M.T., Uth, T., Hallab, N.J., Pourzal, R., Fischer, A., Jacobs, J.J. and Wimmer, M.A. About the Synergism of Wear and Corrosion in Metal-on-Metal Joints. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2263*, 2010.
360. Mathew, M.T., Pourzal, R., Fischer, A., Hallab, N.J., Jacobs, J.J. and Wimmer, M.A. Electrochemical Behavior of CoCrMo Alloy: Effect of Protein on Corrosion Kinetics. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2269*, 2010.
361. Urban, R.M., Hall, D.J., Della Valle, C.J., Laurent, M.P., Dahlmeier, E.L., Wright, J.L., Galante, J.O., and Jacobs, J.J. Reduced Backside Wear, Particle Migration, and Osteolysis Comparing Three Generations of Cementless Acetabular Components Having Similar Polyethylene. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2335*, 2010.
362. Levine, B., Skipor, A., Flahive, J., Avram, M., Michelutti, S., Hallab, N., Paprosky, W. and Jacobs, J. The Impact on Metal Ion Levels of a Second Joint Replacement After a Primary Total Hip Arthroplasty. *Transactions of the 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2339*, 2010.
363. Jacobs, J.J. and Novak, C.C. Metal Ion Levels in Maternal and Placental Blood Following Metal-on-Metal Arthroplasty. *Proceedings of the 2010 Annual Meeting of the American Academy of Orthopaedic Surgeons 11:345*, 2010.
364. Levine, B.R., Gilbert, J., Hall, D.J., Urban, R.U., Sporer, S.M., Galante, J.O. and Jacobs, J.J. Fretting Corrosion and Fracture of Modular Neck-Body Junctions in Hip Replacement Femoral Components. *Proceedings of the 2010 Annual Meeting of the American Academy of Orthopaedic Surgeons 11:354*, 2010.

365. Urban, R.M., Dahlmeier, E.L., Hall, D.J., Della Valle, C.J., Galante, J.O., and Jacobs, J.J. Histology of Allograft-Prosthesis Composites in Reconstruction of the Bone-Deficient Proximal Femur. Proceedings of the 2010 Annual Meeting of the American Academy of Orthopaedic Surgeons 11:360, 2010.
366. Hallab, N., Caicedo, M.S., McAllister, K., Reddy, A., and Jacobs, J.J. Implant Debris Activate the Inflammasome Pathway: New Beginnings for Implant Debris Reactivity. Proceedings of the 2010 Annual Meeting of the American Academy of Orthopaedic Surgeons 11:398, 2010.
367. Reddy, A., Caicedo, M., Jacobs, J.J. and Hallab, N.J. IgG Biofilm Adsorption is Influenced by Cobalt Wear Debris Size and Can Increase IL-1 Beta Production in Macrophages. Trans. SFB 32:215, 2010.
368. Dahlmeier, E.L., Urban, R.M., Hall, D.J., Della Valle, C.J., Galante, J.O., and Jacobs, J.J. Histology of Allograft-Prosthesis Composites for Reconstruction in Severe Bone Loss of the Proximal Femur. Trans. SFB 32:645, 2010.
369. Caicedo, M., Steinberg, R., Desai, R., Michielutti, S., Reddy, A., McAllister, K., Jacobs, J.J. and Hallab, N.J. Co-Alloy Particles (DAMP's) Induce Stronger Inflammasome Activation (IL-1Beta) in Early Macrophages Compared to Fully Differentiated Macrophages. Trans. SFB 32:748, 2010.
370. Wimmer, M.A., Templeton, J., Ngai, V., Mündermann, A., and Jacobs, J.J. Post-Operative Knee Flexion Moment Drives TKR Kinematics During Walking and Is Related To Tibial Component Position. Transactions of the 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Paper #372, 2011.
371. Campbell, P.A., Dorey, F., Skipor A.K; Jacobs, J.J., and Amstutz, H.C. Metal Ion Levels In Patients With Hip Resurfacing Up To 10 Years. Transactions Of The 57<sup>th</sup> Annual Meeting Of The Orthopaedic Research Society, Paper #378, 2011.
372. Mathew M.T., Nagelli C.V., Runa M.J., Pourzal R., Fischer, A., Laurent M.P., Jacobs J.J., and Wimmer, M.A. Does the Tribolayer on a Metal-on-Metal (MoM) Hip Joint Exhibit Superior Corrosion Resistance? Transactions of the 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Paper #384, 2011.
373. Hall, D.J., Urban, R.M., Dahlmeier, E.L., Wright, J.L., Della Valle, C.J., Galante, J.O. and Jacobs, J.J. Effects of Autologous and Allogenic Bone Graft on Bone Ingrowth in Revision Acetabular Components Retrieved Postmortem. Transactions of the 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1072, 2011.
374. Pourzal, R., Liao, Y., Marks, L., Jacobs, J.J., Wimmer, M.A., Fischer, A. Hip Resurfacings - How Well Do We Know Cast CoCrMo Alloys? Transactions of the 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1127, 2011.
375. Runa, M.J., Mathew, M.T., Nagelli, C.V., Rocha, L.A., Laurent, M., Jacobs, J.J., and Wimmer, M.A. Wear and Corrosion Synergism in a High-Carbon CoCrMo Alloy Used in Metal-on-Metal Hip Bearings. Transactions of the 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1128, 2011.
376. Mathew, M.T., Abey, S., Jacobs, J.J., Sukotjo, C., and Wimmer, M.A. Synergism of Wear and Corrosion on the Degradation of Ti Implants: The role of pH. Transactions of the 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1132, 2011.
377. Jacobs, J.J. 215. Metal-on-Metal Bearings and Biocompatibility. Proceedings of the 2011 Annual Meeting of the American Academy of Orthopaedic Surgeons 12:193-194, 2011.
378. Foran, J.R.H., Sheth, N.P., Levine, B.R., Della Valle, C.J., Sporer, S.M., Rosenberg, A.G., Jacobs, J.J. and Paprosky, W.G. Patients Feel that Orthopaedic Surgeons are Undercompensated for Total Hip and Knee Replacement. Proceedings of the 2011 Annual Meeting of the American Academy of Orthopaedic Surgeons 12:475, 2011.

379. Greenwald, A.S., Blaha, J.D., Dunbar, M., Murphy, S.B., Jacobs, J.J. and Heim, C.S. The High Performance Modular Hip: Curse or Comfort? Proceedings of the 2011 Annual Meeting of the American Academy of Orthopaedic Surgeons 12:512-513, 2011.
380. Hall, D.J., Urban, R.M., Dahlmeier, E.L., Laurent, M.P., Della Valle, C.J., Galante, J.O., and Jacobs, J.J. Bone Ingrowth in Revision Acetabular Components Retrieved Postmortem. Trans. SFB 33:44, 2011.
381. Mathew, M.T., Nageli, C., Laurent, M., Jacobs, J.J. and Wimmer, M.A. Tribocorrosion Behavior of a Low Carbon CoCrMo Alloy for Hip Joint Applications: Synergisms and Mechanisms. Trans. SFB 33:260, 2011.
382. Runa, M.J., Mathew, M.T., Nagelli, C., Laurent, M., Jacobs, J.J., Wimmer, M.A. and Rocha, L.A. Effect of Proteins and Normal Load on the Tribocorrosion Behavior of Hip Joint Implant Material (CoCrMo Alloy). Trans. SFB 33:787, 2011.
383. Radhakrishnan, R., Mathew, M.T., Nagelli, C., Jacobs, J.J., Sukotjo, C., and Wimmner, M.A. Contribution of Bacterial Lipopolysaccharide on the Corrosion Kinetics of CoCrMo Alloy. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Paper #276, 2012.
384. Hallab, N.J., McAllister, K., Jacobs, J.J. and Pawar, V. Zirconium-Alloy and Zirconium-Oxide Particles Produce Less Toxicity and Inflammatory Cytokines than Cobalt-Alloy and Titanium-Alloy Particles In Vitro, in Human Osteoblasts, Fibroblasts and Macrophages. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #971, 2012.
385. Wimmer, M.A., Mathew, M.T., Laurent, M.P., Nagelli, C., Liao, Y., Marks, L.D., Fischer, A. and Jacobs, J.J. Load Dependent Tribochemical Reactions Minimize Wear from CoCrMo Alloy. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1036, 2012.
386. Urban, R.M., Hall, D.J., Gilbert, J.L., Dahlmeier, E.L., Wright, J.L., Della Valle, C.J., Galante, J.O. and Jacobs, J.J. Are Fretting and Corrosion Reduced in Contemporary Head/Neck Modular Junctions? Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1050, 2012.
387. Clark, M., Prentice, J., Hoggard, N., Stockley, I., Jacobs, J.J. and Wilkinson, J.M. Effect of Analysis Laboratory on Metal Levels After MOMHR and Potential Impact on Patient Management and Interpretation of Research Datasets. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1928, 2012.
388. Hallab, N.J., Caicedo, M., Campbell, P., Amstutz, H., and Jacobs, J.J. Lymphocyte Reactivity but Not Patch Testing, Flow Cytometry or Cytokine Analysis Correlates with Metal Ion Levels in Early Results (4yrs) of Patients with Metal-on-Metal Hip Arthroplasty. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1939, 2012.
389. Lim, S., McAllister, K., Caicedo, M.S., Jacobs, J.J., Samelko, L. and Hallab, N.J. Phenotypic Differentiation of Primary Human Macrophages (M1 vs. M2) indicates M1 Response to Cobalt-alloy Particles and M2 Response to Particles with Endotoxin. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1960, 2012.
390. Mathew, M.T., Nageli, C.V., Laurent, M., Jacobs, J.J. and Wimmer, M.A. Wear-Corrosion Synergism Influences the Performance of High-Carbon and Low-Carbon CoCrMo Alloys. Transactions of the 58<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #2067, 2012.
391. Jacobs, J.J. Spectrum of Soft Tissue Reactions. Metal on Metal Hip Replacement: Current Status and Recommendations for Patient Management. Proceedings of the 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons 13:123-124, 2012.
392. Jacobs, J.J. Clinical Manifestations of Metal Allergy. Adverse Reactions to Byproducts of Joint Replacements.

Proceedings of the 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons 13:237, 2012.

393. Urban, R.M., Hall, D.J., Gilbert, J., Della Valle, C.J., Galante, J.O. and Jacobs, J.J. Have Fretting and Corrosion Been Reduced in Contemporary Head/Neck Modular Junctions? Proceedings of the 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons 13:574-575, 2012.

394. Lombardi, A.V., Barrack, R.L., Berend, K.R., Cuckler, J.M., Jacobs, J.J., Mont, M.A., and Schmalzried, T.P. Hip Society: Algorithmic Approach to Diagnosis and Management of Metal-on-Metal Arthroplasty. Proceedings of the 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons 13:619, 2012.

395. Del Gaizo, D.J., Wetters, N., Jacobs, J.J., Rosenberg, A.G. and Della Valle, C.J. Primary Repair of Iatrogenic Injury to the Medical Collateral Ligament During Primary Total Knee Arthroplasty. Proceedings of the 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons 13:700, 2012.

396. Samelko, L., Caicedo, M., Lim, S., Della-Valle, C., Jacobs, J.J., and Hallab, N. J. Particulate Implant Debris Induces HIF-1 $\alpha$  Protein Expression In Periprosthetic In Vivo in the Tissue Of Metal-On-Metal (MoM) Implants; A Novel Molecular Link In MoM Induced Peri-Implant Reactivity. Transactions of the 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Paper #209, 2013.

397. Samelko, L., Caicedo, M., Lim, S., Della-Valle, C., Jacobs, J.J., and Hallab, N. J. Co-Cr-Mo Alloy Implant Debris Induces Hypoxia-Like Toxicity In Vitro Detected By HIF-1 $\alpha$ ; A Novel Mechanism Explaining Metal-On-Metal Induced Peri-Implant Reactivity. Transactions of The 59<sup>th</sup> Annual Meeting Of The Orthopaedic Research Society, Poster #1033, 2013.

398. Kuprienko, R., Nagelli, C.V., Pourzal, R., Fischer, A., Jacobs, J.J., Wimmer, M.A., and Mathew, M. Does Protein Content of the Surrounding Body Fluid Influence the Corrosion Resistance of the CoCrMo alloy in a Hip Prosthesis? Transactions of the 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1757, 2013.

399. Mathew, M., Nagelli, C., Pourzal, R., Laurent, M., Fischer, A., Jacobs, J.J. and Wimmer, M.A. Demonstrating the Beneficial Effect of Tribolayer(s) in Metal-on-Metal Hip Joints Through a Synergistic Approach of Wear and Corrosion. Transactions of the 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1774, 2013.

400. Hall, D.J., Urban, R.M., Cooper, H.J., Wright, J.L., Dahlmeier, E.L., and Jacobs, J.J. Fretting Corrosion, Corrosion Products and Adverse Tissue Response Associated with CoCr Dual Modular Neck Hip Prostheses. Transactions of the 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Poster #1796, 2013.

401. Cooper, H.J., Urban, R.M., Wixson, R.L., Meneghini, R.M., and Jacobs, J.J. Adverse Local Tissue Reactions Arising from Corrosion at the Neck-Body Junction in a Modular Neck Stem. Proceedings of the 2013 Annual Meeting of the American Academy of Orthopaedic Surgeons 14:402-403, 2013.

402. Levine, B.R., Hsu, A.R., Skipor, A.K., Hallab, N.J., Paprosky, W.G., Galante, J.O. and Jacobs, J.J. Ten-Year Outcome of Serum Metal Ion Levels after Primary Total Hip Arthroplasty. Proceedings of the 2013 Annual Meeting of the American Academy of Orthopaedic Surgeons 14:443-444, 2013.

403. Lombardi, A.V., Fehring, T.K., Jacobs, J.J., Kwon, Y.-M., MacDonald, S.J., and Mont, M.A. The Hip Society: Optimizing Management of Patients With Metal-on-Metal Hips. Proceedings of the 2013 Annual Meeting of the American Academy of Orthopaedic Surgeons 14:481, 2013.

### **Other**

1. Jacobs, J.J., Skipor, A.K., Black, J., Urban, R.M., and Galante, J.O. Reply to Letter to the Editor. J. Bone Jt. Surg. 74-A: 1432, 1992.

2. Friedman, R.J., Black, J., Galante, J.O., Jacobs, J.J., and Skinner, H.B. Reply to Letter to the Editor. *J. Bone Jt. Surg.* 76-A:1897-1898, 1994.
3. Jacobs, J.J. and Urban, R.M. More on Reaction to a Foreign Body after Hip Replacement. Letter to the Editor. *N Engl J Med* 335:1690-1691, 1996.
4. Jacobs, J.J. Litigation Threatens Future of Orthopedics. Letter to the Editor, *Chicago Sun Times* March 10, 1998.
5. Jacobs, J.J. Orthopaedic Biomaterials Panel. *Biomaterials Forum* 20 #2:7, 1998.
6. Jacobs, J.J., Urban, R.M., and Gilbert, J.L. Response to Letter to the Editor. *J Bone Jt. Surg.* 80-A:1554, 1998.
7. Jacobs, J.J. and Bush-Joseph, C. Commentary and Perspective on article entitled "Damage to Cobalt-Chromium Surfaces During Arthroscopy of Total Knee Replacements" (authored by Raab, G.E., Jobe, C.M., Williams, P.A., and Dai, Q.G.). *J. Bone Jt. Surg.* (electronic version), January, 2001.
8. Berger, R.A., Jacobs, J.J., and Galante, J.O. Cementless Total Hip Arthroplasty. *Video Journal of Orthopaedics.* June 2001.
9. Jacobs, J.J., Rosenberg, A.G., Galante, J.O., Berger, R.A., Quigley, L., Gitelis, S., and Sheinkop, M.B. A Question of Prevalence: Liner Dislodgement in Harris-Galante Acetabular Components. Letter to the Editor. *J Bone Jt. Surg.* 84-A:143, 2002.
10. Wimmer, M.A. and Jacobs, J.J. Commentary and Perspective on article entitled "In Vivo Comparison of Hip Separation After Metal-on-Metal or Metal-on-Polyethylene Total Hip Arthroplasty" (authored by Komistek, R.D., et. al.). *J. Bone Jt. Surg.* (electronic version), October, 2002.
11. Jacobs, J.J. and Lemons, J. Foreward. Bone Graft Substitutes, Laurencin, C.T., Ed. ASTM International, West Conshohocken, PA, 2003, pp. ix-x.
12. Jacobs, J.J. Commentary and Perspective on article entitled "Metal-on-Metal Bearings and Hypersensitivity in Patients with Artificial Hip Joints. A Clinical and Histomorphological Study" (authored by Willert et. al.). *J. Bone Jt. Surg.* (electronic version), January, 2005.
13. Clarke, I., McKellop, H., Bowsher, J., Jacobs, J.J., Amstutz, H.C., Cuckler, J., Donaldson, T., and Grigoris, P. Metal-on-Metal Bearings: Back to the Future". Video accompanying Scientific Exhibit SE-003: Metal-Metal Bearings and Large Femoral Heads for Ultra-low Wear with High Stability. 72<sup>nd</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons, Washington, DC, February, 2005.
14. Jacobs, J.J. The UHMWPE Handbook. Ultra-High Molecular Weight Polyethylene in Total Joint Replacement. Book Review. *J Bone Jt Surg* 87-A:1906, 2005.
15. McGrory, B., Callaghan, J., Kraay, M., Jacobs, J.J., Robb, W., and Wasielewski, R. Editorial: Minimally Invasive and Small-incision Joint Replacement Surgery. *Clin Orthop* 440:251-254, 2005.
16. Weinstein, S.L., Jacobs, J.J. and Goldberg, M.J. Osteoarthritis of the Knee. Letter to the Editor. *N Engl J Med* 354:2508, 2006.
17. Andersson, G.B.J. and Jacobs, J.J. Speaking Up for Orthopaedics. *American Academy of Orthopaedic Surgeons Bulletin*, April 2006, pp. 7 – 9.
18. Jacobs, J.J. and Hallab, N.J. Editorial. Loosening and Osteolysis Associated with Metal-on-Metal Bearings: A Local Effect of Metal Hypersensitivity? *J Bone Jt Surg* 88A:1171-1172, 2006.

19. Brand, R.A., Jacobs, J.J. and Heckman, J.D. Editorial: Professionalism in Publishing. *J Bone Jt Surg* 88-A:2323-2325, 2006; *Clin Orthop* 452:1-3, 2006.
20. Berger, R., Della Valle, C., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G., and Galante, J.O. The Progression of Patellofemoral Arthrosis after Medial Unicompartmental Replacement. Results at 11 to 15 Years. Letter to the Editor. *J Bone Jt Surg* 88-A:2533-2534, 2006; *Clin Orthop* 452:285-286, 2006.
21. Jacobs, J.J. Managing Success. *Orthopaedic Research Society Newsletter* 20:1, 2006.
22. Jacobs, J.J. President's Report. *Orthopaedic Research Society Newsletter* 21:1, 2006.
23. Jacobs, J.J. Guest Editorial. Closing the Gap: Orthopaedic Research in Clinical Practice. *J Amer Acad Orthop Surg* 15:1, 2007.
24. Baer, T.M., Mulshine, J.L., and Jacobs, J.J. Editorial. Biomedical Imaging Archive Network. *Skeletal Radiology* 36:799-801, 2007.
25. Wimmer, M.A., Schmid, T.M., and Jacobs, J.J. Editorial. Tribology: A Portal to Understand Joint Failure? *Arthritis and Rheumatism* 56:3511-3513, 2007.
26. Beaty, J., Jacobs, J.J. and Berry, D. Osteoarthritis of the Hip. Letter to the Editor. *N Engl J Med* 358:534, 2008.
27. Clohisy, D.R. and Jacobs, J.J. AAOS Delegation Meets With NIH Director. *AAOS Now* 2:44, 2008.
28. Jacobs, J.J., Dormans, J.P., Gnatz, S.M., Lane, N., Puzas, E.J. and St. Clair, E.W. Foreword. *The Burden of Musculoskeletal Diseases in the United States*. American Academy of Orthopaedic Surgeons, Rosemont, IL, 2008. p.ix.
29. Bozic, K.J., and Jacobs, J.J. Editorial. Technology Assessment and Adoption in Orthopaedics: Lessons Learned. *J Bone Jt Surg* 90A:689-690, 2008.
30. Jacobs, J.J. Presidential Address. Translational Research: Whither the ORS? *J Orthop Res* 26:737-740, 2008.
31. Urban, R.M., Goldberg, S.H., Jacobs, J.J., King, G.J.W., O'Driscoll, S.W. and Cohen, M.S. Modes of Wear After Semiconstrained Total Elbow Arthroplasty. Letter to the Editor, *J Bone Jt Surg*, 91A:488-489, 2009.
32. Della Valle, C.J., Mesko, N.W., Quigley, L., Rosenberg, A.G., Jacobs, J.J., and Galante, J.O. Response to Letter to the Editor. *J Bone Jt Surg Online*: 5 August 2009.
33. Della Valle, C.J., Mesko, N.W., Quigley, L., Rosenberg, A.G., Jacobs, J.J., and Galante, J.O. Response to Letter to the Editor. *J Bone Jt Surg Online*: 30 June 2009.
34. Jacobs, J.J. and King, T. US Bone and Joint Decade Prepares for the Future. *Arthritis Rheum* 61:1470-1471, 2009.
35. Jacobs, J.J. President's Column. *United States Bone and Joint Decade Newsletter*. Summer/Fall 2010; Vol 12, Issue 2, Page 4.
36. Jacobs, J.J. Beyond the Decade: A New Future. *AAOS Now* 4:45, 2010.
37. Jacobs, J.J. Commentary on an article by Stephen S. Tower, MD: "Arthroprosthetic Cobaltism: Neurological and Cardiac Manifestations in Two Patients with Metal-on-Metal Arthroplasty. A Case Report". *J Bone Jt Surg* 92A:e35, 2010.
38. Jacobs, J.J. The Utility of MARS MRI in Patients with Metal-on-Metal Bearings. Commentary on an article by

- Alister J. Hart, et al: "Pseudotumors in Association with Well-Functioning Metal-on-Metal Hip Prostheses. A Case-Control Study Using Three-Dimensional Computed Tomography and Magnetic Resonance Imaging." *J Bone Jt Surg* 94A:e26 1-2, 2012.
39. Jacobs, J.J., Mont, M.A., Bozic, K.J., Della Valle, C.J., Goodman, S.B., Lewis, C.G., Yates, A.J., Boggio, L.N., Watters, W.C., Turkelson, C.M., Wies, J.L., Sluka, P. and Hitchcock, K. American Academy of Orthopaedic Surgeons Clinical Practice Guideline on Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Hip and Knee Arthroplasty. *J Bone Jt Surg* 94A:746-747, 2012.
40. Mont, M.A., Jacobs, J.J., Lieberman, J.R., Parvizi, J., Lachiewicz, P.F., Johanson, N.A., and Watters, W.C.. Editorial: Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Total Hip and Knee Arthroplasty. *J Bone Jt Surg* 94A:673-674, 2012.
41. Key Informant and Technical Expert Panelist in Sobieraj DM, Coleman CI, Tongbram V, Lee S, Colby J, Chen WT, Makanji SS, Ashaye A, Kluger J, White CM. Venous Thromboembolism in Orthopedic Surgery. Comparative Effectiveness Review No. 49. (Prepared by the University of Connecticut/Hartford Hospital Evidence-based Practice Center under Contract No. 290-2007-10067-I.) AHRQ Publication No. 12-EHC020-EF. Rockville, MD: Agency for Healthcare Research and Quality. March 2012. [www.effectivehealthcare.ahrq.gov/reports/final.cfm](http://www.effectivehealthcare.ahrq.gov/reports/final.cfm).
42. Jacobs, J.J. and An, H.S. Commentary: Total Disc Arthroplasty and the Bearing Surface Debate. *The Spine Journal* 12: 702-704, 2012.
43. Jacobs, J.J. Commentary on an article by Garbuz, D.S. et al: "Large (36 or 40-mm) Femoral Heads Decreased the Rate of Dislocation After Revision Total Hip Arthroplasty." *Evidence-Based Orthopaedics; J Bone Joint Surg* 94A:2095, 2012.
44. Jacobs, J.J. Presidential Address. Moving Forward: From Curses to Blessings. *J Am Acad Orthop Surg* 21: 261-265, 2013.
45. Jacobs, J.J. and Wimmer, M.A. An Important Contribution to Our Understanding of the Performance of the Current Generation of Metal-on-Metal Hip Replacements: Commentary on an article by Hart, A.J., et al.: "Which Factors Determine the Wear Rate of Large-Diameter Metal-on-Metal Hip Replacements? Multivariate Analysis of Two Hundred and Seventy-six Components" *J Bone Joint Surg Am* 95(8):e53 1-2, 2013.
46. Jacobs, J.J. Turning a Challenge Into an Opportunity. How Quality Efforts Can Help Achieve Advocacy Goals. *AAOS Now* Volume 7, Number 4, p. 4, 2013.
47. Jacobs, J.J. "The Devil Is in the Details. The New Frontier of "Regulatory Advocacy". *AAOS Now* Volume 7, Number 6, p. 4, 2013.
48. Jacobs, J.J. Cycling for Boomers. Letter to the Editor, *Chicago Tribune*, Section 5, Page 6, June 26, 2013.
49. Hannafin, J.A. and Jacobs, J.J. Athletic Culture Is Causing an Epidemic of Youth Overuse Injuries: The potential impact these injuries have on child growth and longterm musculoskeletal health is alarming. Letter to the Editor *Time Ideas*, (<http://ideas.time.com/letters/athletic-culture-is-causing-an-epidemic-of-youth-overuse-injuries/>), July 24, 2013.
50. Jacobs, J.J. and Fehring, T. Costs of Medical Devices in the US and Abroad. Letter to the Editor, *New York Times*, ([http://www.nytimes.com/2013/08/08/opinion/cost-of-medical-devices-in-the-us-and-abroad.html?\\_r=0](http://www.nytimes.com/2013/08/08/opinion/cost-of-medical-devices-in-the-us-and-abroad.html?_r=0)), August 8<sup>th</sup>, 2013.
51. Jacobs, J.J. "Front and Center on the Global Stage". *AAOS Now* Volume 7, Number 8, p. 5, 2013.
52. Frank, R.M., Erickson, B., Jacobs, J.J. and Della Valle, C.J. A 68-Year-Old Woman with Hip Pain 3 Years After

## PRESENTATIONS

### Other Scientific Talks/Posters

#### LOCAL

1. Jacobs, J.J., Skipor, A.K., Black, J., Manion, L.M., and Galante, J.O. A Prospective, Controlled, Longitudinal Study of Titanium Release in Patients Undergoing Primary Total Hip Replacement. Rush University Research Week, April, 1992.
2. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., and Galante, J.O. Pro- and Anti- Inflammatory Mediators Secreted by Cells of Interfacial Membranes From Revision Total Hip Replacement. Rush University Research Week, Chicago, IL, April, 1993.
3. Yao, J., Jacobs, J.J., Glant, T.T., Kuettner, K.E. Regulated Gene Expressions of Metalloproteinases, TIMP and Collagens in Human Fibroblasts by Titanium Particles. Rush University Research Week, p. 22, Chicago, IL, April, 1994.
4. Valyon, M., Jacobs, J.J., Walcz, E., Mikecz, K., Cole, A., Chubinskaja, S., Dellacqua, D., and Glant, T.T. Measurement of Genes Encoding Bone-Resorbing Cytokines in Failed Joint Replacements. Rush University Research Week, p. 92, Chicago, IL, April, 1994.
5. Yao, J., Glant, T.T., Jacobs, J.J., Kuettner, K.E. and Galante, J.O. Suppressed Collagen Gene Expression in Osteoblast-Like Cells by Particulate Debris. Poster No. 34, Rush University Research Week, Chicago, IL, April, 1995.
6. Jacobs, J.J., Skipor, A.K., Doorn, P.F., Campbell, P., Schmalzried, T.P., and Amstutz, H.C. Wear in Metal-on-Metal THR: Serum and Urine Chromium Concentrations. Rush University Research Forum, Poster #E66, Chicago, IL, April 1996.
7. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Black, J. and Galante, J.O. Serum Titanium Concentration in Patients with Cementless TKR: A 5-Year Prospective Study. Poster #141, Rush University Research Forum, Chicago, IL, February 1997.
8. Cs-Szabo, G., Chubinskaya, S., Jacobs, J.J., Cole, A.A., Kuettner, K.E., and Glant, T.T. Expression of Proteoglycans in Different Areas of Human Osteoarthritic Knee Joints. Poster #149, Rush University Research Forum, Chicago, IL, February 1997.
9. Hallab, N.J., Jacobs, J.J., Skipor, A.K., Black, J., Glant, T.T. and Mikecz, K. In Vitro Testing of Metal-Induced Leukocyte Activation. Rush University Research Forum, Poster #163, Chicago, IL, February 1998.
10. Qureshi, A.A., Masuda, K., Pietryla, D., Jacobs, J.J., Thonar, E.J.M.A. and Sumner, D.R. Implant Design Affects Urinary Markers of Bone Resorption in Total Hip Replacement. Poster #132 and Podium Presentation, Resident and Fellows Forum, Rush University Forum for Research and Clinical Investigation, Chicago, IL, May, 1999.
11. Cs-Szabo, G., Liu, W., Chubinskaya, S., Roughley, P.J., Buzas, E., Jacobs, J.J. and Glant, T.T. Loading and Osteoarthritic Changes Influence the Levels and Distribution of Small Proteoglycans in Human Knee Joints. Poster #119, Rush University Forum for Research and Clinical Investigation, Chicago, IL, May, 1999.
12. Jacobs, J.J., Skipor, A.K., Marsh, J.L., Nepola, J.V., and Urban, R.M. Osteolysis and Serum Chromium Elevations in Patients with Modular Femoral Intramedullary Nails. Poster #136, Rush University Forum for Research and Clinical Investigation, Chicago, IL, May, 1999.

13. Skipor, A.K., Jacobs, J.J., Patterson, L.M., Black, J. and Galante, J.O. Metal Levels in Serum Following Total Hip Replacement Revision Surgery: A Prospective Study. Poster #75, Rush University Forum for Research and Clinical Investigation, Chicago, IL, March, 2000.
14. Hallab, N.H., Mikecz, K., Akrami, J. and Jacobs, J.J. Titanium and Chromium Release Into Binding With Human Serum From Titanium and Cobalt-Chromium Implant Alloy Degradation. Poster #77, Rush University Forum for Research and Clinical Investigation, Chicago, IL, March, 2000.
15. Skipor, A.K., Campbell, P.M., Patterson, L.M., Amstutz, H.C. and Jacobs, J.J. Serum and Urine Metal Levels in Patients With Metal-on-Metal Surface Replacements of the Hip. Poster #5, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2001.
16. Vermes, C., Douglas, E., Roebuck, K.A., Jacobs, J.J. and Glant, T.T. Particulate Wear Debris Activates Protein Tyrosine Kinases and Nuclear Factor-Kappa B Which Downregulates Type I Collagen Synthesis in Human Osteoblasts. Poster #123, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2001.
17. Vermes, C., Chandrasekaran, R., Jacobs, J.J. and Glant, T.T. The Effects of Particulate Wear Debris, Cytokines, and Growth Factors on the Functions of Human Osteoblasts. Poster #126, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2001.
18. Hallab, N.J., Mikecz, K., Vermes, C., Skipor, A.K. and Jacobs, J.J. Human Lymphocyte Reactivity to Serum Derived Metal-Protein Complexes. Poster #130, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2001.
19. Fritz, E.A., Vermes, C., Jacobs, J.J., Roebuck, K.A., and Glant, T.T. Titanium Particles Induce Expression of the Il-8 and MCP-1 Chemokine Genes in Human Osteoblasts. Poster #53, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2002.
20. Vermes, C., Hanyecz, A., Andersson, G., Jacobs, J.J., Roebuck, K.A., and Glant, T.T. Shedding of the Il-6 Receptor Determines the Ability of Il-6 to Induce GP-130 Phosphorylation in Human Osteoblasts. Poster #56, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2002.
21. Vermes, C., Hanyecz, A., Raman, C., Andersson, G., An, H., Jacobs, J.J., Dobai, J., Roebuck, K., and Glant, T.T. Pamidronate and 1,25-Dihydroxy-Vitamin-D3 Inhibit Tumor Necrosis Factor-Alpha and Wear Debris-Induced Interleukin-6 Release and Recover Suppressed Type 1 Collagen Synthesis in Bone Marrow-Derived Primary Human Osteoblasts. Poster #87, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2002.
22. Hallab, N.J., Skipor, A.K., Messina, C., and Jacobs, J.J. Metal-Protein Immunoglobulin Complexes are Preferentially Produced from Modular Junction Fretting. Poster #92, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2002.
23. Hallab, N.J., Brasher, A., Messina, C., and Jacobs, J.J. Implant Fixation Can Be Affected by Specific Metal Ions Which Enhance Osteoblast Adhesion Strength. Poster #93, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2002.
24. Hallab, N.J., Messina, C., Skipor, A., and Jacobs, J.J. Implant Metals Act Synergistically with Bacterial Immunogens (Endotoxins, Mitogens, and Superantigens) to Activate Lymphocytes Indicating a Novel Mechanism of Implant Bioreactivity. Poster #134, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2003.
25. Hallab, N.J., Caicedo, M., Koreny, T., Glant, T.T., and Jacobs, J.J. Systemic Markers of Bone Resorption and Bioreactivity in Patients With Total Hip Arthroplasty. Poster #137, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2004.

26. Schwenke, T., Wimmer, M.A., Schneider, E., Sumner, D.R., Rosenberg, A.G., Andriacchi, T.P. and Jacobs, J.J. Joint Moments Affect Tibial Polyethylene Failure in TKA. Poster #141, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2004.
27. Hallab, N.J., Anderson, S., Caicedo, M., Skipor, A.K. and Jacobs, J.J. Lymphocyte Reactivity and Metal Ion Levels in Patients with Metal-on-Metal Hip Arthroplasty. Poster #143, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2004.
28. Hallab, N.J., Anderson, S., Caicedo, M., and Jacobs, J.J. Metal-Hypersensitivity Responses in Patients with Arthroplasty. Poster #144, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2004.
29. Schwenke, T., Wimmer, M.A., Schneider, E., Rosenberg, A.G. and Jacobs, J.J. Kinetics and Wear of Retrieved and Simulator Tested Implants in TKA. Poster #80, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
30. Schwenke, T., Borgstede, L., Schneider, E., Rosenberg, A.G., Jacobs, J.J., Andriacchi, T.P., and Wimmer, M.A. Slip Velocities and Their Influence on Wear in TKA. Poster #81, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
31. Goldberg, S.H., Cohen, M.S., Jacobs, J.J., Urban, R.M., King, G.J., and O'Driscoll, S. Wear Pattern Analysis From Total Elbow Prostheses that Failed Secondary to Osteolytic Complications. Poster #82, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
32. Urban, R.M., Jacobs, J.J., Gilbert, J.L., Hall, D.J., and Wright, J.L. Corrosion of Modular-Body Titanium Alloy Femoral Stems for Hip Replacement. Poster #87, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
33. Hallab, N.J., Caicedo, M., Reddy, A., Anderson, S., and Jacobs, J.J. Carcinogenicity of Implant Metals on Human Peri-implant Cells. Poster #96, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
34. Skipor, A.K., Campbell, P.A., Gitelis, S., Berger, R.A., Schmalzried, T. P., Amstutz, H.C. and Jacobs, J.J. Metal Ion Levels in Patients With Bilateral Surface and Total Hip Arthroplasty. Poster #101, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
35. Hallab, N.J., Caicedo, M., Anderson, S., Reddy, A., and Jacobs, J.J. Metal Sensitivity Responses Are Not MHC Class II Restricted, A New Paradigm for Metal-Induced Lymphocyte Reactivity. Poster #132, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2005.
36. Levine, B.R., Della Valle, C.J., Sporer, S., and Jacobs, J.J. The Use of Porous Tantalum in Orthopaedic Surgery. Abstract #94. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2006.
37. Tarabishy, A.R., Mclachlan, B., Reddy, A., Jacobs, J.J. and Hallab, N.J. Volume- and Number-Based Methods of Characterizing Implant Debris. Abstract #95. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2006.
38. Caicedo, M., Anderson, S., Reddy, A., Jacobs, J.J. and Hallab, N.J. Metal-Reactivity is Associated With Metal-Specific Antibodies (IGG). Abstract #99. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2006.
39. Caicedo, M., Anderson, S., Reddy, A., Jacobs, J.J. and Hallab, N.J. Metal Reactivity Correlates with Biomarkers of Inflammation and Bone Catabolism. Abstract #100. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2006.
40. Caicedo, M.S., Tarabishi, A., Reddy, A., Jacobs, J.J. and Hallab, N.J. Human Primary Monocyte Cytokine Profiles in

Response to Particulate and Soluble Metal Debris. Poster #82. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2007.

41. Caicedo, M.S., Reddy, A., Jacobs, J.J. and Hallab, N.J. Characterizing Human Primary Lymphocyte Reactivity to Soluble Molybdenum. Poster #83. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2007.

42. Caicedo, M.S., Jacobs, J.J. and Hallab, N.J. Implant Metals Can Affect Expression of Surface MHC-Class II in Monocytes/Macrophages. Poster #90. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2007.

43. Skipor, A.K., Burkus, J.K., Gornet, M.F., Kattner, K.A. and Jacobs, J.J. Prospective Study of Serum Metal Ion Levels in Patients with Stainless Steel Metal-on-Metal Cervical Disc Replacements. Poster #74. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

44. Skipor, A.K., Gornet, M.F., Burkus, J.K. and Jacobs, J.J. Prospective Study of Serum Metal Ion Levels in Patients with Cobalt-Alloy Metal-on-Metal Lumbar Disc Replacements. Poster #75. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

45. Samee, I., Caicedo, M., Reddy, A., Jacobs, J.J. and Hallab, N.J. Complement's Effect on Metal-Induced Lymphocyte Reactivity. Poster #77. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

46. Berggreen, P.A., Pacione, C.A., Shekhawat, V.K., Jacobs, J.J. Chubinskaya, S., and Wimmer, M. In Vitro Wear Testing of Living Cartilage Tissue. Poster #87. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

47. Caicedo, M.S., Reddy, A., Jacobs, J.J. and Hallab, N.J. Soluble Cobalt, Nickel and Co-Cr-Mo Alloy Particles Induce Monocyte T-Cell Co-stimulatory Molecules CD-86, CD-54 and Lymphocyte Chemoattractant Il-8 Expression. Poster #139. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

48. Caicedo, M.S., Reddy, A., McCallister, K., Jacobs, J.J. and Hallab, N.J. Soluble and Particulate Metal Debris Induce Dendritic Cell Up-Regulation of Co-stimulatory Molecules and Inflammatory Cytokines in a Metal-Dependent Manner. Poster #140. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

49. Reddy, A., Caicedo, M.S., Jacobs, J.J. and Hallab, N.J. In Vitro Dosing of Primary Human Monocytes and Human Osteoblast (MG-63) Cells with 1 – 10  $\mu$ M Particles of Cobalt-Chromium Indicate the Smallest Size Particle is not Always the Most Pro-Inflammatory. Poster #141. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

50. Reddy, A., Caicedo, M.S., Jacobs, J.J. and Hallab, N.J. Serum-Protein Biofilm Composition Can Be Dependent on the Size of the Implant Alloy Particle. Poster #142. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

51. Laurent, M.P., Pourzal, R., Fischer, A., Bertin, K., Jacobs, J.J. and Wimmer, M.A. In Vivo Wear of a Squeaky Alumina-on-Alumina Hip Prosthesis. Poster #156. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2008.

52. Skipor, A.K., Harper, M.L., Gornet, M.F., Burkus, J.K., Chan, F.W. and Jacobs, J.J. Serum Metal Levels in a Metal-on-Metal Lumbar Disc Arthroplasty. Poster #122, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2009.

53. Desai, R.J., Caicedo, M., Desai, K., McAllister, K., Jacobs, J.J. and Hallab, N.J. Metal, Polymer and Ceramic Particles Differentially Induce Interleukin-1 $\beta$  Secretion by THP-1 Human Macrophages via Activation of the Inflammasome Danger Signal Pathway. Poster #138, Rush University Forum for Research and Clinical Investigation,

Chicago, IL, April, 2009.

54. Caicedo, M., Desai, R.J., Reddy, A., McAllister, K., Jacobs, J.J. and Hallab, N.J. Soluble and Particulate Co-Cr-Mo Alloy Implant Debris Activate the Inflammasome Danger Signal Pathway in Human Macrophages: A Novel Mechanism for Implant Debris Reactivity. Poster #170, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2009.

55. Urban, R.M., Hall, D.J., Wright, J.L., Dahlmeier, E.L., and Jacobs, J.J. Metal Wear Particles in Red Bone Marrow of Humerus, Sternum, Vertebrae and Iliac Crest in Patients Hosting Hip or Knee Arthroplasty. Poster #68, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2010.

56. Hall, D.J., Urban, R.M., Della Valle, C.J., Laurent, M.P., Dahlmeier, E.L., Wright, J.L., Galante, J.O. and Jacobs, J.J. Reduced Backside Wear and Osteolysis in 3<sup>rd</sup> Generation Cementless Acetabular Cups Retrieved Postmortem. Poster #69, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2010.

57. Steinberg, R.L., Caicedo, M., Desai, R., McAllister, K., Michielutti, S., Jacobs, J.J., and Hallab, N.J. Particulate Induced Osteoclast Activity is Affected by an Inflammasome-Like Pathway. Poster #72, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2010.

58. Liu, S., Viridi, A.S., Sena, K., Hallab, N.J., Jacobs, J.J. and Sumner, D.R. Polyethylene Particles Depress Implant Fixation Strength and Peri-Implant Bone Volume and Alter Markers of Bone Turnover in a Rat Model. Poster #87, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2010.

59. Skipor, A.K., Campbell, P., Novak, C.C., Pombar, X.F., Jiranek, W.A., Amstutz, H.C. and Jacobs, J.J. Metal Ion Levels in Maternal and Placental Blood Following Metal-on-Metal Arthroplasty. Poster #109, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2010.

60. Caicedo, M., Steinberg, R.L., Desai, R., Michielutti, S., Reddy, A., McAllister, K., Jacobs, J.J., and Hallab, N.J. Co-Alloy Particles (DAMPs) Alone Induce Inflammasome Activation (IL-1 $\beta$ ) in Early Macrophages, But Two Signals Are Required for Fully Differentiated Macrophages: Overlooked Suspects in Particle Inflammation. Poster #139, Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2010.

61. Mathew, M.T., Royhman, D., Sukotjo, C., Jacobs, J.J., Yuan, J.C. and Wimmer, M.A.. Tribocorrosive Behavior of Commonly Used Metal Implant Alloys: Ti-6Al-4V and CoCrMo. The 30<sup>th</sup> Annual Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2013. Poster No. 6.

62. Hall, D.J., Urban, R.M., Dahlmeier, E.L., Jacobs, J.J., Wright, J.L. and Cooper, H.J. Fretting Corrosion, Corrosion Products and Adverse Tissue Response Associated With CoCr Dual Modular Neck Hip Prostheses. Annual Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2013. Poster No. 101.

63. Farooqui, M.S., Mathew, M.T., Marcus Wimmer, M.A., Joshua Jacobs, J.J., Stemmer, P., Pourzal, R. and Royhman, D. Is Nitrogen Steel (P2000) A Promising Implant Metal For Orthopedic Applications? An Electrochemical Investigation. Annual Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2013. Poster No. 112.

## REGIONAL

1. Jacobs, J.J., Sumner, D.R., Turner, T.M., Urban, R.M., and Galante, J.O. A Quantitative Study of Bone Ingrowth into Titanium Total Hip Femoral Components Removed for Reasons Other than Loosening. Mid-America Orthopedic Association, Bermuda, 1989.

2. Rivero, D., Jacobs, J.J., Galante, J.O., and Rosenberg, A.G. Revision Cementless Total Hip Arthroplasty: Two to Five Year Results. Tenth Annual Meeting Mid-America Orthopedic Association Orlando, Florida, April, 1992.

3. Wasielewski, R.C., Jacobs, J.J., and Rubash, H.E. The Acetabular Insert - Metal Backing Articulation As An Important Source of Polyethylene Wear Debris. Mid-America Orthopaedic Association, Bermuda, April, 1994.
4. Jacobs, J.J. Mechanisms of Periprosthetic Bone Loss. Illinois Orthopaedic Society, Chicago, IL, May, 1994.
5. Jacobs, J.J. Clinical Complications of Corrosion of Modular Hip Implants. Illinois Orthopaedic Society, Chicago, IL, April, 1995.
6. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Sheinkop, M.B., and Galante, J.O. The Effects of Centralization and Vacuum Mixing on Femoral Cementing and Surgeon Variability. Mid-America Orthopaedic Association, 16th Annual Meeting, Acapulco, Mexico, April, 1998.
7. Sheinkop, M.B., Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Factors Contributing to Osteolysis and Failure in Primary Cementless Total Hip Arthroplasty: 8 to 12 Year Results. Mid-America Orthopaedic Association, 16th Annual Meeting, Acapulco, Mexico, April, 1998.
8. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Sheinkop, M.B., and Galante, J.O. The Natural History of Stable Cemented Acetabular Components Retained During Femoral Revision. Mid-America Orthopaedic Association, 16th Annual Meeting, Acapulco, Mexico, April, 1998.
9. Sheinkop, M.B., Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Primary Cementless Acetabular Reconstruction in Patients Less Than 50 Years Old: 7 to 11 Year Results. Mid-America Orthopaedic Association, 16th Annual Meeting, Acapulco, Mexico, April, 1998.
10. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., and Galante, J.O. The Evolution of Prosthetic Design and Surgical Technique in Minimizing Patellofemoral Complications. Mid-America Orthopaedic Association, 16th Annual Meeting, Acapulco, Mexico, April, 1998.
11. Berger, R.A., Rubash, H.E., Jacobs, J.J., and Crosett, L.S. Patellofemoral Complications After TKA: The Consequences of Malrotation with Normal Axial Alignment. Mid-America Orthopaedic Association, 16th Annual Meeting, Acapulco, Mexico, April, 1998.
12. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Galante, J.O. and Sheinkop, M.B. Primary Cementless Acetabular Reconstruction in Patients Less than 50 Years Old: 7 to 10 Year Results. Mid-America Orthopaedic Association, 17th Annual Meeting, Bermuda, April, 1999.
13. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Galante, J.O., and Sheinkop, M.B. Reducing Polyethylene Wear in Cementless Acetabular Reconstructions. Mid-America Orthopaedic Association, 17th Annual Meeting, Bermuda, April, 1999.
14. Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Patellofemoral Complications After TKA: The Consequences of Malrotation with Normal Axial Alignment. Mid-America Orthopaedic Association, 17th Annual Meeting, Bermuda, April, 1999.
15. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Galante, J.O. and Sheinkop, M.B. Total Knee Arthroplasty in Younger Patients: The Problem With Cementless Fixation at 8 to 13 Year Follow-up. Mid-America Orthopaedic Association, 17th Annual Meeting, Bermuda, April, 1999.
16. Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Cemented Total Knee Arthroplasty Retaining the Posterior Cruciate Ligament: A 5 to 11 Year Follow-up Study. Mid-America Orthopaedic Association, 17th Annual Meeting, Bermuda, April, 1999.

17. Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. The Importance of the Cement Mantle in Total Hip Arthroplasty: A 10-16 Year Follow-up of a Stem Predisposed to Failure. Mid-America Orthopaedic Association, 17<sup>th</sup> Annual Meeting, Bermuda, April, 1999.
18. Chang, H.J., Inocencio, I.P., Gorawara-Bhat, R., Mingay, D.J., Jacobs, J.J., Rosenberg, A.G., Levinson, W. and Thisted, R.A. Racial Variation in Decision-Making Among Total Knee Arthroplasty Candidates. Annual Midwest Society for General Internal Medicine Meeting, Chicago, IL, September, 1999.
19. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., Galante, J.O. and Leopold, S. Cementless Acetabular Revision with a Porous, Hemispherical Cup: Evaluation at an Average Follow-up of 10.5 Years. Mid-America Orthopaedic Association, 18<sup>th</sup> Annual Meeting, Scottsdale, AZ, April, 2000.
20. Cannestra, V.P., Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B. and Galante, J.O. The Grit-Blasted Precoated Stem at Four to Nine Years Follow-up. Mid-America Orthopaedic Association, 18<sup>th</sup> Annual Meeting, Scottsdale, AZ, April, 2000.
21. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., Galante, J.O. and Leopold, S. Impaction Allografting with Cement for Femoral Component Revision. Mid-America Orthopaedic Association, 18<sup>th</sup> Annual Meeting, Scottsdale, AZ, April, 2000.
22. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., Galante, J.O. Is There a Role for Unicompartmental Knee Arthroplasty? Mid-America Orthopaedic Association, 18<sup>th</sup> Annual Meeting, Scottsdale, AZ, April, 2000.
23. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., Galante, J.O. Cruciate Retaining Cemented total Knee Arthroplasty Using a Pegged Tibial Component at 8 to 14 Years Follow-up. Mid-America Orthopaedic Association, 18<sup>th</sup> Annual Meeting, Scottsdale, AZ, April, 2000.
24. Archibeck, M.J., Berger, R.A., Quigley, L., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. An Anatomically Designed, Second Generation Cementless Femoral Component: Clinical and Radiographic Results at 8-11 Year Follow-Up. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.
25. Berger, R.A., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Primary Cementless Acetabular Reconstruction in Patients Less Than 50 Years Old: A Rationale for Improving Bearing Surfaces. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.
26. Nelson-Freund, E., M., Berger, R.A., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Long-Term Results of Hybrid Total Hip Arthroplasty Using a Femoral Component with a Roughened and Polymethylmethacrylate Precoated Finish. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.
27. Berger, R.A., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Complications of Simultaneous versus Staged Bilateral Total Hip Arthroplasty. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.
28. Leopold, S.S., McStay, C., Klafeta, K., Jacobs, J.J., Berger, R.A. and Rosenberg, A.G. Treatment of Iatrogenic Medial Collateral Ligament Disruption During Primary Total Knee Arthroplasty with Primary Repair and Without a Constrained Prosthesis. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.
29. Archibeck, M.J., Berger, R.A., Barden, R.M., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Posterior Cruciate Ligament Retaining Total Knee Arthroplasty in Patients with Rheumatoid Arthritis. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.
30. Park, A.E., Barahmani, N., Sheinkop, M.B., Jacobs, J.J. and Duvic, M. Cutaneous Malignancies in Patients with a Total Knee Arthroplasty. Mid-America Orthopaedic Association, 19<sup>th</sup> Annual Meeting, Amelia Island, FL, April, 2001.

31. Burnett, R.S., Berger, R.A., Paprosky, W.G., Della Valle, C.J., Jacobs, J.J. and Barden, R. M. A Change in Technique Transforms the Results of Extensor Mechanism Allograft Reconstructions. Mid-America Orthopaedic Association, 23<sup>rd</sup> Annual Meeting, Amelia Island, FL, April, 2005.
32. Hsu, A.R., Levine, B.R., Skipor, A.K., Hallab, N.J., Paprosky, W.G., Galante, J.O. and Jacobs, J.J. Ten-Year Outcome of Serum Metal Ion Levels After Primary Total Hip Arthroplasty. Mid-America Orthopaedic Association, 31<sup>st</sup> Annual Meeting, Amelia Island, FL, April 2013, Paper #81.
33. Cooper, H.J., Della Valle, C.J., Berger, R.A., Tetreault, M.W. Paprosky, W.G., Sporer, S.M. and Jacobs, J.J. Corrosion at the Head-Neck Taper as a Cause for Adverse Local Tissue Reactions in Total Hip Arthroplasty. Mid-America Orthopaedic Association, 31<sup>st</sup> Annual Meeting, Amelia Island, FL, April 2013, Paper #95.

#### NATIONAL

1. Sumner, D.R., Jacobs, J.J., Urban, R.M., Turner, T.M., and Galante, J.O. Pattern of Bone Ingrowth in Cementless Porous Coated Tibial Trays Retrieved from Human Patients. AAOS, Las Vegas, 1989.
2. Jacobs, J.J., Sumner, D.R., Turner, T.M., Urban, R.M., and Galante, J.O. A Quantitative Study of Bone Ingrowth Into Titanium Total Hip Femoral Components Removed for Reasons Other Than Loosening. AAOS, Las Vegas, 1989.
3. Pierson, R.H., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G., Gitelis, S., Landon, G.C., Maley, M.E., Galante, J.O. Primary Total Hip Reconstruction with a Cementless Titanium Fiber Coated Prosthesis. AOA, Colorado Springs, 1989.
4. Jacobs, J.J., Urban, R.M., Kienapfel, H., Sumner, D.R., Glant, T., and Galante, J.O. Particulate-Associated Endosteal Osteolysis in Titanium-Base Alloy Cementless Total Hip Replacement. Symposium on Biocompatibility of Particulate Implant Materials, American Society for Testing and Materials, San Antonio, TX; October, 1990.
5. Jacobs, J.J., Urban R.M., Kienapfel, H., Sumner, D.R., Glant, T.T., and Galante, J.O. Femoral Endosteal Osteolysis in Titanium-Base Alloy Cementless Total Hip Replacement. AAOS, Anaheim, 1991.
6. Jacobs, J.J., Skipor, A.K., Black, J., Tuttle, M.C., Schavocky, J., Urban, R.M., and Galante, J.O. Metal Release and Excretion from Cementless Titanium Fiber Metal Total Knee Replacements. AAOS, Anaheim, 1991.
7. Padgett, D.E., Pierson, R.H., Jacobs, J.J., Rosenberg, A.G., Galante, J.O. Cementless Acetabular Revision: Three to Six Year Follow-up. AAOS, Anaheim, 1991.
8. Jacobs, J.J., Sumner, D.R., Urban, R.M., and Galante, J.O. Retrieval: Successful Uncemented Implants. Biological, Material, and Mechanical Considerations of Joint Replacement: Current Concepts and Future Directions. Bristol-Myers Squibb/Zimmer Orthopaedic Research Symposium, San Antonio, Texas, October 1992.
9. Jacobs, J.J., Urban, R.M., Gilbert, J.L., Buckley, C.A., and Galante, J.O. Metallic Degradation Products of Modular Total Hip Replacement Components. Workshop on Modularity of Orthopaedic Implants, American Society for Testing and Materials, Committee F4 on Medical Devices. Miami, Florida, November, 1992.
10. Jacobs, J.J., Urban, R.M., Gilbert, J.L., Buckley, C.A., Pidhorz, L.E., and Galante, J.O. Migration of Corrosion Products in Tissues Surrounding Modular Hip Prostheses. AAOS, San Francisco, February, 1993.
11. Wasielewski, R., Jacobs, J.J., McMantus, G., Rubash, H.E. The Acetabular Insert: Metal Backing Articulation as an Important Source of Polyethylene Wear Debris. Poster Session, American Academy of Orthopedic Surgeons Annual Meeting, San Francisco, February 1993.
12. Jacobs, J.J., Galante, J.O., Glant, T.T., and Shanbhag, A.S. Osteolysis: Cell, Tissue, and Organ Culture Studies. American Orthopedic Association Symposium on Particulate Debris, Coronado, CA, June, 1993.

13. Jacobs, J.J., Urban, R.M., and Galante, J.O. Clinical Implications of Osteolysis. Current Concepts in Total Hip Revision Surgery, Bristol-Myers Squibb/Zimmer Orthopaedic Research Symposium, Chicago, November, 1993.
14. Jacobs, J.J., Shanbhag, A.S., Glant, T.T., Black, J., and Galante, J.O. Polyethylene: Biological Effects. Orthopedic Research Society Symposium: Polyethylene. New Orleans, LA, February, 1994.
15. Bobyn, J.D., Jacobs, J.J., Tanzer, M., Urban, R.M., Aribindi, R., Sumner, D.R., Turner, T.M., Brooks, C.E., and Galante, J.O. The Susceptibility of Smooth Implant Surfaces to Peri-Implant Fibrosis and Migration of Polyethylene Wear Debris. The Otto Aufranc Award Paper of the Hip Society. New Orleans, LA, February, 1994.
16. Glant, T.T., Jacobs, J.J., Shanbhag, A.S., Sumner, D.R., Kuettner, K.E., and Galante, J.O. Study of Particulate-Induced, Prostaglandin-Mediated Bone Resorption. Misoprostol and Eicosanoids Research Symposium. Deerfield, IL, April, 1994.
17. Jacobs, J.J. Differential Cellular Response to the Characteristics of Particles. American Society for Testing and Materials Committee F04 Workshop on the Characterization and Performance of Ultrahigh Molecular Weight Polyethylene, Montreal, Que, Canada, May, 1994.
18. Jacobs, J.J. Particulate Wear. NIH Consensus Development Conference on Total Hip Replacement, National Institutes of Health, Bethesda, MD, September, 1994.
19. Jacobs, J.J. The Biological Environment. Failure of Biomedical and Mechanical Devices. Materials Week, Rosemont, IL, October, 1994.
20. Gilbert, J.L., Jacobs, J.J., and Buckley, C.A. Case Studies in Corrosion Attack in Modular Femoral Tapers. Failure of Biomedical and Mechanical Devices. Materials Week, Rosemont, IL, October, 1994.
21. Shanbhag, A.S., Horikoshi, M., Bailey, H., Rubash, H.E., Jacobs, J.J., and Black, J. Analysis of Wear Particles Retrieved From Total Hip and Knee Arthroplasty: A Review of Two Studies. Material Problems in Biological Systems, Materials Week, Rosemont, IL, October, 1994.
22. Shanbhag, A.S., Woo, S.L.-Y., Rubash, H.E., Jacobs, J.J., Glant, T.T., and Black, J. Biological Response to Particulate Biomaterials. Material Problems in Biological Systems, Materials Week, Rosemont, IL, October, 1994.
23. Jacobs, J.J., Yao, J., Ragasa, D.R., and Glant, T.T. Particulate Titanium-Induced Macrophage Stimulation and Bone Resorption in Organ Culture. Symposium on Medical Applications of Titanium and Its Alloys: The Material and Biological Issues. American Society for Testing and Materials, Phoenix, AZ, Nov 1994.
24. Shanbhag, A.S., Dowd, J.E., Schwendeman, L.E., Jacobs, J.J., Glant, T.T., Black, J., and Rubash, H.E. Biological Response to Particulate Titanium Alloy: In Vitro and In Vivo Studies. Symposium on Medical Applications of Titanium and Its Alloys: The Material and Biological Issues. American Society for Testing and Materials, Phoenix, AZ, Nov 1994.
25. Jacobs, J.J., Skipor, A.K., Black, J., Manion, L.M., Paprosky, W.P., and Galante, J.O. A 3-Year Prospective Study of Serum Titanium Transport in Patients Following Primary Total Hip Replacement. Symposium on Medical Applications of Titanium and Its Alloys: The Material and Biological Issues. American Society for Testing and Materials, Phoenix, AZ, Nov 1994.
26. Jacobs, J.J. Biological Effects of Particulate Wear Debris. Symposium on "Current Concepts in Wear Debris: Sources and Solutions", AAOS, Orlando, FL, February, 1995.
27. Kull, L.R., Jacobs, J.J., Tompkins, G.S., Silverton, C.D., Galante, J.O. Primary Cementless Acetabular Reconstruction: Osteolysis and Interface Changes at Seven to Ten-Year Follow-Up. AAOS, Orlando, FL, February, 1995.

28. Jacobs, J.J., Urban, R.M., Skipor, A.K., Black, J., Jasty, M., and Galante, J.O. Local and Distant Products From Modularity. 23rd Open Scientific Meeting of the Hip Society, Orlando, FL, February, 1995.
29. Shanbhag, A.S., Jacobs, J.J., Glant, T.T., Black, J., and Galante, J.O. Human Monocyte Response to Wear Debris: Comparison of Titanium, Titanium-Alloy and Ultrahigh Molecular Weight Polyethylene (UHMWPE). Scientific Exhibit, American Academy of Orthopedic Surgeons Annual Meeting, Orlando, FL, February 1995.
30. Jacobs, J.J. Biological Ramifications of Wear. NIH/AAOS Workshop on Considerations of Implant Wear for the Future of Total Joint Replacement. Oak Brook, IL, September 1995.
31. Jacobs, J.J. Measurement of Metal Wear and Corrosion Products of CoCr Total Joint Components: Preliminary Results and Implications for Metal/Metal Bearings. Association of Bone and Joint Surgeons International Symposium: Metal/Metal Hip Prostheses: Past Performance and Future Directions Santa Monica, CA, November 1995.
32. Jacobs, J.J. In Vitro Studies: Bioreactivity of Wear Particles in Cell Culture. Workshop on the Biology of Osteolysis and Wear. 2nd Combined Meeting of the Orthopedic Research Societies of USA, Japan, Canada and Europe. San Diego, CA, November, 1995.
33. Urban, R.M., Jacobs, J.J., Galante, J.O., Gilbert, J.L., Rice, S.B., Jasty, M., and Bragdon, C.R. Characterization of Solid Products of Corrosion Generated by Modular-Head Femoral Stems of Different Designs and Materials. Symposium on Modularity of Orthopedic Implants. American Society for Testing and Materials, Norfolk, VA, November, 1995.
34. Gilbert, J.L. and Jacobs, J.J. The Mechanical and Electrochemical Processes Associated with Taper Fretting Crevice Corrosion. Symposium on Modularity of Orthopedic Implants. American Society for Testing and Materials, Norfolk, VA, November, 1995.
35. Goldberg, J., Gilbert, J.L., Buckley, C.R. and Jacobs, J.J. Corrosion Testing of Modular Hip Implants. Symposium on Modularity of Orthopedic Implants. American Society for Testing and Materials, Norfolk, VA, November, 1995.
36. Maloney, W.J., Anderson, M.J., Jacobs, J.J., Lachiewicz, P.F., Rubash, H.E., Schutzer, S.F. and Woolson, S.T. Polyethylene Wear and Pelvic Osteolysis in Association With the Harris-Galante Socket in Primary Total Hip Replacement. AAOS 63rd Annual Meeting, Atlanta, GA. February 1996.
37. Sauer, P.A., Rosenberg, A.G., Jacobs, J.J., Kull, L.R. and Galante, J.O. Results of Impaction Grafting for Revision Total Hip Arthroplasty Using a Precoat Collared Prosthesis at Two to Four Years. AAOS 63rd Annual Meeting, Atlanta, GA. February 1996.
38. Sauer, P.A., Urban, R.M., Jacobs, J.J., Silverton, C.D., and Galante, J.O. Particles of Metal Alloys in the Liver, Spleen, and Para-Aortic Lymph Nodes of Patients with Total Hip or Knee Replacement Prostheses. AAOS 63rd Annual Meeting, Atlanta, GA. February 1996.
39. Tucker, W.F., Kull, L.R., Jacobs, J.J. and Galante, J.O. Interface Phenomena and Remodeling Changes With a Second Generation Cementless Femoral Component at Minimum Five-Year Follow-up. AAOS 63rd Annual Meeting, Atlanta, GA. February 1996.
40. Jacobs, J.J., Lee, S.H., Brennan, F.R., Urban, R.M., and Glant, T.T. Human Monocyte/Macrophage Response to CrPO<sub>4</sub> and Ti Particulate Debris in Patients With THR. Closed Meeting of the Hip Society, Eugene, OR, September 1996.
41. Silverton, C.D., Cummings, M., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Comparison of Single Dose 400 Centigray Radiation to 700 Centigray in the Prevention of Heterotopic Ossification after Total Hip Arthroplasty. 38th Annual Society of Military Orthopedic Surgeons Meeting, San Diego, CA, November 1996.

42. Ballard, W.T., Jacobs, J.J., Skipor, A.K., Patterson, L.M., and Black, J. Serum Chromium Levels in Total Hip Arthroplasty Patients with CoCr Femoral Components Revised for Aseptic Loosening. AAOS 64th Annual Meeting, San Francisco, CA, February 1997.
43. Sapienza, C.I., Urban, R.M., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. Patterns of Bone Ingrowth and Osteolysis in Cementless Total Knee Replacement Tibial Components Retrieved at Autopsy. AAOS 64th Annual Meeting, San Francisco, CA, February 1997.
44. Wasielewski, R.C., Jacobs, J.J., Shanbhag, A.S. and Rubash, H.E. The Acetabular Insert-Metal Backing Articulation as an Important Source of Polyethylene Wear Debris. AAOS 64th Annual Meeting, San Francisco, CA, February 1997.
45. Berger, R.A., Kull, L.R., Ballard, W.T., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. The Natural History of Stable Cemented Acetabular Components Retained During Femoral Revision. AAOS 64th Annual Meeting, San Francisco, CA, February 1997.
46. Garelick, D.H., Jacobs, J.J., Quigley, L.R., Martell, J.M. and Galante, J.O. Results of Primary Total Hip Reconstruction with a Cemented Titanium Alloy Femoral Stem: Minimum 84 Months Follow-up. American Orthopaedic Association Residents Conference, New York, NY, March 1997.
47. Jacobs, J.J., Silverton, C.D., Urban, R.M., Gilbert, J. and Clark, D.W. Corrosion at the Head-Neck Interface of Modular Femoral THA Components as a Cause of Late Dislocations. Closed Meeting of the Hip Society. New York, NY, September 1997.
48. Berger, R.A., Jacobs, J.J., Quigley, L.R., Rosenberg, A.G., Sheinkop, M.B. and Galante, J.O. Factors Contributing to Wear in Cementless Acetabular Reconstructions. 10th Annual International Symposium for Technology in Arthroplasty. San Diego, CA, September, 1997.
49. Berger, R.A., Jacobs, J.J., Crossett, L.S., and Rubash, H.E. Patellofemoral Complications After TKA: The Consequences of Malrotation with Normal Axial Alignment. 10th Annual International Symposium for Technology in Arthroplasty. San Diego, CA, September, 1997.
50. Berger, R.A., Barden, R., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B., and Galante, J.O. The Efficacy of Posterior Cruciate Ligament Retaining Total Knee Arthroplasty in Patients with Rheumatoid Arthritis. 7th Annual Meeting, American Association of Hip and Knee Surgeons, Dallas, TX, November, 1997.
51. Berger, R.A., Crossett, L.S., Jacobs, J.J., and Rubash, H.E. Patellofemoral Complications Following TKA: The Consequences of Malrotation with Normal Axial Alignment. 7th Annual Meeting, American Association of Hip and Knee Surgeons, Dallas, TX, November, 1997.
52. Jacobs, J.J. Loosening: Biomechanical and Biomaterial Solutions. Workshop/Educational Program - Implant Loosening: How Much of a Problem? Orthopedic Research Society, New Orleans, LA, March, 1998.
53. Berger, R.A., Crossett, L.S., Jacobs, J.J. and Rubash, H.E. Patellofemoral Complication Following Total Knee Arthroplasty: Consequences of Malrotation With Normal Axial Alignment. AAOS 65th Annual Meeting, New Orleans, LA, March 1998.
54. Berger, R.A., Barden, R.M., Ballard, W.T., Cohen, R.G., Jacobs, J.J., Rosenberg, A.G., Sheinkop, M.B. and Galante, J.O. Cemented Total Knee Arthroplasty Retaining the Posterior Cruciate Ligament: A 5- to 11-Year Follow-Up Study. AAOS 65th Annual Meeting, New Orleans, LA, March 1998.
55. Jacobs, J.J., Skipor, A.K., Patterson, L.M., Black, J. and Galante, J.O. Titanium Release in Patients with Cementless Total Knee Replacements and Total Hip Replacements: A Prospective Study. AAOS 65th Annual Meeting, New Orleans, LA, March 1998.

56. Berger, R.A., Quigley, L.R., Jacobs, J.J., Rosenberg, A.G., and Sheinkop, M.B. Factors Contributing to Osteolysis and Failure in Primary Cementless Total Hip Arthroplasty: 8- to 12-Year Results. AAOS 65th Annual Meeting, New Orleans, LA, March 1998.
57. Berger, R.A., Crossett, L., Jacobs, J.J. and Rubash, H. Patellofemoral Complication Following TKA: The Consequences of Malrotation with Normal Axial Alignment. Knee Society, New Orleans, LA, March 1998.
58. Jacobs, J.J. Current Science of Metal on Metal Articulating Implants. Gordon Research Conference on Bioengineering and Orthopaedic Sciences. 10th Biennial Meeting. Andover, NH, July, 1998.
59. Jacobs, J.J., Marsh, J.L., Urban, R.M., Skipor, A.K., and Callaghan, J.J. Femoral Osteolysis from Corrosion Products: The Case of the Modular Femoral Nail. Closed Meeting of the Hip Society, London, Ontario, Canada, September, 1998.
60. Hallab, N.J., Jacobs, J.J., Skipor, A.K., Black, J., and Galante, J.O. Serum Chromium and Cobalt Protein Carriers in Patients with Cobalt-Base Alloy Total Joint Arthroplasty. Symposium on Cobalt-Based Alloys for Biomedical Applications. American Society for Testing and Materials Committee F-4 on Medical and Surgical Materials and Devices. Norfolk, VA, November, 1998.
61. Berger, R.A., Quigley, L.R., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G., and Galante, J.O. The Natural History of Stable Cemented Acetabular Components Retained During Femoral Revision. American Association of Hip and Knee Surgeons 8th Annual Meeting, Paper #25, Dallas, Texas, November, 1998.
62. Poon, E.D., Quigley, L.R., Berger, R.A., Jacobs, J.J. and Rosenberg, A.G. Alternatives for Complex Acetabular Reconstruction: High Hip Center Versus Jumbo Cup. AAOS 66th Annual Meeting, Anaheim, CA, February 1999.
63. Berger, R.A., Barden, R.M., Nedeff, D.D., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Unicompartamental Knee Arthroplasty: Is There a Role at Six to Ten Year Follow-up. The Knee Society and the American Association of Hip and Knee Surgeons Scientific Meeting, Anaheim, CA, February 1999.
64. Maloney, W.J., Anderson, M., Jacobs, J.J., Galante, J.O., Lachiewicz, P., Rubash, H., Schutzer, S., Woolson, S.T. and Harris, W.H. Long-Term Results with Modular Cementless Acetabular Components. 27th Open Scientific Meeting of the Hip Society, Anaheim, CA, February 1999.
65. Rosenberg, A.G., Quigley, L., Jacobs, J.J., Berger, R.A. and Galante, J.O. Cementless Acetabular Revision at 9-15 Years. 27th Open Scientific Meeting of the Hip Society, Anaheim, CA, February 1999.
66. Jacobs, J.J. Surgical Intervention. Stepping Away from OA. A Scientific Conference on the Prevention of Onset, Progression, and Disability of Osteoarthritis. National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, July, 1999.
67. Jacobs, J.J., Qureshi, A.A., Pietryla, D., Masuda, K., Paprosky, W., Thonar, E. and Sumner, D.R. Implant Design Affects Urinary Markers of Bone Resorption in Total Hip Replacement. 31st Closed Meeting of the Hip Society. San Diego, CA, September, 1999.
68. Qureshi, A.A., Jacobs, J.J., Pietryla, D., Masuda, K., Paprosky, W., Thonar, E. and Sumner, D.R. Urinary Markers of Bone Resorption in Primary THR. The 12th Annual International Symposium for Technology in Arthroplasty. Chicago, IL, September, 1999.
69. Berger, R.A., Van, U., Curran, A., Jacobs, J.J., Sheinkop, M.B., Rosenberg, A.G. and Galante, J.O. Complications of Simultaneous vs. Staged Bilateral Total Hip Arthroplasty. 9th Annual Meeting, American Association of Hip and Knee Surgeons, Dallas, TX, November, 1999.
70. Greenwald, A.S., Garino, J., Jacobs, J.J., Skipor, A.K. and Stulberg, B. Alternative Bearings: The Good, Bad and

Ugly. Scientific Exhibit. 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, FL, March, 2000.

71. Greenwald, A.S., Ries, M.D., Duncan, C.P., Jacobs, J.J., and Stulberg, B.N. New Polys for Old: Contribution or Caveat? Scientific Exhibit. 67<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, FL, March, 2000.

72. Jacobs, J.J., Urban, R.M., Peoc'h, M. and Galante, J.O. Systemic Distribution of Particulate Wear Debris Following THR/TKR. Poster Exhibit. 113<sup>th</sup> Annual Meeting of the American Orthopaedic Association, Hot Springs, VA, June, 2000.

73.. Jacobs, J.J. What Are the Local and Systemic Consequences of Wear Debris Clinically?.AAOS/NIH Wear 2000 Workshop. Oak Brook, IL, October, 2000.

74. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Barden, R.N. and Galante, J.O. Problems With Cementless Total Knee Arthroplasty at Eleven Years Follow-Up. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

75. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Quigley, L.R. and Galante J.O. The Key to Longevity of Cemented Stems in Total Hip Arthroplasty: Average 14 Year Follow-Up of a Stem Predisposed to Failure. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

76. Berger, R.A., Jacobs, J.J., Rosenberg, A.G., Quigley, L.R. and Galante, J.O. Predicting Polyethylene Wear in Cementless Acetabular Reconstructions. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

77. Jacobs, J.J., Berger, R.A., Berzins, A.I., Ed, C., Natarajan, R., Galante, J.O. and Andriacchi, T.P. The Benefits of Net-Shaped Molded Polyethylene in Total Knee Arthroplasty: A Retrieval Study. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

78. Leopold, S.S., Silverton, C.S., Jacobs, J.J., Urban, R.M. and Galante, J.O. Late Dislocations Associated With Corrosion at the Head-Neck Interface of Modular THA Components. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

79. Leopold, S.S., McStay, C., Klafeta, K., Jacobs, J.J., Berger, R.A. and Rosenberg, A.G. Treatment of Iatrogenic Medial Collateral Ligament Disruption During Primary TKA With Primary Repair and Without A Constrained Prosthesis. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

80. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Barden, R.M., Sheinkop, M.B. and Galante, J.O. Problems with Cementless Total Knee Arthroplasty at Eleven Years Follow-Up. Combined Meeting of the Knee Society and AAHKS, San Francisco, CA, March, 2001.

81. Vermes, C., Jacobs, J.J., Roebuck, K.A., Glant, T.T. and Galante, J.O. The Role of the Osteoblast in Periprosthetic Osteolysis. William Harris Festschrift. Boston, MA, May, 2001.

82. Galante, J.O. and Jacobs, J.J. Primary Cementless Acetabular Reconstruction. William Harris Festschrift. Boston, MA, May, 2001.

83. Archibeck, M.J., Berger, R.A., Rosenberg, A.G. and Jacobs, J.J. The Extended Trochanteric Osteotomy:A Radiographic Evaluation. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2001.

84. Jacobs, J.J., Skipor, A.K., Urban, R.M., Hallab, N.J., Patterson, L.M. and Black, J. Systemic Implications of Total Joint Replacement. Ann Doner Vaughan Kappa Delta Award, Orthopaedic Research Society/American Academy of Orthopaedic Surgeons, Dallas, TX, February, 2002.

85. Jacobs, J.J., Surace, M.F., Berzins, A., Urban, R.M., Berger, R.A., Natarajan, R.N., Andriacchi, T.P. and Galante, J.O. Backsided Tibial Polyethylene Wear and Osteolysis in Modular Tibial Components. Mark Coventry Award, The Knee Society Combined Specialty Day Meeting, Dallas, TX, February, 2002.
86. Urban, R.M., Jacobs, J.J., Gilbert, J.L., Skipor, A.K., Hallab, N.J., Mikecz, K., Glant, T.T. and Galante, J.O. Corrosion Products Generated from Mechanically-Assisted Crevice Corrosion of Stainless Steel Orthopaedic Implants. Symposium on Stainless Steels for Medical and Surgical Applications, American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices, Pittsburgh, PA, May, 2002.
87. Della Valle, C.J., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Quigley, L. and Galante, J.O. Primary Total Hip Arthroplasty with a Cementless Acetabular Component: Evaluation at a Minimum of 15 Years. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2002.
88. Della Valle, C.J., Shuaipaj, T., Berger, R.A., Rosenberg, A.G., Jacobs, J.J., Sheinkop, M.B. and Galante, J.O. Revision Total Hip Arthroplasty with a Cementless Acetabular Component: Evaluation at a Mean of 15 Years. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2003.
89. Berger, R.A., Jacobs, J.J., Meneghini, R.M., Della Valle, C., Paprosky, W., Rosenberg, A.G. and Galante, J.O. Rapid Rehabilitation and Recovery with Minimally Invasive Total Hip Arthroplasty. 32<sup>nd</sup> Open Meeting of the Hip Society, The 10<sup>th</sup> Combined Open Meeting of the Hip Society and AAHKS, San Francisco, CA, March, 2004.
90. Berger, R.A., Meneghini, R.M., Sheinkop, M.B., Della Valle, C., Jacobs, J.J., Rosenberg, A.G. and Galante, J.O. The Progression of Patellofemoral Arthrosis in Unicompartmental Knee Replacement at 11 – 15 Years. The Knee Society and the American Association of Hip and Knee Surgeons Combined Specialty Day Meeting, San Francisco, CA, March, 2004.
91. Heisel, C., Silva, M., Skipor, A.K., Jacobs, J.J. and Schmalzreid, T.P. The Relationship Between Activity and Ions in Patients with Metal-Metal Bearing Hip Prostheses. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2004.
92. Berger, R.A., Rosenberg, A.G., Jacobs, J.J., DellaValle C., Paprosky, W.P., and Sporer, S. The Safety and Feasibility of Outpatient Total Knee Arthroplasty. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2004.
93. Jacobs, J.J. Systemic Implications of Orthopaedic Implants. 2005 Gordon Research Conference on Biomaterials: Biocompatibility & Tissue Engineering. Plymouth, NH, July, 2005.
94. Rasquinha, V.J., Ranawat, C.S., Jacobs, J.J., Skipor, A.K., Rodriguez, J.A. Serum Metal Ion Levels and Bearing Surfaces in Total Hip Arthroplasty. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2005.
95. Jacobs, J.J., Skipor, A.K., Campbell, P.A., Gitelis, S., Berger, R.A., Schmalzried, T.P., and Amstutz, H.C. Three-Year Prospective Study of Serum and Urine Metal Levels in Patients with Metal-on-Metal Total Hip and Surface Arthroplasty. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2005.
96. Galante, J.O., Jacobs, J.J. and Urban, R.M. Mechanisms of Long Term Failure in Cementless Acetabular Components. Closed Meeting of the Hip Society, Iowa City, IA, September, 2006.
97. Jacobs, J.J., Urban, R.M., and Gilbert, J.L. Corrosion and Corrosion Products of Modular-Body Titanium Alloy Femoral Stems in Cementless Hip Replacement. Closed Meeting of the Hip Society, Iowa City, IA, September, 2006.
98. Salineros, M., Crowninshield, R., Wimmer, M., Poulzar, R., Galante, J.O. and Jacobs, J.J. Wear and Damage Comparison of Crosslinked and Older Polyethylene Types in THR: An Implant Retrieval Study. Closed Meeting of the Hip Society, Iowa City, IA, September, 2006.
99. Jacobs, J.J., Wimmer, M.A., Schwenke, T., Salineros, M., Rosenberg, A.G., and Andriacchi, T.P. Can Early Post-Op

Gait Predict Implant Longevity? 23<sup>rd</sup> Annual Interim Meeting of the Knee Society, Alexandria, VA, September, 2006.

100. Della Valle, C.J., Mesko, N., Quigley, L., Berger, R.A., Rosenberg, A.G., Jacobs, J.J. and Galante, J.O. Cementless Acetabular Reconstruction in Primary Total Hip Arthroplasty: Evaluation at a Minimum of Twenty Years. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2006. Poster #26.

101. Deirmengian, C., Tarabishy, A., Caicedo, M., Hallab, N., Jacobs, J., Della Valle, C.J., Lonner, J., and Booth, R. Infection-Specific Biomarkers in Synovial Fluid. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2006. Poster #4.

102. Della Valle, C.J., Sporer, S., Berger, R., Rosenberg, A., Jacobs, J., and Paprosky, W. Perioperative Testing For Sepsis in Revision Total Knee Arthroplasty. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2006. Paper #39.

103. Goldberg, S.H., Cohen, M.S., Urban, R.M., Jacobs, J.J., King, G.J.W. Modes of Failure in Total Elbow Arthroplasty. Open Meeting of the American Shoulder and Elbow Surgeons, San Diego, CA, February, 2007. Paper #28.

104. Jacobs, J.J., Finnegan, A., and Hallab, N.J. Lymphocyte Dominance in Metal Allergy Responses. Closed Meeting of the Hip Society, Chicago, IL, September, 2008.

105. Gornet, M.F., Ceola, W.M., Burkus, J.K., Skipor, A.K., and Jacobs, J.J. Serum Metal Ion Levels in Patients with a Titanium Ceramic Composite Metal-on-Metal Cervical Disc Replacement. 23<sup>rd</sup> Annual Meeting of the North American Spine Society, Toronto, Canada, Poster #128, October, 2008.

106. Jacobs, J.J., Urban, R.M., Gilbert, J.L., Levine, B.R., Sporer, S.M., and Galante, J.O. Fretting Corrosion and Fracture of Modular Neck-Body Junctions in Hip Replacement Femoral Components. Closed Meeting of the Hip Society, Stanford, CA, September, 2009.

107. Jacobs, J.J., Bedair, H., Berli, M., Gezer, S., and Della Valle, C.J. The Role of Pre-Operative Hematologic Genetic Evaluation in Knee Arthroplasty Patients at High Risk for Thromboembolic Disease. Closed Meeting of the Knee Society, Boston, MA, October, 2009.

108. Bedair, H., Gezer, S., Jacobs, J.J. and Della Valle, C.J. The Role of Pre-Operative Hematologic Genetic Evaluation in Arthroplasty Patients at High Risk for Thromboembolic Disease. American Association of Hip and Knee Surgeons, 19<sup>th</sup> Annual Meeting, Dallas, TX, November, 2009. Poster #8.

109. Novak, C.C., Della Valle, C.J., Skipor, A.K., Shott, S., Campbell, P., Amstutz, H.A., Jiranek, W.A., Pombar, X., and Jacobs, J.J. Metal Ion Levels in Maternal and Placental Blood Following Metal-on-Metal Arthroplasty. American Association of Hip and Knee Surgeons, 19<sup>th</sup> Annual Meeting, Dallas, TX, November, 2009. Poster #9.

110. Hall, D.J., Urban, R.M., Dahlmeier, E.L., Laurent, M.P., Della Valle, C.J., Galante, J.O. and Jacobs, J.J. The Effect of Autologous and Allogenic Bone Graft on Bone Ingrowth into Cementless Revision Acetabular Components: A Postmortem Study. Closed Meeting of the Hip Society, New York, NY, September, 2010.

111. Jacobs, J.J., Mathew, M.T., Hallab, N.J., Pourzal, R., Fischer, A. and Wimmer, M.A. The Synergism of Wear and Corrosion in Metal-on-Metal Bearings. Closed Meeting of the Hip Society, New York, NY, September, 2010.

112. Del Gaizo, D.J., Wetters, N., Jacobs, J.J., Rosenberg, A.G., and Della Valle, C.J. Primary Repair of Intraoperative Injury to the Medial Collateral Ligament During Primary Total Knee Arthroplasty. Closed Meeting of the Knee Society, London, Ont, Canada, September, 2011.

113. Levine, B.R., Hsu, A.R., Skipor, A.K., Hallab, N.J., Paprosky, W.G., Galante, J.O. and Jacobs, J.J. Ten-Year Outcome of Serum Metal Ion Levels after Primary Total Hip Arthroplasty. American Association of Hip and Knee Surgeons, 22<sup>nd</sup> Annual Meeting, Dallas, TX, November, 2012. Paper #32.

114. Cooper, H.J., Della Valle, C.J., Berger, R., Tetreault, M.W., Paprosky, W.G., Sporer, S.M., and Jacobs, J.J. Corrosion at the Head-Neck Taper as a Cause for Adverse Local Tissue Reactions in Total Hip Arthroplasty. American Association of Hip and Knee Surgeons, 22<sup>nd</sup> Annual Meeting, Dallas, TX, November, 2012. Poster #25.

#### INTERNATIONAL

1. Jacobs, J.J., Sumner, D.R., Caviglia, H.A., Turner, T.M., Urban, R.M., and Galante, J.O. A Quantitative Study of Bone Ingrowth into Titanium Total Hip Femoral Components Removed for Reasons other Than Loosening. Symposium on Orthopedics and Surgery of Bone and Joints: Interface - Current Status of the Art. Munich, FRG May 1990.

2. Pierson, R.H., Martell, J., Jacobs, J.J., Rosenberg, A.G., Gitelis, S., and Galante, J.O. Cementless Primary Total Hip Arthroplasty with Titanium Fiber- Metal Prostheses: Minimum Four Year Results. Symposium on Orthopedics and Surgery of Bone and Joints: Interface - Current Status of the Art. Munich, FRG, May 1990.

3. Jacobs, J.J., Rosenberg, A.G., and Galante, J.O. Clinical Results of the Anatomic Total Hip Replacement. International Symposium on Cementless Total Hip Replacement, Technical University of Munich, Munich, Germany. December, 1991.

4. Shanbhag, A. S., Jacobs, J.J., Glant, T.T., Black, J., and Galante, J.O. Secretion of Cellular Mediators by THR Interfacial Membranes. 5th Biomaterials Symposium: The Implant/Bone Interface. Orthopedic University Hospital, Göttingen, Germany, Mar 1992.

5. Jacobs, J.J., Urban, R.M., and Galante, J.O. Femoral Osteolysis in Titanium-Base Alloy Cementless Total Hip Replacement. The 14th International Symposium of the Center for Implant Surgery, B'nai Zion Medical Center, Haifa, Israel, April, 1992.

6. Jacobs, J.J., Skipor, A.K., Black, J., and Galante, J.O. Ion Release From Total Joint Replacement Components. The 14th International Symposium of the Center for Implant Surgery, B'nai Zion Medical Center, Haifa, Israel, April, 1992.

7. Pidhorz, L.E., Urban, R.M., Jacobs, J.J., Sumner, D.R., and Galante, J.O. Histological Study of Ingrowth in Porous-Coated Uncemented Sockets: An Autopsy Study of 11 Implants. European Congress of Orthopaedics. Paris, France, April, 1993.

8. Glant, T.T., Jacobs, J.J., Shanbhag, A.S., and Galante, J.O. Bone Resorption Activity of Particulate-Stimulated Macrophages. Inflammation '93, Vienna, Austria, October, 1993.

9. Glant, T.T., Valyon, M., Mikecz, K., Jacobs, J.J., Cole, A., Yao, J. and Kuettner, K.E. Discoordinate Expression of IL-1 $\alpha$  and IL-1 $\beta$  in Interfacial Membranes of Loosened Joint Replacements. Inflammation '93, Vienna, Austria, October, 1993.

10. Jacobs, J.J. and Amstutz, H.C. Metal Ion Migration in Patients with Metal-on-Metal Total Hip Replacements. Closed Meeting of the International Hip Society, Amsterdam, Netherlands, August 1996.

11. Galante, J.O., Jacobs, J.J. and Rosenberg, A.G. Revision Total Hip Arthroplasty Using a Cementless Acetabular Component. Technique and Results. Open Meeting of the International Hip Society, Amsterdam, Netherlands, August 1996.

12. Jacobs, J.J., Urban, R.M., Peoc'h, M. and Galante, J.O. Systemic Effects of Total Joint Replacement. Closed Meeting of the International Hip Society, Los Angeles, CA, October, 2000.

13. Jacobs, J.J. The Likelihood of Systemic Effects of Ions. Open Meeting of the International Hip Society. SICOT. San Diego, CA, August, 2002.

14. Jacobs, J.J., Skipor, A.K., Campbell, P.A. and Amstutz, H.C. A Three-Year Prospective Study on Metal Ion Levels in Metal-on-Metal THRs and SRs. Closed Meeting of the International Hip Society, Vienna, Austria, September, 2005.

15. Jacobs, J.J., Urban, R.M., Gilbert, J.L., Levine, B.R., Sporer, S.M., and Galante, J.O. Fretting Corrosion and Fracture of Modular Neck-Body Junctions in Hip Replacement Femoral Components. Closed Meeting of the International Hip Society, Minneapolis, MN, USA, September, 2009.

16. Jacobs, J.J., Mathew, M.T., Hallab, N.J., Pourzal, R., Fischer, A. and Wimmer, M.A. The Synergism of Wear and Corrosion in Metal-on-Metal Bearings. Closed Meeting of the International Hip Society, Prague, Czech Republic, September, 2011.

### **Moderator/Scientific Session Chairman**

1. Ways to Improve Femoral Cementless Results/Ways to Improve Cementless Sockets. Total Hip Replacement 1993: Osteolysis Dominates the Scene. 23rd Annual Harvard Hip Course, Cambridge, MA, October 1993.

2. Metals II. Society for Biomaterials, Boston, MA, April, 1994.

3. Workshop on the Characterization and Performance of Articular Surfaces. Workshop Chairman. American Society for Testing and Materials Committee F04, Denver, CO, May 1995.

4. The Clinical Problem. Committee F04 Workshop on the Characterization and Performance of Articular Surfaces. American Society for Testing and Materials. Denver, CO, May 1995.

5. Association of Southeast Asian Nations (ASEAN) Traveling Fellows Program, Local Host, Chicago, IL, May 1995.

6. Alternate Articulations and Sterilizations of UHMWP. Total Hip Replacement: Back Into the Future. 25th Annual Harvard Hip Course, Cambridge, MA, September 1995.

7. Acetabular Components. Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1995.

8. Knee Surgery. Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1995.

9. Clinical Results of Modern Metal/Metal Bearings. Metal/Metal Hip Prostheses: Past Performance and Future Directions. Association of Bone and Joint Surgeons, Santa Monica, CA, November, 1995.

10. Clinical Relevance. Symposium on Modularity of Orthopedic Implants. American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices, Norfolk, VA, November, 1995.

11. Wear Particles. Orthopedic Research Society, Atlanta, GA, February, 1996.

12. Polyethylene. Orthopedic Research Society, San Francisco, CA, February, 1997.

13. Hard Tissue Engineering. Workshop on Tissue Engineering: The Role of ASTM. American Society for Testing and Materials Committee F04 on Medical and Surgical Devices and Materials, St. Louis, MO, May 1997.

14. Workshop on Tissue Engineering: The Role of ASTM. Workshop Chairman. American Society for Testing and Materials Committee F04, St. Louis, MO, May 1997.

15. Argentine Society for Osteosynthesis and Biomaterials. Biomaterials Course Organizer, Buenos Aires, Argentina, August 1997.

16. Symposium on Alternative Bearing Surfaces in Total Joint Replacement. Symposium Chairman. American Society for Testing and Materials Committee F04, San Diego, CA, November 1997.
17. Wear and Joint Replacement: From Bench to Bedside. Panel Co-Chairman. 24th Annual Meeting, Society for Biomaterials, San Diego, CA, April, 1998.
18. Cellular Response to Titanium and Steel. International Symposium: Titanium or Steel for Osteosynthesis? Synos Foundation, Bern, Switzerland, January 1999.
19. Polyethylene. Orthopaedic Research Society, Anaheim, CA, February, 1999.
20. 1999 OREF Illinois Resident Research Symposium. Moderator. Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, May 1999.
21. Osteolysis. The 12th Annual International Symposium for Technology in Arthroplasty. Chicago, IL, September, 1999.
22. Organizing Committee. The 12th Annual International Symposium for Technology in Arthroplasty. Chicago, IL, September, 1999.
23. Implant Wear. Orthopaedic Research Society, Orlando, FL, March, 2000.
24. Division Positions. Workshop on the Past, Present and Future. American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices. Toronto, Ontario, Canada, May, 2000.
25. Biological Questions in Implant Wear. AAOS/NIH Wear 2000 Workshop. Oak Brook, IL, October, 2000.
26. Biology of Arthroplasty. 68<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons. San Francisco, CA, March, 2001.
27. Local Host, Japanese Orthopaedic Association/American Orthopaedic Association Traveling Fellowship, March, 2001.
28. Workshop on New Test Methods for Evaluating the Performance of Conventional and Crosslinked UHMWPE. Workshop Co-Chairman. American Society for Testing and Materials Committee F04, Phoenix, AZ, May 2001.
29. Panel Discussion Chair: Validation Standard for Wear Testing of Crosslinked UHMWPE. Workshop on New Test Methods for Evaluating the Performance of Conventional and Crosslinked UHMWPE. American Society for Testing and Materials Committee F04, Phoenix, AZ, May 2001.
30. Co-Chairman, Breakout Session Reports. Workshop on Standards for Biomedical Materials and Devices. National Institute of Standards and Technology, Gaithersberg, MD, June, 2001.
31. Update on Bearing Surfaces. American Academy of Orthopaedic Surgeons, Course #3383, Chicago, IL, November – December, 2001.
32. Alternative Bearings. Orthopaedic Research Society, Dallas, TX, February, 2002.
33. Wear Debris II. Orthopaedic Research Society, Dallas, TX, February, 2002.
34. Wear: From Bench to Bedside. Symposium, 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons. Dallas, TX, February, 2002.

35. Hip Revision. 69<sup>th</sup> Annual Meeting of the American Academy of Orthopaedic Surgeons. Dallas, TX, February, 2002.
36. Extensor Mechanism. Minnesota Arthroplasty Course. 2<sup>nd</sup> Annual Midwest Arthroplasty Course: Revision Knee. University of Minnesota, Department of Orthopaedic Surgery, Minneapolis, MN, May, 2002.
37. “Bad Day at Black Rock”. Total Knee and Shoulder Replacement Conference: 11<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2002.
38. Breakout Session: Implant Recall. Corporate Advisory Council, American Academy of Orthopaedic Surgeons, Rosemont, IL, May 2002.
39. Free Paper Session – Part 1. The 5th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement. University of Pennsylvania School of Medicine. New York, N.Y., September 2002.
40. Wear Debris. Orthopaedic Research Society, New Orleans, LA, February, 2003.
41. BMP – Orthopedic Repair. Science-Based Assessment: Accelerating Product Development of Combination Medical Devices. Roundtable on Biomedical Engineering Materials and Applications (BEMA), National Academy of Sciences, Washington, D.C., April, 2003.
42. Moderator. Wear Products: Local and Systemic Effects I. Second International Conference on Metal-Metal Hip Prostheses: Past Performance and Future Directions. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Montreal, Quebec, Canada, June 2003.
43. Workgroup Chair. Challenges Facing the Clinical Research Enterprise: The Response of Medical Specialty and Clinical Research Societies. The National Academies, Institute of Medicine, Washington, D.C., September, 2003.
44. Advanced Bearings Metal Hip-3. The 16<sup>th</sup> Annual Symposium of the International Society for Technology in Arthroplasty. San Francisco, CA, September, 2003.
45. Chairman, ASTM International Workshop on Laboratory and Clinical Evaluations of Cements in Skeletal Applications. ASTM Committee F04 on Medical and Surgical Materials and Devices, Tampa, FL, November, 2003.
46. Moderator. Implant Fixation. Orthopaedic Research Society, San Francisco, CA, March, 2004.
47. Co-Chairman. OREF Midwest Resident Research Symposium, Chicago, IL, May, 2004.
48. Co-Facilitator, Musculoskeletal Conditions in the US Expert Roundtable, American Academy of Orthopaedic Surgeons, Chicago, IL, May, 2004.
49. Moderator. Impact of New Techniques on Our Clinical Practice. Third Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Montreal, Quebec, Canada, June 2004.
50. Session Chair. Supramolecular Biomaterials Engineering and Design. *Biomedical Materials at the Edge: Challenges in the Convergence of Technologies*. Roundtable on Biomedical Engineering Materials and Applications. National Academy of Sciences, Washington, D.C., September, 2004.
51. Moderator. Symposium: Bearing Surfaces and Osteolysis. Hospital for Special Surgery Alumni Association 86<sup>th</sup> Annual Meeting, New York, NY, November, 2004.
52. Co-Chair, Research Capital Hill Days, American Academy of Orthopaedic Surgeons, Washington, DC, March, 2005.
53. Moderator. Imaging, Recognition and Signaling. Rush University Forum for Research and Clinical Investigation.

Chicago, IL, April, 2005.

54. Moderator. Biology of Metal-on-Metal Bearings. International Symposium: Resurfacing of the Hip Joint. An Update. Synos Foundation, Zurich, Switzerland, April, 2005.

55. Co-Moderator. Technology Assessment, National Orthopaedic Leadership Conference, American Academy of Orthopaedic Surgeons, Washington, DC, April, 2005.

56. Moderator. Minimally Invasive Surgery. Fourth Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Marina del Rey, CA, June, 2005.

57. Moderator. Relationships With Industry: Critical for New Technology or an Unnecessary Evil? The 118<sup>th</sup> Annual Meeting of the American Orthopaedic Association, Huntington Beach, CA, June, 2005.

58. Moderator. Recap and Prioritization – Wound Management. Extremity War Injuries: State of the Art and Future Directions. American Academy of Orthopaedic Surgeons/Orthopaedic Trauma Association, Washington, D.C., January, 2006.

59. Moderator. Horizons in the Biology of Total Joint Replacement. American Academy of Orthopaedic Surgeons/Orthopaedic Research Society Combined Symposium, Chicago, IL, March, 2006.

60. Moderator. Rush University Medical Center/John H. Stroger, Jr. Hospital of Cook County Grant Awardees. Rush University Forum for Research and Clinical Investigation. Chicago, IL, April, 2006.

61. Moderator. Wear and Alternative Bearing Surfaces. Closed Meeting of the Hip Society, Iowa City, IA, September, 2006.

62. Session Chairman. Biological Implications of Metal-on-Metal Articulations. University of Bristol, Bristol, United Kingdom, November, 2006.

63. Moderator. Methodology. American Academy of Orthopaedic Surgeons Board of Directors Workshop, Laguna Beach, CA, April, 2007.

64. Moderator. John H. Stroger Hospital-Rush University Grant Awardees. Rush University Forum for Research and Clinical Investigation. Chicago, IL, April, 2007.

65. Provocateur. Wear Debris Symposium. 7<sup>th</sup> Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May, 2007.

66. Provocateur. The Effects of TDR – Osteopenia and Subsidence. 7<sup>th</sup> Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May, 2007.

67. Moderator. Durom Femoral Resurfacing. 2007 Tribology and Alternative Bearings Symposium: Advanced Materials and Technologies for Hip and Knee Reconstruction, Las Vegas, NV, September, 2007.

68. Moderator. Wear, Fatigue and Corrosion. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies of Australia/New Zealand, Britain, Canada, Europe, Japan, Korea, Taiwan and USA, Honolulu, HI, October, 2007.

69. Moderator. Arthroplasty Hip. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies of Australia/New Zealand, Britain, Canada, Europe, Japan, Korea, Taiwan and USA, Honolulu, HI, October, 2007.

70. Co-Organizer. Workshop on Peri-Implant Osteolysis. 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies of Australia/New Zealand, Britain, Canada, Europe, Japan, Korea, Taiwan and USA, Honolulu, HI, October, 2007.

71. Moderator. Challenges in Bringing New Technology to the U.S. Market. Symposium II, American Association of Hip and Knee Surgeons 17<sup>th</sup> Annual Fall Meeting, Dallas, TX, November, 2007.
72. Moderator. Teaching New Technologies. Orthopaedic CME Summit, American Academy of Orthopaedic Surgeons, Chicago, IL, November, 2007.
73. Moderator. John H. Stroger Hospital-Rush University Grant Awardees. Rush University Forum for Research and Clinical Investigation. Chicago, IL, April, 2008.
74. Moderator. Round Table to Identify and Prioritize Key Issues and Questions. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, May, 2008.
75. Local Co-Host. Orthopaedic Research and Education Foundation Midwest Resident Research Competition and Symposium. Rush University Medical Center, Chicago, IL, May, 2008.
76. Moderator. Current Controversies in Bearing Surface Science. American Academy of Orthopaedic Surgeons/Orthopaedic Research Society Combined Symposium, Las Vegas, NV, February, 2009.
77. Moderator. Technology 2009: Alternative Bearing Surfaces: The Good, Bad and Indifferent. Instructional Course Lecture #143, American Academy of Orthopaedic Surgeons 76th Annual Meeting, Las Vegas, NV, February, 2009.
78. Moderator. Cohn Symposium Distinguished Lecture. Rush University Forum for Research and Clinical Investigation, Chicago, IL, April, 2009.
79. Moderator. Hip Arthroplasty: Avoiding Pitfalls and Managing Problems. Current Concepts in Joint Replacement, The Cleveland Clinic Foundation Center for Continuing Education, Las Vegas, NV, May, 2009.
80. Moderator. Session XVIII: Metal-Metal. Closed Meeting of the Hip Society, Stanford, CA, September, 2009.
81. Moderator. Session XIX: Resurfacing. Closed Meeting of the Hip Society, Stanford, CA, September, 2009.
82. Co-Chair, Beyond the Decade Strategic Planning Session. Bone and Joint Decade Global Network Conference, Washington, D.C., October, 2009.
83. Moderator. Short Talk Session 09. Hip Resurfacing. 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March, 2010.
84. Moderator. Round Table to Identify and Prioritize Key Issues and Questions, United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2010.
85. Moderator. Mock Study Section. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2010.
86. Moderator. Going Weak in the Knees: When Arthritis or Injury Strikes. Orthopaedics Rush Rounds, Rush University Medical Center, Chicago, IL, May, 2010.
87. Moderator. Orthopaedic Crossfire IV: Controversial Issues in Hip Arthroplasty. Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2010.
88. Moderator. Adverse Effects. Fourth Annual Hip Joint Course, Baltimore, MD, August, 2010.
89. Group Leader. Round Table Discussions and Working Lunch: Societies. Bone and Joint Decade World Conference,

Lund, Sweden, September, 2010.

90. Moderator. Restoring Function Fast. New Techniques in Hand, Elbow & Shoulder Care. Rush Rounds. Rush University Medical Center, Chicago, IL, November, 2010.

91. Course Director. AAOS Total Hip Arthroplasty. Is There a Metal-on-Metal Bearings Controversy? Webinar, American Academy of Orthopaedic Surgeons, November, 2010.

92. Moderator. Workshop #1: New Insights Into Inflammatory Arthritides. Presented by the ORS Advocacy Committee, 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Long Beach, CA, January, 2011.

93. Moderator. Session 32: Implant Fixation. 57<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, Long Beach, CA, January, 2011.

94. Facilitator, Breakout Session on Cartilage Defects, Osteochondral Lesions, Osteoarthritis/Rheumatoid Arthritis. AAOS Now 2011 PRP Forum, San Diego, CA, February, 2011.

95. Session Chairperson: Session I: Characterization of Adverse Local Tissue Reactions. Workshop on Metal-on-Metal Total Hip Replacement Devices, American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices, Anaheim, CA, May, 2011.

96. Moderator. Session VII: Translating Gaps in Evidence to Funded Trials. 2011 AAOS/ORS Comparative Effectiveness Research Symposium, Washington, DC, May, 2011.

97. Moderator. Live Surgery, Metal-Metal Hip Resurfacing: *For the Right Indication*. Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2011.

98. Moderator. Symposium VII: What Will We Be Doing in 2022? 2011 Specialty Day Meeting of the Knee Society, San Francisco, CA, February, 2012.

99. Moderator. Metal on Metal I. 42<sup>nd</sup> Annual Advances in Arthroplasty Course “Registries in Action: Your Best World-Wide Source of Evidence-Based Orthopaedics for Biological and Prosthetic Solutions.” Harvard Medical School, Department of Continuing Medical Education, Cambridge, MA, October, 2012.

100. Moderator and Commentator of Live Webinar. Metal-on-Metal: Perspectives on Adverse Tissue Reaction - An Evidence-Based Journal Club. The Journal of Bone and Joint Surgery, October, 2012.

101. Moderator. Session II: Review of External Stakeholder Value/Quality Designation Programs. 2012 AAOS Orthopaedic Quality Institute: Defining Quality in Musculoskeletal Care, Washington, DC, November, 2012.

102. Organizer. International Initiatives. Board of Directors Winter Workshop, American Academy of Orthopaedic Surgeons, Chicago, IL, December, 2012.

103. Moderator. Session 30: Osteolysis and Implant Loosening. 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January, 2013.

104. Co-Moderator. Session IIB: Posttraumatic Arthritis (Joint Replacement). Extremity War Injuries VIII: Sequelae of Combat Injuries. American Academy of Orthopaedic Surgeons/Orthopaedic Trauma Association/Society of Military Orthopaedic Surgeons/Orthopaedic Research Society, Washington, DC, February, 2013.

105. Moderator. Symposium II: Metal Corrosion of Modular Connections in THA: A Cause for Concern? The Forty-first Open Meeting of the Hip Society and The Nineteenth Combined Open Meeting of The Hip Society and the American Association of Hip and Knee Surgeons, Chicago, IL, March, 2013.

106. Moderator. Symposium VI: Efficiency and Cost Considerations in Total Knee Arthroplasty. The 2013 Specialty Day Scientific Meeting of The Knee Society and AAHKS, Chicago, IL, March 2013.

107. Organizer. How Quality Helps Advocacy. Board of Directors Spring Workshop, American Academy of Orthopaedic Surgeons, Boca Raton, FL, May, 2013.

108. Moderator. Live Surgery, Metal-Metal Hip Resurfacing: *For the Right Indications*. Current Concepts in Joint Replacement, Current Concepts Institute, Las Vegas, NV, May, 2013.

109. Moderator. Special Emphasis Poster Presentations, Adult Reconstruction. 126<sup>th</sup> Annual Meeting of the American Orthopaedic Association, Denver, CO, June, 2013.

110. Moderator. ObamaCare and Total Knee Arthroplasty: How Will We Survive? Modern Techniques in Hip and Knee Reconstruction and Preservation, Seventh Annual Hip and Knee Course, Baltimore, MD, August, 2013.

### **Invited Speaker**

#### LOCAL

1. Biomaterials: The Orthopedic Surgeon's Perspective; Biomaterials and Medical Products Symposium, Chicago, Oct 1988.

2. Current Concepts in Total Joint Replacement; Medical Grand Rounds, St. Joseph's Hospital and Medical Center, Chicago, July 1989.

3. Arthritis and Knee Pain; Arthritis Care Center St. Joseph's Hospital, Chicago, Aug 1989.

4. Traumatic Injuries to the Hip and Knee and Their Sequelae. Worker's Compensation Lawyer's Association Annual Medical Seminar, Chicago, Sept 1989.

5. Systemic Implications of Total Joint Replacement, Rush-Presbyterian-St. Lukes Medical Center Department of Internal Medicine Continuing Education Series, January 1991.

6. Autopsy Retrieval Program for Total Joint Replacements, Rush-Presbyterian-St. Lukes Medical Center Monthly Pathology Conference, October 1991.

7. New Designs in Total Knee Arthroplasty, Continuing Education Program Sponsored by Education Design, Inc. Rush-Presbyterian-St. Lukes Medical Center. October, 1991.

8. Metal Ion Release in Total Joint Arthroplasty. Revision Total Hip Arthroplasty, Central Dupage Hospital, Winfield, Il. October, 1991.

9. Allograft Prosthetic Composite Reconstruction in Revision Total Hip Arthroplasty. Revision Total Hip Arthroplasty, Central Dupage Hospital, Winfield, Il. October, 1991.

10. Clinical Results of Acetabular Revision Arthroplasty Using the Harris- Galante Acetabular Component. Revision Total Hip Arthroplasty, Central Dupage Hospital, Winfield, Il. October, 1991.

11. The Health Care Surrogate Act -- How Is It Working Here? Ethics Grand Rounds, Rush-Presbyterian-St. Lukes Medical Center, December 1991.

12. Metal Release in Patients with Total Joint Replacements. Illinois Orthopedic Society, Chicago, Jan 1992.

13. Complications of Biomaterials Used in Total Joint Replacements. ABC Traveling Fellows Program, Northwestern University, Chicago, Illinois, May 1992.
14. Wear Products and Bone Response - Endosteal Osteolysis. AAOS Tutorial on Revision Total Hip Replacement, Chicago, Illinois, May 1992.
15. Postoperative Management: Rehabilitation and Complications. AAOS Tutorial on Revision Total Hip Replacement, Chicago, Illinois, May 1992.
16. Endosteal Osteolysis in Total Hip Replacement. 1st Annual Meeting Rush Orthopedic Alumni Association. Chicago, Illinois, May, 1992.
17. Clinical Ramifications of Osteolysis. Total Hip Replacement, sponsored by Education Design, Inc. Rosemont, IL, November, 1992.
18. Femoral Revision: Cement. AAOS Tutorial on Total Hip Revision, Chicago, IL, May, 1993.
19. The Role of Particulate Debris in THA Failure. AAOS Tutorial on Total Hip Revision, Chicago, IL, May, 1993.
20. Techniques for Preservation and Balancing of the PCL in Total Knee Arthroplasty. Total Knee Replacement Symposium, sponsored by Education Design, Inc., Chicago, IL, May, 1993.
21. Clinical Implications of Wear. Total Knee Replacement Symposium, sponsored by Education Design, Inc., Chicago, IL, November, 1993.
22. PCL Balancing in Total Knee Arthroplasty. Total Knee Replacement Symposium, sponsored by Education Design, Inc., Chicago, IL, November, 1993.
23. Clinical Implications of Wear. Total Knee Replacement Symposium, sponsored by Education Design, Inc., Chicago, IL, February, 1994.
24. PCL Balancing in Total Knee Arthroplasty. Total Knee Replacement Symposium, sponsored by Education Design, Inc., Chicago, IL, February, 1994.
25. Clinical Implications of Osteolysis. Program for Groupe Farabeuf, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, October, 1994.
26. Experimental Studies of Bone Loss Surrounding Total Joint Replacement Components. Meeting of the Leadership Committee for the Rush Arthritis and Orthopedics Institute, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, February, 1995.
27. Total Hip Arthroplasty. Rehabilitation Foundation Inc., Hines, IL. April 1996.
28. Particulate-Induced Periprosthetic Bone Loss (Osteolysis). Connective Tissue Workshop, Department of Biochemistry, Rush Medical College. Chicago, IL, July 1996.
29. Systemic Implications of Total Joint Replacement. Orthopaedic Research and Education Foundation, Hip and Knee Specialty Meeting. Chicago, IL, September 1996.
30. Surgical Treatment Options. Joint Pain Seminar/Screening, Oak Lawn, IL November, 1996.
31. Discussion of Paper "Outcomes of ACL Reconstruction in Patients with Worker's Compensation". Annual Rush Surgical Society Meeting, Chicago, IL, June 1997.

32. Biomaterials. Specialty Review in Orthopedic Surgery. The National Center for Advanced Medical Education. Chicago, IL, June 1997.
33. Common Arthroplasty Issues. Specialty Review in Orthopedic Surgery. The National Center for Advanced Medical Education. Chicago, IL, June 1997.
34. Biology of Joint Replacement. Special Seminar, Section of Rheumatology, University of Illinois College of Medicine at Chicago, Chicago, IL, June 1998.
35. Biomaterials and Biomechanics. The Chicago Orthopaedic Board Review. Chicago, IL, July 1998.
36. Long Term Results in Primary TKA. Rush Orthopaedic Learning Center, Chicago, IL, December, 1998.
37. Wear and Materials Issues in TKA. Rush Orthopaedic Learning Center, Chicago, IL, December, 1998.
38. Cementless Femoral Stems - Techniques and Choices. Rush Orthopaedic Learning Center, Chicago, IL, December, 1998.
39. Wear and Osteolysis. Rush Orthopaedic Learning Center, Chicago, IL, December, 1998.
40. Acetabular Revision - Technique and Results. Rush Orthopaedic Learning Center, Chicago, IL, December, 1998.
41. Wear and Materials in TKA. Total Hip and Total Knee Forum. Education Design, Inc, Chicago, IL, March, 1999.
42. Primary Acetabular Reconstruction: Technique and Results. Education Design, Inc, Chicago, IL, March, 1999.
43. Results of Primary Cementless Stems. Education Design, Inc, Chicago, IL, March, 1999.
44. Wear and Osteolysis in THA. Education Design, Inc, Chicago, IL, March, 1999.
45. Wear and Materials in TKA. Education Design, Inc., Chicago, IL, April, 1999.
46. Wear and Osteolysis in THA. Education Design, Inc., Chicago, IL, April, 1999.
47. Orthopaedic Research and Education Foundation Campaign 2000: Leaders for Orthopaedic Progress. OREF Illinois Resident Research Symposium, Chicago, IL, May, 1999.
49. Wear and Materials in TKA. Education Design, Inc., Chicago, IL, June, 1999.
50. Wear and Osteolysis in THA. Education Design, Inc., Chicago, IL, June, 1999.
51. Cementless THA: Acetabulum and Stem. Education Design, Inc., Chicago, IL, June, 1999.
52. Wear and Materials in TKA. Education Design, Inc. Chicago, IL, September, 1999.
53. Results of Cementless Acetabulum. Education Design, Inc. Chicago, IL, September, 1999.
54. Wear and Osteolysis in THA. Education Design, Inc. Chicago, IL, September, 1999.
55. Wear and Materials in TKA. Education Design, Inc. Chicago, IL, December, 1999.
56. Primary Cementless Acetabulum. Education Design, Inc. Chicago, IL, December, 1999.
57. Results of Cementless Stems. Education Design, Inc. Chicago, IL, December, 1999.

58. Wear and Osteolysis in THA. Education Design, Inc. Chicago, IL, December, 1999.
59. Wear and Materials in TKA. Education Design, Inc. Chicago, IL, February, 2000.
60. Wear and Osteolysis in THA. Education Design, Inc. Chicago, IL, February, 2000.
61. Pediatric Overuse Injuries in the Elbow and Shoulder. Wilmette Baseball Association, Wilmette, IL, June, 2000.
62. Wear and Materials in TKA. Total Hip and Total Knee Forum, Education Design, Inc., Chicago, IL, June, 2000.
63. Cementless Stems. Total Hip and Total Knee Forum, Education Design, Inc., Chicago, IL, June, 2000.
64. Wear and Osteolysis in THA. Total Hip and Total Knee Forum, Education Design, Inc., Chicago, IL, June, 2000.
65. Wear and Materials in TKA. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, September, 2000.
66. Primary Cementless Stems at 10 Years. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, September, 2000.
67. Osteolysis After Total Hip Arthroplasty: Clinical Treatment. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, September, 2000.
68. Alternative Bearings in Total Hip Arthroplasty. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, September, 2000.
69. The Biology of Osteolysis. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, November, 2000.
70. Alternative Bearing Surfaces in Total Hip Arthroplasty. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, November, 2000.
71. Update on Alternative Bearings. Japanese Orthopaedic Association/American Orthopaedic Association Traveling Fellows Program, Chicago, IL, March, 2001.
72. Osteolysis Associated with TJA. Total Hip and Knee Forum. Chicago Learning Center, Rush-Presbyterian-St. Lukes Medical Center. Education Design, Inc., Chicago, IL, May 2001.
73. Alternative Bearings in THA. Total Hip and Knee Forum. Chicago Learning Center, Rush-Presbyterian-St. Lukes Medical Center. Education Design, Inc., Chicago, IL, May 2001.
74. Grant Evaluation at NIH: Career Development Awards. Research Grand Rounds. Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, May 2001.
75. K24 Faculty Development Grants. Grand Rounds, Department of Immunology/Microbiology, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, July 2001.
76. Total Joint Replacement in the 21<sup>st</sup> Century: The Impact of the Biotechnology Revolution. The Endowed Professorship Lecture Series of Rush University, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, July 2001.
77. Alternative Bearings in TJA. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, July, 2001.
78. Delayed Hypersensitivity to Metallic Implants in Orthopedic Patients. Seminar, Department of Immunology/Microbiology, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, October, 2001.

79. Osteolysis Associated with TJA. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, October, 2001.
80. Alternative Bearings in TJA. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, October, 2001.
81. Alternative Bearing Surfaces in Total Joint Replacements. Department of Orthopaedic Surgery Monthly Educational/Research Seminar, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, October, 2001.
82. Wear in TKR. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, February, 2002.
83. Alternative Bearings in TJA. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, February, 2002.
84. DVT in Total Joint Replacement. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, February, 2002.
85. Systemic Implications of Total Joint Replacement. Pathobiochemistry Seminar Series, Department of Biochemistry, Rush University, Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL, May, 2002.
86. DVT in Total Joint Arthroplasty. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, June, 2002.
87. Osteolysis Associated With Total Joint Arthroplasty. Total Hip and Total Knee Forum. Education Design, Inc. Chicago, IL, June, 2002.
88. Systemic Implications of Total Joint Replacement. John N. Insall Travelling Fellowship. Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, October, 2002.
89. Alternative Bearings in TJA. Total Hip and Knee Forum. HealthStream/Education Design, Inc. Chicago, IL, November, 2002.
90. Wear and Osteolysis in TKA. Total Hip and Knee Forum. HealthStream/Education Design, Inc. Chicago, IL, November, 2002.
91. Metal Allergy. Japanese Orthopaedic Association/American Orthopaedic Association Traveling Fellows Program, Rush-Presbyterian-St. Lukes Medical Center. Chicago, IL, February, 2003.
92. Alternative Bearings in THA. Total Hip and Knee Forum. HealthStream/Education Design, Chicago, IL, February, 2003.
93. Knee Wear and Osteolysis. Total Hip and Knee Forum. HealthStream/Education Design, Chicago, IL, February, 2003.
94. Biology of Alternative Bearing Materials. ASG/AOA (Austria, Switzerland and Germany/American Orthopaedic Association) Traveling Fellows Program, Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, March, 2003.
95. Needs and Opportunities in Orthopaedic Engineering – A Clinician's Perspective. Chicago Universities Bioengineering Industry Consortium (CUBIC) 2003, Chicago, IL, March, 2003.
96. Careers in Medicine. Rush Medical College, Chicago, IL, May, 2003.
97. Alternative Bearings in THA. Total Hip and Knee Forum. HealthStream/Education Design, Chicago, IL, June, 2003.
98. Alternative Bearings in THA. Total Hip and Knee Forum. HealthStream/Education Design, Chicago, IL, July, 2003.

99. Knee Wear and Osteolysis. Total Hip and Knee Forum. HealthStream/Education Design, Chicago, IL, July, 2003.
100. Knee Wear and Osteolysis. Total Hip and Knee Forum. HealthStream/Education Design, Chicago, IL, September, 2003.
101. Metal Allergy. John N. Insall Travelling Fellowship. Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, October, 2003.
102. Backside Wear in Total Knee Arthroplasty. John N. Insall Travelling Fellowship. Rush-Presbyterian-St. Lukes Medical Center, Chicago, IL, October, 2003.
103. Total Joint Arthroplasty: Basic Science and Clinical Considerations for Prosthetic Wear. Japanese Orthopaedic Association/American Orthopaedic Association Traveling Fellows Program, Rush University Medical Center. Chicago, IL, March, 2004.
104. Systemic Implications of Total Joint Replacement. Rush University Forum for Research and Clinical Investigation. Rush University Medical Center, Chicago, IL, April, 2004.
105. Research at Rush: 2004 and Beyond. Rush University Forum for Research and Clinical Investigation. Rush University Medical Center, Chicago, IL, April, 2004.
106. Joint Replacement Surgery. Aventis Pharmaceutical Preceptorship. Rush University Medical Center, Chicago, IL, May, 2004.
107. Wear and Osteolysis in TJA. Zimmer Institute Hip and Knee Forum at Rush. Rush University Medical Center, Chicago, IL, July, 2004.
108. Wear and Osteolysis in TJA. Zimmer Institute Hip and Knee Forum at Rush. Rush University Medical Center, Chicago, IL, August, 2004.
109. Residency Training in Orthopaedic Surgery. Chicago Medical School, Rosalind Franklin University, North Chicago, IL, September, 2004.
112. Total Hip and Knee Arthroplasty: Past, Present and Future. Aventis Pharmaceutical Preceptorship. Rush University Medical Center, Chicago, IL, October, 2004.
113. Understanding Wear and Osteolysis in TJA. Zimmer Institute Hip and Knee Forum at Rush. Rush University Medical Center, Chicago, IL, October, 2004.
114. Alternative Bearings in THA. Zimmer Institute Hip and Knee Forum at Rush. Rush University Medical Center, Chicago, IL, October, 2004.
115. Metal Sensitivity. John N. Insall Travelling Fellowship. Rush University Medical Center, Chicago, IL, October, 2004.
116. Wear and Osteolysis in TJA. Zimmer Institute Hip and Knee Forum at Rush. Rush University Medical Center, Chicago, IL, April, 2005.
117. New Trends in Total Joint Arthroplasty. Chasing the Clot, Sanofi-Aventis Hospital-Based Training Preceptorship. Rush University Medical Center, Chicago, IL, May, 2005.
118. Wear and Osteolysis in TJA. Zimmer MIS Hip & Knee Educational Program at Rush University Medical Center. Rush University Medical Center, Chicago, IL, May, 2005.

119. Careers in Medicine: Orthopaedic Surgery. Rush Medical College, Chicago, IL, May, 2005.
120. Welcome. M1 Orientation, Rush Medical College, Chicago, IL, September, 2005.
121. New Trends in Total Joint Arthroplasty. Chasing the Clot, Sanofi-Aventis Hospital-Based Training Preceptorship. Rush University Medical Center, Chicago, IL, October, 2005.
122. Osteolysis and Wear in TJA. Total Hip and Total Knee Forum. Rush University Medical Center, Chicago, IL, October, 2005.
123. Metal on Metal Bearing Surfaces for Joint Replacement Arthroplasty. Japanese Orthopaedic Association/American Orthopaedic Association Traveling Fellows Program, Rush University Medical Center. Chicago, IL, March, 2006.
124. Osteolysis and Wear in TJA. MIS Total Hip and Total Knee Forum. Rush University Medical Center, Chicago, IL, March, 2006.
125. What's New In Orthopaedics. Technology Summit, Zimmer, Inc, Chicago, IL, May, 2006.
126. New Trends in Total Joint Arthroplasty. Cardiovascular Hospital Clinical Experience, Sanofi-Aventis Hospital-Based Training Preceptorship. Rush University Medical Center, Chicago, IL, July, 2006.
127. Osteolysis in TJA. Total Hip and Total Knee Forum. Rush University Medical Center, Chicago, IL, July, 2006.
128. Welcome from Faculty. M1 Orientation, Rush Medical College, Chicago, IL, September, 2006.
129. Metal Allergy. John N. Insall Travelling Fellowship. Rush University Medical Center, Chicago, IL, October, 2006.
130. Alternative Bearing Surfaces in THA. Total Hip and Total Knee Forum. Rush University Medical Center, Chicago, IL, April, 2007.
131. Welcome from Faculty. M1 Orientation, Rush Medical College, Chicago, IL, September, 2007.
132. Alternative Bearing Surfaces in THA. Total Hip and Total Knee Forum. Rush University Medical Center, Chicago, IL, October, 2007.
133. Vision for the Future. Arthritis and Orthopaedics Institute Leadership Committee, Rush University Medical Center, Chicago, IL, June, 2008.
134. Progress in Institutional Research Funding. Rush Translational Sciences Consortium Strategic Retreat, Rush University Medical Center, Chicago, IL, June 2008.
135. Systemic Implications of Total Joint Replacement. Department of Pharmacology Seminar, Rush University Medical Center, Chicago, IL, December 2008.
136. Panelist. Ethics Night: The Role of Industry in Healthcare. Rush University Medical Center, Chicago, IL, March, 2009.
137. Get Back in the Game: Orthopedic Innovations at Rush. Rush Rounds, Rush University Medical Center, Chicago, IL, November, 2009.
138. Contemporary Trends in Total Hip and Knee Replacement. Rush Heritage Society Annual Meeting, Rush University Medical Center, Chicago, IL, May, 2010.
139. Adverse Local Tissue Reactions to Metallic Implant Debris. Infectious Disease Grand Rounds, Rush University

Medical Center, Chicago, IL, June, 2010.

140. Strategy for Moving Forward. Research Faculty Retreat, Rush University Medical Center, Chicago, IL, June, 2010.

141. Faculty Welcome. M1 Orientation, Rush Medical College, Chicago, IL, September, 2010.

142. Metal Allergy: A Clinical Reality?. John N. Insall Travelling Fellowship. Rush University Medical Center, Chicago, IL, October, 2010.

143. The Approach to the Patient with a Symptomatic Metal on Metal Hip Replacement. Japanese Orthopaedic Association/American Orthopaedic Association Traveling Fellows Program, Rush University Medical Center. Chicago, IL, July, 2011.

144. Faculty Welcome. M1 Orientation, Rush Medical College, Chicago, IL, September, 2011.

145. Synergy of Corrosion and Wear of Metal on Metal Bearings. 2011 Inaugural Dr. Gunnar Andersson Guest Lecture, Rush University Medical Center, Chicago, IL, October, 2011.

146. 2011 AAOS Clinical Practice Guideline on Venous Thromboembolic Disease. John N. Insall Travelling Fellowship. Rush University Medical Center, Chicago, IL, October, 2011.

147. Dealing with the Metal Allergic Patient. Chicago Arthroplasty Alumni Foundation 2<sup>nd</sup> Annual Meeting, Rush University Medical Center, Chicago, IL, July, 2012.

148. Metal on Metal Bearings in Total Hip Replacement: Lessons Learned. 2013 3<sup>rd</sup> Annual Dr. Gunnar Andersson Guest Lecture, Rush University Medical Center, Chicago, IL, August, 2013.

149. Metal on Metal Total Hip Replacement: Lessons Learned. Gerontology Grand Rounds, Division of Geriatric Medicine and Palliative Medicine, Department of Internal Medicine, Rush University Medical Center, Chicago, IL, September, 2013.

## REGIONAL

1. The Unhappy Total Knee Arthroplasty. Consortium for Osteopathic Graduate Medical Education and Training (COGMET), Michigan State University, College of Osteopathic Medicine, East Lansing, MI, June, 1995.

2. Osteolysis in Joint Implants. Consortium for Osteopathic Graduate Medical Education and Training (COGMET), Michigan State University, College of Osteopathic Medicine, East Lansing, MI, June, 1995.

3. Principles in Total Knee Revision. Third Annual Great Lakes Total Joint Symposium. Milwaukee, WI, July, 1996.

4. Impaction Grafting in THA. Third Annual Great Lakes Total Joint Symposium. Milwaukee, WI, July, 1996.

5. Mechanism of Osteolysis in THA. Third Annual Great Lakes Total Joint Symposium. Milwaukee, WI, July, 1996.

6. Principles of Infection Management in Total Joint Surgery. Third Annual Great Lakes Total Joint Symposium. Milwaukee, WI, July, 1996.

7. Wear Issues in THA. Third Annual Great Lakes Total Joint Symposium. Milwaukee, WI, July, 1996.

8. Metal Alloy Corrosion Issues. Zimmer, Inc., Warsaw, IN, August 1996.

9. Role of Wear, Debris and Long-Term Implant Fixation. 3rd Annual Indiana Conference, Indianapolis, IN, May 1998.

10. Diagnosing Osteolysis, Instability & Extensor Insufficiency in TKA. 2<sup>nd</sup> Annual Midwest Arthroplasty Course: Revision Knee. University of Minnesota, Department of Orthopaedic Surgery, Minneapolis, MN, May, 2002.
11. Bone Loss Assessment. 2<sup>nd</sup> Annual Midwest Arthroplasty Course: Revision Knee. University of Minnesota, Department of Orthopaedic Surgery, Minneapolis, MN, May, 2002.
12. Serum Metal Ions in THR. 3<sup>rd</sup> Annual Midwest Arthroplasty Course: Primary Hip. University of Minnesota, Department of Orthopaedic Surgery, Minneapolis, MN, May, 2003.
13. Osteolysis: What Every Surgeon Should Know. 3<sup>rd</sup> Annual Midwest Arthroplasty Course: Primary Hip. University of Minnesota, Department of Orthopaedic Surgery, Minneapolis, MN, May, 2003.
14. Orthopaedic Implant Corrosion – Who Cares? Research and Development Seminar, Zimmer, Inc, Warsaw, IN, July 2003.
15. AAOS Update. Spring Meeting and 7<sup>th</sup> Annual Joint Meeting of the Iowa Orthopaedic Society/Iowa Medical Society, Des Moines, IA, April, 2004.
16. Current Update on Alternate Bearing Surfaces in Orthopedics: Where is the Data? Educational Seminar, St. Paul, MN, September, 2005.
17. Current Update on Alternate Bearing Surfaces in Orthopedics: Where is the Data? Educational Seminar, Minneapolis, MN, September, 2005.
18. Osteolysis – Knee & Hip Implant Wear and Bearing Materials. Evolving Technologies in Total Joint Arthroplasty. Zimmer Orthopaedic Update, Milwaukee, WI, November, 2006.
19. Alternate Bearing Surfaces. Surgeon/Resident Education Meeting, Zimmer Great Lakes, Perrysburg, OH, May, 2007.
20. Alternate Bearing Surfaces. Surgeon/Resident Education Meeting, Zimmer Great Lakes, Plymouth, MI, May, 2007.
21. Serum Metal Testing in Patients with Metal on Metal Hip Replacements. Midwest Association for Toxicology and Therapeutic Drug Monitoring, Oak Brook, IL, May, 2012.
22. Corrosion Issues Implant Retrieval Studies. Current Concepts in the Management of Hip Disorders: Pediatrics, Preservation, Trauma, and Arthroplasty. MAOA/ICJR Pre-Meeting Course, Amelia Island, FL, April 2013.
23. AAOS Report. 31st Annual Meeting of the Mid-America Orthopaedic Association, Amelia Island, FL, April 2013.
24. Metal-on-Metal Total Hip Replacements: What Have We Learned? 31st Annual Meeting of the Mid-America Orthopaedic Association, Amelia Island, FL, April 2013.

#### NATIONAL

1. Ion Toxicity: Titanium vs. Cobalt-Chromium. Hip and Knee Reconstructive Surgery - 1990, Department of Continuing Education in Health Sciences, UCLA Extension and the School of Medicine, UCLA, October 11-14, 1990; Wailea, Maui, Hawaii.
2. Localized Osteolysis in Well-Fixed Cementless Stems. Hip and Knee Reconstructive Surgery - 1990, Department of Continuing Education in Health Sciences, UCLA Extension and the School of Medicine, UCLA, October 11-14, 1990; Wailea, Maui, Hawaii.

3. Miller-Galante Total Knee Replacement. Hip and Knee Reconstructive Surgery - 1990, Department of Continuing Education in Health Sciences, UCLA Extension and the School of Medicine, UCLA, October 11-14, 1990; Wailea, Maui, Hawaii.
4. Harris-Galante Total Hip Replacement. Hip and Knee Reconstructive Surgery - 1990, Department of Continuing Education in Health Sciences, UCLA Extension and the School of Medicine, UCLA, October 11-14, 1990; Wailea, Maui, Hawaii.
5. Ion Release. Current Issues and Solutions in Revision Hip Arthroplasty, The Joint Implant Surgery and Research Foundation, Tucson, Az, May 1991.
6. Allograft Prosthetic Composites. Current Issues and Solutions in Revision Hip Arthroplasty, The Joint Implant Surgery and Research Foundation, Tucson, Az, May 1991.
7. Acetabular Results Using Dome Screws. Current Issues and Solutions in Revision Hip Arthroplasty, The Joint Implant Surgery and Research Foundation, Tucson, Az, May 1991.
8. Anatomic Cementless Femoral Component - Clinical Results. 22nd Annual Hip Course - Total Hip Replacement 1992: Changing Times What Works and What Doesn't. Harvard Medical School Continuing Medical Education, Cambridge, MA, Sept. 1992.
9. Corrosion of Tapers - Retrieved Specimens. 22nd Annual Hip Course - Total Hip Replacement 1992: Changing Times What Works and What Doesn't. Harvard Medical School Continuing Medical Education, Cambridge, MA, Sept. 1992.
10. Bony Ingrowth into Cementless Acetabular Components. 22nd Annual Hip Course - Total Hip Replacement 1992: Changing Times What Works and What Doesn't. Harvard Medical School Continuing Medical Education, Cambridge, MA, Sept. 1992.
11. Harris-Galante I Acetabular Revisions - Clinical Results. 22nd Annual Hip Course - Total Hip Replacement 1992: Changing Times What Works and What Doesn't. Harvard Medical School Continuing Medical Education, Cambridge, MA, Sept. 1992.
12. Excretion of Wear-Produced Metal Ions. Techniques and Science for Successful Joint Arthroplasty, 4th Annual Conference. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1992.
13. Clinical Ramifications of Osteolysis. Techniques and Science for Successful Joint Arthroplasty, 4th Annual Conference. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1992.
14. Migration of Taper Corrosion Products into the Polyethylene. 23rd Annual Hip Course - Total Hip Replacement 1993: Osteolysis Dominates the Scene. Harvard Medical School Continuing Medical Education, Cambridge, MA, September 1993.
15. Differential Wear Rates Between Hybrid and Cementless THR. 23rd Annual Hip Course - Total Hip Replacement 1993: Osteolysis Dominates the Scene. Harvard Medical School Continuing Medical Education, Cambridge, MA, September 1993.
16. Titanium Heads. 23rd Annual Hip Course - Total Hip Replacement 1993: Osteolysis Dominates the Scene. Harvard Medical School Continuing Medical Education, Cambridge, MA, September 1993.
17. Bony Ingrowth in Autopsy Retrieved HGP Femoral Components. 23rd Annual Hip Course - Total Hip Replacement 1993: Osteolysis Dominates the Scene. Harvard Medical School Continuing Medical Education, Cambridge, MA, September 1993.

18. Bone Ingrowth in Primary HGP Acetabular Components. 23rd Annual Hip Course - Total Hip Replacement 1993: Osteolysis Dominates the Scene. Harvard Medical School Continuing Medical Education, Cambridge, MA, September 1993.
19. Corrosion of Tapers. The Fifth Annual Conference on Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1993.
20. Osteolysis: Cell, Tissue, and Organ Culture Studies. The Fifth Annual Conference on Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1993.
21. Quantification and Localization of Metal Released from Total Joint Replacement Prostheses. Biology and Biotechnology Research Program Seminar, Lawrence-Livermore National Laboratories, Livermore, CA, December, 1993.
22. Local Response to Biomaterials: Bone Loss in Cementless Femoral Stems. Presented at the Instructional Course Lecture #231: Current Concepts in Orthopedic Biomaterials and Implant Fixation, American Academy of Orthopedic Surgeons 61st Annual Meeting, New Orleans, LA, February, 1994.
23. Taper Corrosion Products Migrate Into the Articulation. 24th Annual Harvard Hip Course. Total Hip Replacement 1994. Where Are We Now? Harvard Medical School, Department of Continuing Education, Cambridge, MA., September, 1994.
24. Anatomic Experience. 24th Annual Harvard Hip Course. Total Hip Replacement 1994. Where Are We Now? Harvard Medical School, Department of Continuing Education, Cambridge, MA., September, 1994.
25. Bony Ingrowth in Primary and Revision Cementless Acetabular Components Retrieved at Autopsy. 24th Annual Harvard Hip Course. Total Hip Replacement 1994. Where Are We Now? Harvard Medical School, Department of Continuing Education, Cambridge, MA., September, 1994.
26. Chromium Phosphate Corrosion Products in Total Hip Replacement. 25th Annual Hip Course - THR: Back Into the Future. Harvard Medical School Continuing Medical Education, Cambridge, MA, September, 1995.
27. Overall Magnitude of Wear: Systemic Response to Corrosion Products. Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1995.
28. In Vitro Models of Periprosthetic Bone Loss. Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1995.
29. Performance of Cementless THR's: Do They Meet Expectations? Techniques and Science for Successful Joint Arthroplasty. Dartmouth Biomedical Engineering Center, Burlington, VT, October, 1995.
30. Host Tissue Response to Implant Wear Debris. Osteolysis: Clinical Manifestations and Management. Symposium at the AAOS 63rd Annual Meeting, Atlanta, GA. February 1996.
31. Discussion of Papers 334 and 335. AAOS 63rd Annual Meeting, Atlanta, GA. February 1996.
32. Cellular Response to Particulate Biomaterials. Wear and Its Consequences in Total Joint Prostheses. Society for Biomaterials Short Course. San Antonio, TX, April 1996.
35. Systemic Implications of Total Joint Replacement. Rhode Island Orthopedic Society, Providence, RI, October 1996.
36. Anatomic Results at 5 Years. 26th Annual Course: Total Hip Replacement. Polyethylene: Where Are We Now? Harvard Medical School, Department of Continuing Education, Cambridge, MA, October, 1996.

37. Fate of Well-Fixed Cemented Femoral Components After Acetabular Revisions. 26th Annual Course: Total Hip Replacement. Polyethylene: Where Are We Now? Harvard Medical School, Department of Continuing Education, Cambridge, MA, October, 1996.
38. Discussion of Papers 373, 374 and 375. AAOS 64th Annual Meeting, San Francisco, CA, February 1997.
39. The Impact of Product Liability on Clinical Practice: An Orthopedic Surgeon's Perspective. The Sixth Annual Event: American Institute for Medical and Biological Engineering, Washington, D.C., March 1997.
40. Corrosion at Tapers. 27th Annual Course: Total Hip Replacement 1997. The Dawn of a New Era. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1997.
41. Backside Wear. 27th Annual Course: Total Hip Replacement 1997. The Dawn of a New Era. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1997.
42. Metal Levels and Metal Toxicity in THR With Metal Articulations. 27th Annual Course: Total Hip Replacement 1997. The Dawn of a New Era. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1997.
43. Corrosion at Modular Taper Junctions in Association with Elevated Serum Chromium Concentration. Smith and Nephew Orthopedic Division, Memphis, TN, October, 1997.
44. Cementless Fixation in Total Knee Arthroplasty. Orthopaedics and Rehabilitation Devices Advisory Panel Meeting, Food and Drug Administration, Rockville, MD, January 1998.
45. Basic Science. Revision Total Hip Arthroplasty: The Problem of Osteolysis. Instructional Course Lecture #347, AAOS 65th Annual Meeting, New Orleans, LA, March 1998.
46. Bone Graft Substitutes. Ortholink Orthopaedic Group, Atlanta, GA, May 1998.
47. Wear Debris and Toxicity from Ceramic, Polyethylene and Metal Systems. The First Annual Ceramic on Ceramic and Alternative Bearing Surfaces in Total Hip Replacement. University of Pennsylvania School of Medicine. Philadelphia, PA, September 1998.
48. Unusual Manifestations of Lysis. 28th Annual Course: Total Hip Replacement: The Dawn of a New Era. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1998.
49. Circumferential Proximal Femoral Allografting: Results. 28th Annual Course: Total Hip Replacement: The Dawn of a New Era. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1998.
50. Acetabular Revisions: Cementless Results at 10 Years. 28th Annual Course: Total Hip Replacement: The Dawn of a New Era. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1998.
51. Systemic Effects of THA. American College of Veterinary Surgeons 8th Annual Meeting. Session on Hip Dysplasia. Chicago, IL, October, 1998.
52. The Biology of Corrosion and Wear Debris from Orthopaedic Implants. Symposium II: Advanced Materials, Coatings and Biological Cues for Medical Implants. II4: Orthopaedic Bearing Surfaces and Novel Coatings. Materials Research Society, Fall Meeting, Boston, MA, December, 1998.
53. Revision Total Hip Arthroplasty: Understanding and Management of Osteolysis: Basic Science. Instructional Course Lecture #167, AAOS 66th Annual Meeting, Anaheim, CA, February, 1999.
54. Particulate Graft in Total Hip Revision - Technique and Results. Charles J. Herndon, M.D. International Symposium

on Bone Allografts, Musculoskeletal Transplant Foundation, Washington, DC, April, 1999.

55. Biological Response to Wear. Kansas City Orthopedic Society Meeting, Shawnee Mission, KS, May 1999.

56. Surgery. Stepping Away from OA. Prevention of Onset, Progression, and Disability of Osteoarthritis. Public Session. National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, July, 1999.

57. Anatomic Design at 9 Years. 29th Annual Course: Total Hip Replacement 1999: The New Era is Here!. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1999.

58. Is There an Individual Response to Particles? Total Hip Replacement 1999: The New Era is Here!. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1999.

59. Your Introduction to the Key Issue in the Biologic Responses to Particles: Signal Transduction. Total Hip Replacement 1999: The New Era is Here!. Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 1999.

60. Ceramic-on-Ceramic Total Hip Replacement. Zimmer Hip Seminar. Cambridge, MA, September, 1999.

61. Wear Debris and Toxicity from Ceramic, Polyethylene and Metal Systems. The Second Annual Symposium on Alternative Bearing Surfaces in Total Hip Replacement. University of Pennsylvania School of Medicine. San Francisco, CA, October, 1999.

62. Revision in Total Hip Arthroplasty: Understanding and Management of Osteolysis. Basic Science: Understanding Osteolysis. Instructional Course Lecture #142, AAOS 67th Annual Meeting, Orlando, FL, March, 2000.

63. Metal-on-Metal Bearings. 7<sup>th</sup> Annual Review of the Future and Direction of Orthopaedic Research. Wright Medical Technology, Orlando, FL, March, 2000.

64. Administration. Workshop on the Past, Present and Future. American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices. Toronto, Ontario, Canada, May, 2000.

65. Coordination with the American Academy of Orthopaedic Surgeons. Workshop on the Past, Present and Future. American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices. Toronto, Ontario, Canada, May, 2000.

66. Periprosthetic Osteolysis: The Biology of the Disease. Total Hip Replacement: A Revolution in THR? Harvard Medical School, Department of Continuing Education, Cambridge, MA, September, 2000.

67. Update on Metal-On-Metal Total Hip Arthroplasty. Symposium: Alternative Bearing Materials in Total Hip Arthroplasty. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2000.

68. Focus: Polymers, Ceramics and Other Materials for Bone Graft Substitutes. Panelist. Workshop on Bone Graft Substitutes, American Society for Testing and Materials Committee F04, Orlando, FL, November, 2000.

69. Focus: Allograft Based Systems for Use as Bone Graft Substitutes. Panelist. Workshop on Bone Graft Substitutes, American Society for Testing and Materials Committee F04, Orlando, FL, November, 2000.

70. 2<sup>nd</sup> Generation Cementless Femoral Reconstruction. Surgical Challenges and Choices in Hip and Knee Reconstruction. Education Design, Inc. Miami, FL, November, 2000.

71. The Case for Cementless Acetabular Reconstruction. Surgical Challenges and Choices in Hip and Knee Reconstruction. Education Design, Inc. Miami, FL, November, 2000.

72. Biology of Osteolysis. Surgical Challenges and Choices in Hip and Knee Reconstruction. Education Design, Inc. Miami, FL, November, 2000.
73. Update on Alternative Bearings. Surgical Challenges and Choices in Hip and Knee Reconstruction. Education Design, Inc. Miami, FL, November, 2000.
74. Wear in TKA. Surgical Challenges and Choices in Hip and Knee Reconstruction. Education Design, Inc. Miami, FL, November, 2000.
75. Patellofemoral Complications Following TKR. Surgical Challenges and Choices in Hip and Knee Reconstruction. Education Design, Inc. Miami, FL, November, 2000.
76. Current Concepts on Bearing Surfaces. Revision Hip Reconstruction. American Academy of Orthopaedic Surgeons, Chicago, IL, November – December, 2000.
77. Lab Instructor. Revision Hip Reconstruction. American Academy of Orthopaedic Surgeons, Chicago, IL, November – December, 2000.
78. Revision in Total Hip Arthroplasty: Understanding and Management of Osteolysis. Basic Science: Understanding Osteolysis. Instructional Course Lecture #270, AAOS 68th Annual Meeting, San Francisco, CA, March, 2001.
79. Wear and Osteolysis: The Biology. The 29<sup>th</sup> Open Scientific Meeting of the Hip Society, The 7<sup>th</sup> Combined Open Meeting of the Hip Society and AAHKS. San Francisco, CA, March, 2001.
80. Systemic Effects of Metal-on-Metal Articulation. Total Hip and Shoulder Replacement Conference: 10<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2001.
81. Caveat Emptor: Corrosion of Tapers. Total Hip and Shoulder Replacement Conference: 10<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2001.
82. Beginning of the End: A Basic Science Review of Osteolysis. Total Hip and Shoulder Replacement Conference: 10<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2001.
83. Cement/Cementless Roundtable. Total Hip and Shoulder Replacement Conference: 10<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2001.
84. Perioperative Symposium. Total Hip and Shoulder Replacement Conference: 10<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2001.
85. Biological Effects of Metal-on-Metal Bearings. Orthopaedics and Rehabilitation Devices Advisory Panel Meeting, Metal on Metal Reclassification Petition, Food and Drug Administration, Gaithersburg, MD, August 2001.
86. Orthopaedic Implants. Biomaterials in 2001: State-of-the-Art. University of Washington Engineered Biomaterials Fifth Summer Symposium, Seattle, WA, August 2001.
87. Post-Op Surveillance and Length of Treatment in DVT Prophylaxis. Revision Hip Surgery. American Academy of Orthopaedic Surgeons, Course #3383, Chicago, IL, November – December, 2001.
88. Lab Instructor. Revision Hip Surgery. American Academy of Orthopaedic Surgeons, Course #3383, Chicago, IL, November – December, 2001.
89. Will New Materials and Surfaces Increase Survival of TKR?. 9<sup>th</sup> Annual Review of the Future and Direction of Orthopaedic Research. Wright Medical Technology, Dallas, TX, February, 2002.

90. Revision in Total Hip Arthroplasty: Understanding and Management of Osteolysis. The Basic Science of Osteolysis. Instructional Course Lecture #143, AAOS 69th Annual Meeting, Dallas, TX, February, 2002.
91. Creating an Orthopaedic Research Agenda. "Future Directions in AAOS Advocacy", American Academy of Orthopaedic Surgeons Board of Directors Workshop, Santa Barbara, CA, April, 2002.
92. DVT Surveillance & Monitoring. Total Knee and Shoulder Replacement Conference: 11<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2002.
93. Work-up for Painful Total Knee Replacement. Total Knee and Shoulder Replacement Conference: 11<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2002.
94. Metal Allergy. Total Knee and Shoulder Replacement Conference: 11<sup>th</sup> Anniversary. Baptist Hospital Center for Medical Education, Nashville, TN, May 2002.
95. NIAMS Update. Corporate Advisory Council, American Academy of Orthopaedic Surgeons, Rosemont, IL, May 2002.
96. Current ASTM Testing Standards. Biomedical Engineering Materials and Applications Roundtable, National Research Council, Woods Hole, MA, July, 2002.
97. Polyethylene Wear and Osteolysis in TKR. Natural-Knee Meeting, Centerpulse Orthopaedics, San Diego, CA, August, 2002.
98. Allergic and Systemic Effects of Particles. The 5th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement. University of Pennsylvania School of Medicine. New York, N.Y., September 2002.
99. Research Requirements in Residency and Fellowship Education – What Should Our Standards Be? Academic Orthopaedic Society, Chicago, IL, November 2002.
100. AAOS Research Initiatives: What is the Role of COMSS? Council of Musculoskeletal Specialty Societies, Chicago, IL, November 2002.
101. Technology 2003: Alternative Bearing Surfaces: The Good, Bad and Ugly. Caveat Emptor: Biological Concerns! Instructional Course Lecture #335, AAOS 70th Annual Meeting, New Orleans, LA, February, 2003.
102. Metal-Metal: Metal Ions – A Cause for Concern in Metal-Metal Bearings? The 31<sup>st</sup> Open Scientific Meeting of the Hip Society, The 9<sup>th</sup> Combined Open Meeting of the Hip Society and AAHKS. New Orleans, LA, February, 2003.
103. Public Testimony on NIAMS/NIH Funding. U.S. House of Representatives Subcommittee on Labor, Health and Human Services, Education and Related Agencies. Washington, D.C., May, 2003.
104. Allergic and Systemic Effects of Particles. The 6th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement. University of Pennsylvania School of Medicine. San Francisco, CA, September, 2003.
105. Alternative Bearings: The 21<sup>st</sup> Century Evolution. Keynote Address. The 6th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement. University of Pennsylvania School of Medicine. San Francisco, CA, September, 2003.
106. Council on Research and Scientific Affairs Report. Board of Councilors Business Meeting, American Academy of Orthopaedic Surgeons Fall Meeting, Austin, TX, October, 2003.
107. Cytokines, Serum Levels and Systemic Reaction to Biomaterials of Total Joint Replacement. North American Spine

Society 18<sup>th</sup> Annual Meeting Pre-course: Total Disc Replacement, San Diego, CA, October, 2003.

108. Metal Bearings: Clinical Concerns. Symposium IV: Alternative Bearings in Total Hip Arthroplasty. American Association of Hip and Knee Surgeons, Dallas, TX, November, 2003.

109. Effects of Patient and Surgical Factors on Total Knee Replacement Outcomes. NIH Consensus Development Conference on Total Knee Replacement, Bethesda, MD, December, 2003.

110. Biological Concerns: *Caveat Emptor!* Joint Arthroplasty 2004: *Issues that Confront Us*. FDA Sponsored Educational Forum, Rockville, MD, January 2004.

111. Technology 2004: Alternative Bearing Surfaces: The Good, the Bad and the Indifferent. Caveat Emptor: Biological Concerns! Instructional Course Lecture #221, AAOS 71th Annual Meeting, San Francisco, CA, March, 2004.

112. Draft Hip Joint Prosthesis Guidance: Performance Criteria. Orthopaedic and Rehabilitation Devices Panel of the Medical Devices Advisory Committee, Food and Drug Administration, Gaithersburg, MD, June, 2004.

113. Joint Registry Update. Corporate Advisory Council, American Academy of Orthopaedic Surgeons, Rosemont, IL, June, 2004.

114. Biological Effects of Metal Degradation Products. Keynote Address, Materials & Processes for Medical Devices, American Society for Metals, International, St. Paul, MN, August, 2004.

115. Allergic and Systemic Effects of Particles. The 7th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement. University of Pennsylvania School of Medicine. Philadelphia, PA, October, 2004.

116. The Future of Standards in Biomedical Device Testing. Joint Replacement & Patient Care: Then, Now and Hereafter. Department of Orthopaedic Surgery, Dartmouth-Hitchcock Medical Center, Lebanon, NH, October, 2004.

117. Frontiers in Total Joint Replacement. National Institute of Arthritis, Musculoskeletal and Skin Diseases Seminar. Bethesda, MD, January, 2005.

118. Technology 2005: Alternative Bearing Surfaces: The Good, Bad and Indifferent. Caveat Emptor: Biological Concerns! Instructional Course Lecture #192, AAOS 72th Annual Meeting, Washington, DC, February, 2005.

119. Unified Research Agenda and the Council on Research. Council on Musculoskeletal Specialty Societies Business Meeting, American Academy of Orthopaedic Surgeons, Washington, DC, April, 2005.

120. Frontiers in Joint Replacement. Dayton Orthopaedic Society, Dayton, OH, April 2005.

121. Objectives of the Review Study Section. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Chicago, IL, May, 2005.

122. Interpreting the Pink Sheet. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Chicago, IL, May, 2005.

123. Can Ion Levels be Used to Monitor Metal on Metal Hips? Fourth Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Marina del Rey, CA, June 2005.

124. Total Hip Replacement Post Acetabular Fracture. Fourth Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Marina del Rey, CA, June 2005.

125. Incorporating Evidence into the Educational Programs of the AAOS. Council on Education, AAOS, Rosemont, IL, September, 2005.
126. Wear Particles. Intervertebral Disc Degeneration Workshop. American Academy of Orthopaedic Surgeons Research Symposium 2005, Lincolnshire, IL, September, 2005.
127. Corrosion of Orthopaedic Implants – Who Cares? A Golden Jubilee of Materials Science and Engineering, Northwestern University, Evanston, IL, October, 2005.
128. Evidence-Based Medical Practice. Evidence Analysis Workshop. American Academy of Orthopaedic Surgeons, Rosemont, IL, November, 2005.
129. Contemporary Issues with Metal-on-Metal Hip Arthroplasty. Research Seminar, Zimmer, Inc., Warsaw, IN, November, 2005.
130. Technology 2006: Alternative Bearing Surfaces: The Good, Bad and Indifferent. Caveat Emptor: Biological Concerns! Instructional Course Lecture #323, AAOS 73rd Annual Meeting, Chicago, IL, March, 2006.
131. Metal-on-Metal Bearings: State-of-the-Art and Science in 2006. 34<sup>th</sup> Open Meeting of the Hip Society and Twelfth Combined Open Meeting of the Hip Society and AAHKS. Chicago, IL, March, 2006.
132. Objectives of the Review Study Section. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2006.
133. Interpreting the Pink Sheet. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2006.
134. Budgets/Justification. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2006.
135. Demystifying the Promotions Process. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2006.
136. Musculoskeletal Development and Regeneration. National Institute of Arthritis and Musculoskeletal and Skin Diseases Scientific Retreat, Wye River, MD, April 2006.
137. Biocompatibility of Orthopaedic Implants: What We Know and Where We Are Going. Panel Discussion – Clinical Experience with Orthopaedic and Dental Biomaterials. 2006 Annual Meeting of the Society for Biomaterials, Pittsburgh, PA, April, 2006.
138. Council on Research, Quality Assessment and Technology Report. National Orthopaedic Leadership Conference, American Academy of Orthopaedic Surgeons, Washington, DC, May, 2006.
139. Technology Assessment/Quality Metrics Development. Board of Specialty Societies, American Academy of Orthopaedic Surgeons, Washington, DC, May, 2006.
140. Panel Discussion, Hip and Knee Arthroplasty 2006: What's Hot, What's Not! Evidence Based Issues. Current Concepts in Joint Replacement, Las Vegas, NV, May, 2006.
141. Metal-Metal Resurfacing: A Gathering Storm – Affirms. Current Concepts in Joint Replacement, Las Vegas, NV, May, 2006.
142. The Whys & Wherefores of Articulation Choice: The Couple Wars. Current Concepts in Joint Replacement, Las Vegas, NV, May, 2006.

143. Orthopaedic Surgeon Perspective. Orthopaedic Surgeon's Relationship with Industry – Panel Discussion. Corporate Advisory Council, American Academy of Orthopaedic Surgeons, Rosemont, IL, June 2006.
144. The Role of the ORS in the Development of the Clinician Scientist. 2006 Clinician Scientist Development Program, American Academy of Orthopaedic Surgeons/Orthopaedic Research and Education Foundation/Orthopaedic Research Society, San Antonio, TX, June, 2006.
145. Implant and Tissue Retrieval Studies. Research Seminar, Zimmer, Inc., Warsaw, IN, September, 2006.
146. Evidence Based Outcomes: Should We Be Paid by Our Result? American Shoulder and Elbow Surgeons 23<sup>rd</sup> Closed Meeting, Chicago, IL, September, 2006.
147. Hip Resurfacing: What About Those Metal Ions? 36<sup>th</sup> Annual Course: Advances in Arthroplasty. Harvard Medical School, Department of Continuing Medical Education, Cambridge, MA, October, 2006.
148. Long-Term Tissue Reaction to Cementless Acetabular Components. 36<sup>th</sup> Annual Course: Advances in Arthroplasty. Harvard Medical School, Department of Continuing Medical Education, Cambridge, MA, October, 2006.
149. Biological and Systemic Implications of Metal-on-Metal Joint Replacement. MVP Program, Medtronic, Memphis, TN, November, 2006.
150. Frontiers in Joint Replacement. Musculoskeletal Conference Series, InMotion Musculoskeletal Institute, University of Memphis, Memphis, TN, November, 2006.
151. Metal-on-Metal THA: Ion and Allergy Issues. 35<sup>th</sup> Open Meeting of the Hip Society and Thirteenth Combined Open Meeting of the Hip Society and AAHKS. San Diego, CA, February, 2007.
152. Translational Research: Whither the ORS? Presidential Address, 53<sup>rd</sup> Annual Meeting of the Orthopaedic Research Society, San Diego, CA, February, 2007.
153. Technology 2007: Alternative Bearing Surfaces: The Good, Bad and Indifferent. Caveat Emptor: Biological Concerns! Instructional Course Lecture #302, American Academy of Orthopaedic Surgeons 74th Annual Meeting, San Diego, CA, February, 2007.
154. Pathophysiology of Osteolysis. Revision Total Hip Arthroplasty: Understanding and Management of Osteolysis. Instructional Course Lecture #102, American Academy of Orthopaedic Surgeons 74th Annual Meeting, San Diego, CA, February, 2007.
155. Research in Residency Education: Role of the ORS. Association of Residency Coordinators in Orthopaedic Surgery Annual Meeting, San Diego, CA, February, 2007.
156. New Technologies: The Challenge. The Need for a Total Joint Registry. Center for Medicare and Medicaid Services. Baltimore, MD, March, 2007.
157. Background and Goals of Technology Assessment Workshop. American Academy of Orthopaedic Surgeons Board of Directors Workshop, Laguna Beach, CA, April, 2007.
158. Objectives of the Review Study Section. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2007.
159. Interpreting the Summary Statement. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2007.

160. Budgets/Justification. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2007.
161. Demystifying the Promotions Process. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2007.
162. Technology Assessment: The Profession's Need for Objective Evidence is Real. Corporate Advisory Council Meeting, American Academy of Orthopaedic Surgeons, Rosemont, IL, May, 2007.
163. What Is P4P, Why Is It Important, and the Goals of the Initiative. Symposium 2: P4P: Performance or Paperwork? The 120<sup>th</sup> Annual Meeting of the American Orthopaedic Association, Asheville, NC, June, 2007.
164. Pathophysiology of Osteolysis. 2007 Tribology and Alternative Bearings Symposium: Advanced Materials and Technologies for Hip and Knee Reconstruction, Las Vegas, NV, September, 2007.
165. The Future of Polyethylene. 2007 Tribology and Alternative Bearings Symposium: Advanced Materials and Technologies for Hip and Knee Reconstruction, Las Vegas, NV, September, 2007.
166. Ceramic on Ceramic – 40 Years of History – The European Experience. 2007 Tribology and Alternative Bearings Symposium: Advanced Materials and Technologies for Hip and Knee Reconstruction, Las Vegas, NV, September, 2007.
167. Unicompartments as a Pre-TKA is a Smart Approach. Disagree. 2007 Tribology and Alternative Bearings Symposium: Advanced Materials and Technologies for Hip and Knee Reconstruction, Las Vegas, NV, September, 2007.
168. How has the biological reaction to wear particles changed with newer bearing surfaces? 2007 AAOS/NIH Osteolysis and Implant Wear: Biological, Biomedical Engineering and Surgical Principles. Austin, TX, November, 2007.
169. Interpretation and Pitfalls of Results – How to Use Your Collaborators and Mentors. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, May, 2008.
170. Budgets/Justification. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, May, 2008.
171. Demystifying the Promotions Process. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, May, 2008.
172. Evidence Analysis Applied to the Prevention of Pulmonary Embolism: AAOS vs. ACCP Guidelines. Webinar: *AAOS Guidelines: Prevention of Symptomatic Pulmonary Embolism*, American Academy of Orthopaedic Surgeons, June, 2008.
173. Prevention of Symptomatic PE: AAOS Guidelines and Your Hospital. Webinar: *AAOS Guidelines: Prevention of Symptomatic Pulmonary Embolism*, American Academy of Orthopaedic Surgeons, June, 2008.
174. Frontiers in Total Joint Replacement. Materials and Processes for Medical Devices Conference and Exposition: Opportunities for Next-Generation Implants, American Society for Metals International/Cleveland Clinic, Cleveland, OH, August, 2008.
175. Orthopaedic Unity: Accomplishments and Opportunities in Research. Orthopaedic Unity Summit, American Academy of Orthopaedic Surgeons, Dallas, TX, October, 2008.
176. Frontiers in Joint Replacement. Symposium: Orthopaedic Bioengineering – Nano to Device Level, Society of Engineering Science 45<sup>th</sup> Annual Technical Meeting, University of Illinois at Urbana-Champaign, Champaign, IL,

October, 2008.

177. Bioactive Wear Particles and Metal Ion Toxicity: Caveat Emptor. Symposium: Lessons Learned from Disc Arthroplasty, North American Spine Society 23<sup>rd</sup> Annual Meeting, Toronto, Canada, October, 2008.

178. Pathophysiology of Adverse Tissue Reactions to Metal Particles and Ions. Second Annual U.S. Comprehensive Course on Total Hip Resurfacing Arthroplasty, Los Angeles, CA, October, 2008.

179. Frontiers in Joint Replacement. Webinar: *Hand, Shoulders, Knees and Toes...and Back. The Most Breaking News in the Joint*, American Academy of Orthopaedic Surgeons, October, 2008.

180. Metal-on-Metal THR: Biological Implications. Exactech Seminar, Gainesville, FL, November, 2008.

181. Role of Technology Assessment in Orthopaedics. Carl T. Brighton Workshop on Health Policy Issues in Orthopaedic Surgery. The Association of Bone and Joint Surgeons, Tampa, FL, November, 2008.

182. Metal Allergy: A Clinical Reality? Current Concepts in Joint Replacement, The Cleveland Clinic Foundation Center for Continuing Education, Orlando, FL, December, 2008.

183. Metal-Metal: A Twilight Zone Where Weird Things Happen – Affirm, Current Concepts in Joint Replacement, The Cleveland Clinic Foundation Center for Continuing Education, Orlando, FL, December, 2008.

184. Contemporary Approaches to Osteolysis and Wear Debris. Towards Improved Outcomes in Joint Replacement Surgery. A Multimodal Approach. The Exeter Group/The University of Cincinnati, Las Vegas, NV, February, 2009.

185. Local Metal Reactions after Metal-Metal Hip Arthroplasty: How Frequent? What Forms do they take? What Causes Them? Can We Test for Them? Thirty-Seventh Open Meeting of the Hip Society, Fifteenth Combined Open Meeting of the Hip Society and AAHKS, Las Vegas, NV, February, 2009.

186. Program Directors' Panel. 6<sup>th</sup> Annual Association of Residency Coordinators in Orthopaedic Surgery (ARCOS) Conference, Las Vegas, NV, February, 2009.

187. Technology 2009: Alternative Bearing Surfaces: The Good, Bad and Indifferent. Caveat Emptor: Biological Concerns! Instructional Course Lecture #143, American Academy of Orthopaedic Surgeons 76th Annual Meeting, Las Vegas, NV, February, 2009.

188. The Pathophysiology of Osteolysis. Revision in Total Hip Arthroplasty: Understanding and Management of Osteolysis. Instructional Course Lecture #221, American Academy of Orthopaedic Surgeons 76th Annual Meeting, Las Vegas, NV, February, 2009.

189. Metal Ions Should Be Used To Monitor Metal On Metal Hip Resurfacing: Negative. Worldwide Perspective on Hip Resurfacing, American Academy of Orthopaedic Surgeons 76th Annual Meeting, Las Vegas, NV, February, 2009.

190. The Science of Highly Porous Metals. AAHKS/AAOS Cutting Edge Developments and Controversies in Total Joint Arthroplasty, Rosemont, IL, May, 2009.

191. Metal on Metal: Clinical Successes vs. Ions, ALVAL, and Tissue Reactions. AAHKS/AAOS Cutting Edge Developments and Controversies in Total Joint Arthroplasty, Rosemont, IL, May, 2009.

192. Metal-Metal Reactivity: A Problem of Emergent Consequence? Affirms. Current Concepts in Joint Replacement, The Cleveland Clinic Foundation Center for Continuing Education, Las Vegas, NV, May, 2009.

193. Cemented Femoral Stem Revision: A Road Less Traveled. Current Concepts in Joint Replacement, The Cleveland

Clinic Foundation Center for Continuing Education, Las Vegas, NV, May, 2009.

194. New Academic Faculty: The Chairman's Perspective. AAOS/OREF/ORS 2009 Clinician Scientist Development Program, Chicago, IL, June, 2009.

195. Cellular Responses to Cobalt and Chromium Ions. Third Annual Hip Joint Preservation and Resurfacing Arthroplasty Course, Baltimore, MD, September, 2009.

196. Inflammation and Joint Replacement. Research and Education Foundation Marshall J. Schiff Memorial Lectureship, American College of Rheumatology, Philadelphia, PA, October 2009.

197. Benign Responses to Orthopaedic Implants: Really? Workshop 7: Hypersensitivity and Biomaterials: What Are the Facts, Myths and Legends? 56<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March, 2010.

198. Identifying the Metal-Sensitive Patient. Thirty-Eighth Open Meeting of the Hip Society, Sixteenth Combined Open Meeting of the Hip Society and AAHKS, New Orleans, LA, March, 2010.

199. United States Bone and Joint Decade 2002 – 2011. Board of Councilors, American Academy of Orthopaedic Surgeons 2010 Annual Meeting, New Orleans, LA, March, 2010.

200. Budgets/Justification. United States Bone and Joint Decade Young Clinical Investigators Initiative Workshop, Rosemont, IL, April, 2010.

201. ALVAL. Advanced Topics in Hip Resurfacing, Hospital for Special Surgery Office of Continuing Medical Education, New York, NY, May, 2010.

202. Metal Ions: What Do We Need To Be Aware Of? Advanced Topics in Hip Resurfacing, Hospital for Special Surgery Office of Continuing Medical Education, New York, NY, May, 2010.

203. Metal-Metal Articulations: The Spectrum of Adverse Reactions. Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2010.

204. Hip and Knee Arthroplasty 2010: What's New, What's True, Does it Matter? Evidence Based Issues. Panel Discussion. Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2010.

205. Metal Ions: What Do We Need To Be Aware Of? Fourth Annual Hip Joint Course, Baltimore, MD, August, 2010.

206. Cobalt-Chromium Wear Particles, Corrosion, Corrosion Products And Cellular Responses. Fourth Annual Hip Joint Course, Baltimore, MD, August, 2010.

207. Diagnosing the Patient With a Painful MoM Hip Arthroplasty. Current Controversies in Metal on Metal Arthroplasty, Webinar, VuMedi, August, 2010.

208. Update: Metal-on-Metal THR – Metal Ion Analysis and Biological Implications. Center for Devices and Radiological Health, Food and Drug Administration, Silver Springs, MD, September, 2010.

209. The Biologic Effects of Metal Particulate. MVP Program, Medtronic, Memphis, TN, September, 2010.

210. New Academic Faculty: The Chairman's Perspective. 2010 Clinician Scientist Development Program, American Academy of Orthopaedic Surgeons/Orthopaedic Research and Education Foundation/Orthopaedic Research Society, Rosemont, IL, October, 2010.

211. Metal Testing. AAOS Total Hip Arthroplasty: Is There a Metal-on-Metal Bearings Controversy? Webinar,

American Academy of Orthopaedic Surgeons, November, 2010.

212. Metal-Metal Junctions in THA: *Still a Problem*. Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Orlando, FL, December, 2010.

213. Metal-Metal Hypersensitivity: *Houston Do We Have a Problem?* Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Orlando, FL, December, 2010.

214. The Future of the Clinician Scientist in the United States. ORS/AAOS Clinician Scientist Reception, Annual Meeting of the Orthopaedic Research Society, Long Beach, CA, January, 2011.

215. The Science and Metallurgy of New Ingrowth Surfaces. Thirty-Ninth Open Meeting of the Hip Society, Seventeenth Combined Open Meeting of the Hip Society and AAHKS, San Diego, CA, February, 2011.

216. Imagine: Orthopaedics in 2050-- New Technologies, Biologics, and Innovation Through Research. Keeping Up with the Boneses: Staying Active for Life. A Public Education Forum Presented by The American Academy of Orthopaedic Surgeons and the California Orthopaedic Association, San Diego, CA, February, 2011.

217. Metal-on-Metal Hips: What's the Controversy and Do We Really Have a Problem? Expert Roundtable Session, American Academy of Orthopaedic Surgeons 78<sup>th</sup> Annual Meeting, San Diego, CA, February, 2011.

218. Alternative Bearings in Total Hip Replacement – One Step Forward, Two Steps Back. Michigan Osteopathic Academy of Orthopaedic Surgeons, Bloomfield Hills, MI, March, 2011.

219. Corrosion of Orthopaedic Implants: Who Cares? Tribocorrosion of Metallic Biomaterials Session. Annual Meeting and Exposition of the Society for Biomaterials, Orlando, FL, April, 2011.

220. Metal-on-Metal Bearings: Biological Implications. Panel Discussion: Orthopaedic Alternative Bearing Surfaces: Laboratory Findings and Clinical Actualities. Annual Meeting and Exposition of the Society for Biomaterials, Orlando, FL, April, 2011.

221. Evaluation of the Patient With a Painful Metal-on-Metal Hip Replacement. Memphis Orthopaedic Society, Memphis, TN, April, 2011.

222. Welcoming Address. National Association of Orthopaedic Nurses 31<sup>st</sup> Annual Congress, Baltimore, MD, May, 2011.

223. Keynote 2: What is the Role of Metal Ion Measurement in Research and Clinical Practice? Workshop on Metal-on-Metal Total Hip Replacement Devices, American Society for Testing and Materials Committee F04 on Medical and Surgical Materials and Devices, Anaheim, CA, May, 2011.

224. Panel Discussion – Implementing Results of CER in Academic Medical Centers. 2011 AAOS/ORS Comparative Effectiveness Research Symposium, Washington, DC, May, 2011.

225. Panel Discussion. Hip & Knee Arthroplasty 2011: What's New, What's True, Does it Matter? Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2011.

226. Keynote Address. Metal-Metal Reactivity After Hip Arthroplasty: *Watchful Waiting or Intervention?* Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2011.

227. Presidential Guest Speaker. Biological Implications of Metal on Metal Bearings. 28<sup>th</sup> Annual Meeting of the Southern Orthopaedic Association, Big Island, HI, July, 2011.

228. New Ingrowth Surfaces. 28<sup>th</sup> Annual Meeting of the Southern Orthopaedic Association, Big Island, HI, July, 2011.
229. Modular Prostheses: Help or Hindrance? 28<sup>th</sup> Annual Meeting of the Southern Orthopaedic Association, Big Island, HI, July, 2011.
230. Indications for Revision in Symptomatic and Asymptomatic Patients. Current Controversies with Metal on Metal Hip Arthroplasty, Webinar, VuMedi, September, 2011.
231. AAOS Update: Relations Between Industry and Health Care Providers. 43<sup>rd</sup> Annual Convention, Sociedad Puertorriquena De Ortopedia Y Traumatologia, Fajardo, Puerto Rico, October, 2011.
232. AAOS Update. New Jersey Orthopaedic Society, Somerset, NJ, October, 2011.
233. 2<sup>nd</sup> Vice President Update, American Academy of Orthopaedic Surgeons Fall Meeting, Seattle, WA, October, 2011.
234. Orthopaedic Physician Manpower: AAOS Activity. Symposium on Orthopaedic Physician Manpower: What is the Right Approach? American Academy of Orthopaedic Surgeons Fall Meeting, Seattle, WA, October, 2011.
235. Understanding Mechanisms of Failure in Metal-on-Metal Hip Arthroplasty. Symposium I: Management Perils for Metal-on-Metal Hip Arthroplasty Patients. 21<sup>st</sup> Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November, 2011.
236. The AAOS Future Directions. Pulmonary Embolism Prevention after Hip and Knee Replacement: Balancing Safety, Efficacy, and Cost – How do we get there from here? University of Maryland School of Medicine, Baltimore, MD, November, 2011.
237. Metal-Metal Hip Arthroplasty: *What are the Indications for Revision?* Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Orlando, FL, December, 2011.
238. Intraoperative MCL Disruption During TKA: *What to do, what to do?* Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Orlando, FL, December, 2011.
239. Leading in Research and Politics: The Double Life. Emerging Leaders Retreat, American Association of Hip and Knee Surgeons, Coral Gables, FL, December, 2011.
240. Benign Responses to Orthopaedic Implants: Really? ORS Workshop #13, Metal-Metal Bearings: Facts, Fictions & Futures. Orthopaedic Research Society Annual Meeting, San Francisco, CA, February, 2012.
241. Best of Times, Worst of Times. Incoming First Vice Presidential Address, Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February, 2012.
242. Clinical Manifestations of Metal Allergy. AAOS/ORS Combined Symposium I: Adverse Reactions to Byproducts of Joint Replacement, San Francisco, CA, February, 2012.
243. Spectrum of Soft Tissue Reactions. Metal on Metal Hip Replacement: Current Status and Recommendations for Patient Management, Symposium S, Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February, 2012.
244. Panel Member, Symposium III: Diagnosing the Failed Metal-on-Metal Hip Arthroplasty: Case Based Discussion, Audience Participation. Fortieth Open Meeting of the Hip Society/Eighteenth Combined Open Meeting of the Hip Society and the American Association of Hip and Knee Surgeons, San Francisco, CA, February, 2012.

245. Council on Education. 2012 Leadership Orientation, American Academy of Orthopaedic Surgeons, Rosemont, IL, March, 2012.
246. Council on Research and Quality. 2012 Leadership Orientation, American Academy of Orthopaedic Surgeons, Rosemont, IL, March, 2012.
247. Historical Perspective on AAOS Involvement in Quality Initiatives. Spring 2012 Orthopaedic Quality Institute, Washington, DC, March, 2012.
248. Washington Healthcare Updates. 2012 Spring Scientific Meeting, Pennsylvania Orthopaedic Society, Miami, FL, April, 2012.
249. AAOS Update. 2012 Indiana Orthopaedic Society Annual Meeting, Indianapolis, IN, April, 2012.
250. 1<sup>st</sup> Vice President Update. National Orthopaedic Leadership Conference, American Academy of Orthopaedic Surgeons, Washington, DC, April, 2012.
251. Biological Implications of Metal on Metal Bearings. 2012 Annual Meeting, Massachusetts Orthopaedic Association, Waltham, MA, May, 2012.
252. AAOS Update. 2012 Annual Meeting, Massachusetts Orthopaedic Association, Waltham, MA, May, 2012.
253. Panel Discussion. Hip & Knee Arthroplasty 2012: What's New, What's True, Does it Matter? Evidence Based Issues. Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2012.
254. Keynote Address. Metal-Metal Hip Arthroplasty: *What are the Indications for Intervention?* Current Concepts in Joint Replacement, Case Western Reserve University School of Medicine/Current Concepts Institute, Las Vegas, NV, May, 2012.
255. AAOS Update. 2012 Nebraska Orthopaedic Society Annual Membership Meeting, Omaha, NE, May, 2012.
256. AAOS and Its Role in Your Career. Orthopaedic Summer Internship Orientation, American Academy of Orthopaedic Surgeons and Nth Dimensions, Rosemont, IL, May, 2012.
257. Local and Systemic Effects of Metal on Metal Bearings. Open Public Hearing of Orthopaedic Surgery and Rehabilitation Devices Panel of the Medical Devices Advisory Committee to the Food and Drug Administration, Department of Health and Human Services, Gaithersburg, MD, June 2012.
258. AAOS Update. Orthopaedic Surgery Section, National Medical Association 2012 Annual Convention and Scientific Assembly, New Orleans, LA, July, 2012.
259. Metal on Metal Total Hip Replacements: Biological Implications. Twentieth Century Orthopaedic Association 67<sup>th</sup> Annual Meeting, Bretton Woods, NH, August, 2012.
260. Metal-on-Metal THA: Metal Ions and Biological Responses to These Ions. New Technology for the Treatment of Adult Hip and Knee Disorders, Sixth Annual Hip Joint Course, Baltimore, MD, August, 2012.
261. Cobalt-Chromium Wear Particles, Corrosion, Corrosion Products, And Cellular Responses. New Technology for the Treatment of Adult Hip and Knee Disorders, Sixth Annual Hip Joint Course, Baltimore, MD, August, 2012.
262. I Still Believe in Modularity. New Technology for the Treatment of Adult Hip and Knee Disorders, Sixth Annual Hip Joint Course, Baltimore, MD, August, 2012.

263. AAOS Update. South Dakota State Orthopaedic Society Annual Meeting, Agar, SD, September, 2012.
264. Keynote: Tribocorrosion at the Head Neck Junction – Another Source of Concern. 42<sup>nd</sup> Annual Advances in Arthroplasty Course “Registries in Action: Your Best World-Wide Source of Evidence-Based Orthopaedics for Biological and Prosthetic Solutions.” Harvard Medical School, Department of Continuing Medical Education, Cambridge, MA, October, 2012.
265. Has Modularity Gone Too Far? 42<sup>nd</sup> Annual Advances in Arthroplasty Course “Registries in Action: Your Best World-Wide Source of Evidence-Based Orthopaedics for Biological and Prosthetic Solutions.” Harvard Medical School, Department of Continuing Medical Education, Cambridge, MA, October, 2012.
266. 1<sup>st</sup> Vice President Update, American Academy of Orthopaedic Surgeons Fall Meeting, Philadelphia, PA, October, 2012.
267. The Additive Effect of Taper Corrosion in MoM Hip Arthroplasty. Symposium I: Optimizing Management of Patients with Metal-on-Metal Hips: Understanding and Applying the Best Evidence into Practice. 22<sup>nd</sup> Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November, 2012.
268. Modularity Corrosion. Workshop #9: Challenges in Total Hip Replacement. 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January, 2013.
269. Biological Implications of Metal-on-Metal Bearings. Spotlight Speaker, Session 35: Metal-on-Metal. 59<sup>th</sup> Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January, 2013.
270. The Additive Effect of Taper Corrosion in MoM Hip Arthroplasty. Symposium U: Optimizing Management of Patients with Metal-on-Metal Hips, Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March, 2013.
271. Why We Need State Orthopaedic Societies. Alaska State Orthopaedic Society Membership Meeting, Girdwood, AK, April, 2013.
272. How the AAOS Works. 2013 Leadership Orientation, American Academy of Orthopaedic Surgeons, Rosemont, IL, April, 2013.
273. Programmatic Direction for 2013: Advocacy, Communications, Education, Research and Quality. 2013 Leadership Orientation, American Academy of Orthopaedic Surgeons, Rosemont, IL, April, 2013.
274. AAOS Update: Advocacy and More. 72<sup>nd</sup> Annual Meeting of the Maryland Orthopaedic Association, Baltimore, MD, April, 2013.
275. Adverse Local Tissue Reactions to Metal Implants. 72<sup>nd</sup> Annual Meeting of the Maryland Orthopaedic Association, Baltimore, MD, April, 2013.
276. Strength in Numbers: Panel Discussion. Texas Orthopaedic Association & Texas Orthopaedic Foundation Annual Meeting, Austin, TX, April 2013.
277. AAOS Presidential Line Update. Texas Orthopaedic Association & Texas Orthopaedic Foundation Annual Meeting, Austin, TX, April, 2013.
278. Metal on Metal Hip Replacements. Texas Orthopaedic Association & Texas Orthopaedic Foundation Annual Meeting, Austin, TX, April, 2013.
279. AAOS Update. Nevada Orthopaedic Society Annual Meeting, Las Vegas, NV, April, 2013.

280. Corrosion of Orthopaedic Implants: Who Cares? Nevada Orthopaedic Society Annual Meeting, Las Vegas, NV, April, 2013.
281. President's Report. National Orthopaedic Leadership Conference, American Academy of Orthopaedic Surgeons, Washington, DC, May, 2013.
282. AAOS Presidential Address. 66<sup>th</sup> Annual Meeting of the Virginia Orthopaedic Society, Washington, DC, May, 2013.
283. AAOS Update. Annual Meeting of the Connecticut Orthopaedic Society, Farmington, CT, May 2013.
284. Adverse Local Tissue Reactions Due to Tribocorrosion of THR. Annual Meeting of the Connecticut Orthopaedic Society, Farmington, CT, May 2013.
285. AAOS Update. 2013 Annual Meeting, Massachusetts Orthopaedic Association, Waltham, MA, May, 2013.
286. Adverse Local Tissue Reactions Due to Tribocorrosion of THR. 2013 Annual Meeting, Massachusetts Orthopaedic Association, Waltham, MA, May, 2013.
287. Tribocorrosion at Modular Junctions: *An Underappreciated Clinical Phenomenon*. Current Concepts in Joint Replacement, Current Concepts Institute, Las Vegas, NV, May, 2013.
288. Intraoperative MCL Disruption During TKA: *Staying Calm*. Current Concepts in Joint Replacement, Current Concepts Institute, Las Vegas, NV, May, 2013.
289. AAOS Report. 30<sup>th</sup> Annual Meeting of the Southern Orthopaedic Association, Palm Beach, FL, July, 2013.
290. AAOS Report. 77<sup>th</sup> Annual Meeting of the Western Orthopaedic Association, Lake Tahoe, CA, August, 2013.
291. Update on Metal-on-Metal THA: Metal Ions and Biological Responses to These Ions. Modern Techniques in Hip and Knee Reconstruction and Preservation, Seventh Annual Hip and Knee Course, Baltimore, MD, August, 2013.
292. AAOS Update. 2013 Tennessee Orthopaedic Society Annual Conference, Birmingham, AL, September, 2013.
293. AAOS Update. Pennsylvania Orthopaedic Society 2013 Fall Scientific Meeting, State College, PA, October, 2013.

#### INTERNATIONAL

1. Retrieval Studies on Porous Tibial Components. Symposium and Workshop on Total Hip and Total Knee Replacement. Joint Reconstruction Society of the Republic of China, Taipei, ROC, July, 1993.
2. Clinical Experience with the MG II. Symposium and Workshop on Total Hip and Total Knee Replacement. Joint Reconstruction Society of the Republic of China, Taipei, ROC, July, 1993.
3. First Generation Porous Hips and Osteolysis. Symposium and Workshop on Total Hip and Total Knee Replacement. Joint Reconstruction Society of the Republic of China, Taipei, ROC, July, 1993.
4. Clinical Experience with the Multilock Stem. Symposium and Workshop on Total Hip and Total Knee Replacement. Joint Reconstruction Society of the Republic of China, Taipei, ROC, July, 1993.
5. Bony Ingrowth of Cementless Porous-Coated Tibial Components. Austria Comesa Symposium, Saalfelden, Austria. April, 1995.

6. Overview and Future Aspects of TKA - Nex Gen. Austria Comesa Symposium, Saalfelden, Austria, April, 1995.
7. Corrosion of Metallic Biomaterials. Argentine Society for Osteosynthesis and Biomaterials. Buenos Aires, Argentina, August 1997.
8. Biological Effects of Degradation Products. Argentine Society for Osteosynthesis and Biomaterials. Buenos Aires, Argentina, August 1997.
9. Metal Ion Release from Metal-on-Metal THR. Argentine Society for Osteosynthesis and Biomaterials. Buenos Aires, Argentina, August 1997.
10. Design Factors Affecting Performance of Cementless Femoral Reconstructions. Argentine Society for Osteosynthesis and Biomaterials. Buenos Aires, Argentina, August 1997.
11. Lessons Learned From Autopsy Retrieval Studies of TKR. Argentine Society for Osteosynthesis and Biomaterials. Buenos Aires, Argentina, August 1997.
12. Osteolysis in TKR. Argentine Society for Osteosynthesis and Biomaterials. Buenos Aires, Argentina, August 1997.
13. Bone Ingrowth and Interface Histology of Cementless Porous-Coated Tibial Components Removed from Patients. Evening Lecture, 71st Annual Meeting of the Japanese Orthopaedic Association, Tokushima, Japan, April 1998.
14. Metallic Corrosion and Wear Products: Biological Implications. "10 Years METASUL" Scientific Meeting, Zurich, Switzerland, May 1998.
15. Corrosion of Metal Orthopedic Implants. International Symposium: Titanium or Steel for Osteosynthesis? Synos Foundation, Bern, Switzerland, January 1999.
16. Cellular Response to Particulate Corrosion and Wear Debris. International Symposium: Titanium or Steel for Osteosynthesis? Synos Foundation, Bern, Switzerland, January 1999.
17. Instructional Course Lecture: Tissue Reactions to Implant Wear. European Orthopaedic Research Society, Brussels, Belgium, June, 1999.
18. Corrosion of Metal Orthopaedic Implants. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
19. The Biology of Osteolysis. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
20. Mechanisms of Loosening. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
21. Cementless Femoral Fixation: 1st vs. 2nd Generation Devices. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
22. Ceramic Bearing Surfaces. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
23. Metal-on-Metal: Biological Considerations. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
24. Femoral Impaction Grafting. Total Hip Replacement in the Next Millenium. Instructional Course. 36th Annual

- Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
25. Systemic Implications of Total Hip Replacement. Argentine Association for the Study of the Hip and Knee. 36th Annual Argentine Congress of Orthopaedics and Traumatology, Buenos Aires, Argentina, December, 1999.
26. Ceramic Bearing Surfaces in Total Hip Arthroplasty. St. Marianna University School of Medicine, Kawasaki, Japan, February 2000.
27. An Algorithm for Femoral Revision Total Hip Arthroplasty. Tokyo University, Tokyo, Japan, February, 2000.
28. Ceramic Bearing Surfaces in Total Hip Arthroplasty. Crossfire 2000: Metal-on-Metal vs. Ceramic-on-Ceramic THA. 30<sup>th</sup> Annual Meeting of the Japanese Society for Replacement Arthroplasty, Nagoya, Japan, February, 2000.
29. Ceramic Bearing Surfaces in Total Hip Arthroplasty. Whistler 2000 Orthopaedic Symposium. Whistler, British Columbia, Canada, February, 2000.
30. Wear and Materials in Total Knee Arthroplasty. Whistler 2000 Orthopaedic Symposium. Whistler, British Columbia, Canada, February, 2000.
31. Systemic Implications of Total Joint Replacement. World Tribology Forum. Montreux, Switzerland, October, 2000.
32. Wear Issues in Knee Arthroplasty. Whistler 2001 Emerging Trends Orthopaedic Symposium. Whistler, British Columbia, Canada, February, 2001.
33. Polyethylene Options. Whistler 2001 Emerging Trends Orthopaedic Symposium. Whistler, British Columbia, Canada, February, 2001.
34. Impact of Dissemination of Wear Debris in the Young Patient. Joint and Bone Preserving Surgery of the Hip. Quebec City, Quebec, Canada, July, 2001.
35. Overview of Ion Measurements in Metal-Metal Hip Patients. Second International Conference on Metal-Metal Hip Prostheses: Past Performance and Future Directions. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Montreal, Quebec, Canada, June 2003.
36. Can Ion Levels Be Used to Monitor Metal-Metal Hips? Second International Conference on Metal-Metal Hip Prostheses: Past Performance and Future Directions. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Montreal, Quebec, Canada, June 2003.
37. Role of Standards in Biomedical Device Testing: A Surgeon's Perspective. World Standards Cooperation High Level Workshop. International Standards for Medical Technologies, World Health Organization, Geneva, Switzerland, February, 2004.
38. Future Directions in Medical Device Standardization. ASTM/DIN Workshop: Standardization and the Global Marketplace. Deutsches Institut für Normung, e. V. Berlin, Germany, April, 2004.
39. Monitoring and Biological Consequences of Metal-Metal Bearings. Third Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Montreal, Quebec, Canada, June 2004.
40. Total Hip Replacement After Previous Conservative Surgery of the Hip: Post Acetabular Fracture. Third Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip. Office of Continuing Medical Education, David Geffen School of Medicine at UCLA, Montreal, Quebec, Canada, June 2004.
41. Metal Sensitivity. New Technologies in Orthopaedics. Australian Orthopaedic Association Continuing Orthopaedic

Education, Brisbane, Queensland, Australia, August, 2004.

42. Systemic Implications of Joint Replacement. International Symposium: Resurfacing of the Hip Joint. An Update. Synos Foundation, Zurich, Switzerland, April, 2005.

43. Metal Hypersensitivity in Patients with Metal-on-Metal Bearings. International Symposium: Resurfacing of the Hip Joint. An Update. Synos Foundation, Zurich, Switzerland, April, 2005.

44. Disc Wear Issues. 2<sup>nd</sup> Annual Innovative Techniques in Spine Surgery. The Spine Technology Education Group, Los Cabos, Mexico, July, 2005.

45. Disc Replacement: Lessons From the World of Hip and Knee Arthroplasty. 3<sup>rd</sup> Annual Innovative Techniques in Spine Surgery. The Spine Technology Education Group, Los Cabos, Mexico, June, 2006.

46. Systemic Implications of Metal-on-Metal Bearings. Biological Implications of Metal-on-Metal Articulations. University of Bristol, Bristol, United Kingdom, November, 2006.

47. Osteolysis in Hip and Knee Arthroplasty: Relevance to Disc Arthroplasty. What Have We Learned From Total Joint Surgery – And How It Relates to Total Disc Replacement. Instructional Pre-Course. 7<sup>th</sup> Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May, 2007.

48. Disc Replacement: Lessons From the World of Hip and Knee Arthroplasty. 4<sup>rd</sup> Annual Innovative Techniques in Spine Surgery. The Spine Technology Education Group, Los Cabos, Mexico, June, 2007.

49. Metal Hypersensitivity and Osteolysis. Workshop on Peri-Implant Osteolysis, 6<sup>th</sup> Combined Meeting of the Orthopaedic Research Societies of Australia/New Zealand, Britain, Canada, Europe, Japan, Korea, Taiwan and USA, Honolulu, HI, October, 2007.

50. Pre-clinical Data: How Much Experimental Data Do We Need to Move to Clinical Studies? Symposium 6: Evidence-based Approach to Bringing New Orthopaedic Devices to Market. Combined Meeting of the American and Canadian Orthopaedic Associations, Quebec City, Quebec, Canada, June, 2008.

51. Clinical Sequelae of Orthopaedic Implant Corrosion, Plenary Lecture, 17<sup>th</sup> International Corrosion Congress: Corrosion Control in the Service of Society, Las Vegas, NV, October, 2008.

52. How Can Collaboration Enable Us to Achieve Our Aspirations? Bone and Joint Decade World Conference, Lund, Sweden, September, 2010.

53. A Balanced Perspective Of What We Know And Do Not Know About Metal Toxicity Blood Vs Serum, Urine Necessity Of Testing. Instructional Course: Hip Resurfacing. 12<sup>th</sup> Meeting of the Combined Orthopaedic Associations, Glasgow, Scotland, United Kingdom, September, 2010.

54. Metal Ion Measurement. Establishment of Scientific Infrastructure for the International Consortium of Orthopaedic Registries (ICOR) to Support Regulatory Science. United States Food and Drug Administration, Silver Springs, MD, May, 2011.

55. Surgical Techniques: Revising the Cup. AAOS-CMOT Webinar Education Program. CMOT Annual Congress, Mexico City, Mexico, May, 2012.

56. Metal Debris in Total Hip Arthroplasty. Hans-Georg-Willert Award, Northern German Orthopaedics and Trauma Society, Hamburg, Germany, June, 2012.

57. Wear and Its Consequences in Various Hip Bearings. 57<sup>th</sup> Annual Conference of the Indian Orthopaedic Association, Chennai, India, December, 2012.

58. Panel Discussion on THR in the Young Patient – Scope, Options and Concerns. 57<sup>th</sup> Annual Conference of the Indian Orthopaedic Association, Chennai, India, December, 2012.
59. American Academy of Orthopaedic Surgeons -- Priorities for Enhancing Our Profession. 57<sup>th</sup> Annual Conference of the Indian Orthopaedic Association, Chennai, India, December, 2012.
60. Current Status of Orthopaedic Surgery in the United States of America. The 86<sup>th</sup> Annual Meeting of the Japanese Orthopaedic Association, Hiroshima, Japan, May, 2013.
61. Welcome Presentation. Inauguration Ceremony, 50<sup>th</sup> Congress Sociedad Espanola de Cirugia Ortopedica y Traumatologia (SECOT), Barcelona, Spain, October, 2013.
62. Metal on Metal Bearings: Lessons Learned. Advances in Hip Surgery, 50<sup>th</sup> Congress Sociedad Espanola de Cirugia Ortopedica y Traumatologia (SECOT), Barcelona, Spain, October, 2013.
63. Corrosion of Orthopaedic Implants. Advances in Hip Surgery, 50<sup>th</sup> Congress Sociedad Espanola de Cirugia Ortopedica y Traumatologia (SECOT), Barcelona, Spain, October, 2013.
64. Alternative Bearing Surfaces in Total Hip Arthroplasty: The Good, the Bad and Revision Burden. 2013 AAOS-SECOT Education Program, 50<sup>th</sup> Congress Sociedad Espanola de Cirugia Ortopedica y Traumatologia (SECOT), Barcelona, Spain, October, 2013.
65. Management of Patients with Metal on Metal Bearings and Metal/Metal Modular Junctions. 2013 AAOS-SECOT Education Program, 50<sup>th</sup> Congress Sociedad Espanola de Cirugia Ortopedica y Traumatologia (SECOT), Barcelona, Spain, October, 2013.
66. Simple Acetabular Revision: Tips and Tricks and Results of Acetabular Revision. 2013 AAOS-SECOT Education Program, 50<sup>th</sup> Congress Sociedad Espanola de Cirugia Ortopedica y Traumatologia (SECOT), Barcelona, Spain, October, 2013.

#### VISITING PROFESSOR/GRAND ROUNDS/NAMED LECTURESHIPS

1. Osteolysis: Cell, Tissue, and Organ Culture Studies. Orthopedic Grand Rounds, University of Chicago, Chicago, IL, March, 1994.
2. Osteolysis: Pathogenesis and Clinical Ramifications. Orthopedic Grand Rounds, Baylor College of Medicine, Houston, TX, July, 1994.
3. Wear in Total Joint Replacements. Joint Replacement Grand Rounds, The Hospital for Special Surgery, New York, NY, June, 1995.
4. Mechanisms of Osteolysis in Total Joint Replacement. Orthopedic Grand Rounds, Brown University School of Medicine, Providence, RI, October 1996.
5. Corrosion of Metallic Orthopedic Implants. University of Alabama at Birmingham, Engineering Seminar, Birmingham AL, October, 1997.
6. The Biology of Periprosthetic Bone Loss. Orthopedic Grand Rounds, University of Alabama at Birmingham, Birmingham, AL, October, 1997.
7. In Vitro Models of Periprosthetic Osteolysis. Keynote Speaker, The Seventh Annual Orthopaedic Hospital Research Day, University of Southern California, Los Angeles, CA, June 1998.

8. Metal on Metal Total Hip Replacements: Biological Implications. Grand Rounds, University of Chicago Hospitals, Department of Orthopaedic Surgery, Chicago, IL, June 1998.
9. Mechanisms of Osteolysis in Total Joint Replacement. Grand Rounds, The University of Vermont Department of Orthopaedics and Rehabilitation, Burlington, VT, November, 1998.
10. Mechanisms of Osteolysis in Total Joint Replacement. Grand Rounds, Emory University School of Medicine, Department of Orthopaedics, Atlanta, GA, December, 1998.
11. Biomaterials and Total Joint Replacement. Visiting Professor, The Michigan State University/Kalamazoo Center for Medical Studies. Kalamazoo, MI, March, 1999.
12. Corrosion of Metal Orthopaedic Implants. Grand Rounds, Harvard Combined Orthopaedic Surgery Program, Boston, MA, March 1999.
13. Biomaterials and Total Joint Replacement. Visiting Professor and Guest Lecturer, Kansas University Medical Center, Kansas City, KS, May, 1999.
14. Update on Alternative Bearing Surfaces in Hip Replacement. Presidential Guest Speaker, Mississippi Orthopaedic Society Spring Meeting, Jackson, MS, April, 2000.
15. Mechanisms of Osteolysis. Presidential Guest Speaker, Mississippi Orthopaedic Society Spring Meeting, Jackson, MS, April, 2000.
16. Update on Alternative Bearing Surfaces. Grand Rounds, University of Chicago Hospitals, Department of Orthopaedic Surgery, Chicago, IL, January, 2001.
17. Update on Alternative Bearing Materials in Total Hip Replacement. Grand Rounds, Ohio State University, Department of Orthopaedics, Columbus, OH, February, 2001.
18. Mechanisms of Osteolysis in Total Joint Replacement. Basic Science Conference, Orthopaedic Residency Program, Ohio State University, Columbus, OH, February, 2001.
19. Corrosion of Metallic Orthopaedic Implants. Who Cares? Orthopaedic Grand Rounds. Washington University School of Medicine. St. Louis, MO, March, 2001.
20. Systemic Implications of Total Joint Replacement. Distinguished Lecturer Series. Orthopaedic Research Seminar. Washington University School of Medicine, St. Louis, MO, March, 2001.
21. Systemic Effects of Total Joint Replacement Surgery. Orthopaedic Grand Rounds. Indiana University, Indianapolis, IN, February, 2002.
22. The Basic Science of Periprosthetic Osteolysis. OREF Hark Lectureship, 2003 Residents' Research Days, University of Washington, Seattle, WA, May, 2003.
23. Systemic Implications of Total Joint Replacement. OREF Hark Lectureship, 2003 Residents' Research Days, University of Washington, Seattle, WA, May, 2003.
24. Corrosion of Metallic Orthopaedic Implants. OREF Hark Lectureship, 2003 Residents' Research Days, University of Washington, Seattle, WA, May, 2003.
25. Systemic Implications of Total Joint Replacement. Orthopaedic Grand Rounds, Medical College of Wisconsin, Milwaukee, WI, July, 2003.

26. Cementless Acetabular Reconstruction: Challenges and Opportunities. Orthopaedic Grand Rounds, Medical College of Wisconsin, Milwaukee, WI, July, 2003.
27. Corrosion, Metal Sensitivity and Metal Allergy. Visiting Professor, Biomaterials/Biomechanics Resident's Course. Tulane University School of Medicine, New Orleans, LA, September, 2003.
28. Basic Science of Periprosthetic Osteolysis. Visiting Professor, Biomaterials/Biomechanics Resident's Course. Tulane University School of Medicine, New Orleans, LA, September, 2003.
29. Frontiers in Joint Replacement. Resident Research Day, Wayne State University Department Of Orthopaedic Surgery, Detroit, MI, June 2004.
30. Updates in Arthroplasty. Rheumatology Grand Rounds, Rush University Medical Center, Chicago, IL, September, 2004.
31. Frontiers in Joint Replacement. The Forty-First Philip D. Wilson Orthopaedic Lecture. Hospital for Special Surgery Alumni Association 86<sup>th</sup> Annual Meeting, New York, NY, November, 2004.
32. Systemic Implications of Total Joint Replacement. Visiting Professor, Wright State University, Department of Orthopaedic Surgery Grand Rounds, Dayton, OH, April, 2005.
33. Frontiers in Joint Replacement. Visiting Professor, Southern Illinois University School of Medicine, Division of Orthopaedic Surgery, Springfield, IL, May, 2005.
34. The Surgeon-Scientist: An Endangered Species? Keynote Speaker, 4<sup>th</sup> Annual Resident Research Day, Department of Surgery, Southern Illinois University School of Medicine, Springfield, IL, May, 2005.
35. Frontiers in Joint Replacement. The Harry J. Reicher Lectureship, the NYU-Hospital for Joint Diseases Department of Orthopaedic Surgery, New York, NY, December, 2005.
36. Frontiers in Joint Replacement. 17<sup>th</sup> Annual James Buchanan Memorial Lecture, Pennsylvania State College of Medicine, Department of Orthopaedic Surgery, Hershey, PA, June, 2006.
37. Alternative Bearings in Total Hip Arthroplasty. Michigan State University Orthopaedic Residency Program, Spectrum Health Blodgett Hospital, Grand Rapids, MI, May, 2007.
38. Corrosion of Orthopaedic Implants – Who Cares? Michigan State University Orthopaedic Residency Program, Spectrum Health Blodgett Hospital, Grand Rapids, MI, May, 2007.
39. Frontiers in Total Joint Replacement. Dr. Harold M. Frost Memorial Lecture, Henry Ford Health System, Department of Orthopaedic Surgery, Detroit, MI, June 2007.
40. Alternative Bearing Surfaces in Total Hip Replacement. Dr. Harold M. Frost Memorial Lecture, Henry Ford Health System, Department of Orthopaedic Surgery, Detroit, MI, June 2007.
41. The Surgeon-Scientist: An Endangered Species. 2007 Visiting Professor Lectureship, University of Wisconsin Department of Orthopaedics & Rehabilitation, Madison, WI, August, 2007.
42. Metal-on-Metal THA: A Critical Assessment of Metal Sensitivity and Ion-Related Concerns. 2007 Visiting Professor Lectureship, University of Wisconsin Department of Orthopaedics & Rehabilitation, Madison, WI, August, 2007.
43. The Pathophysiology of Osteolysis: A Modern Review. 2007 Visiting Professor Lectureship, University of Wisconsin Department of Orthopaedics & Rehabilitation, Madison, WI, August, 2007.

44. Metal-on-Metal Hip Arthroplasty: Biological Implications. Grand Rounds, Massachusetts General Hospital, Boston, MA, March, 2008.
45. Corrosion of Orthopaedic Implants: Who Cares? 19<sup>th</sup> Annual Plato Schwartz Lectureship and Resident Graduation, Department of Orthopaedics, School of Medicine and Dentistry, University of Rochester Medical Center, Rochester, NY, May, 2008.
46. Metal-on-Metal Bearings in THR: Biological Implications. 19<sup>th</sup> Annual Plato Schwartz Lectureship and Resident Graduation, Department of Orthopaedics, School of Medicine and Dentistry, University of Rochester Medical Center, Rochester, NY, May, 2008.
47. Metal on Metal Bearings in Total Hip Replacement: Biological Implications. Visiting Professor, Department of Orthopedic Surgery 28<sup>th</sup> Annual Alumni Day, State University of New York Upstate Medical University, Syracuse, NY, May, 2008.
48. Corrosion of Orthopaedic Implants: Who Cares? Visiting Professor, Department of Orthopedic Surgery 28<sup>th</sup> Annual Alumni Day, State University of New York Upstate Medical University, Syracuse, NY, May, 2008.
49. Metal-on-Metal THR: A Good Idea? Guest Speaker, Senior Resident Thesis Day, Department of Orthopaedic Surgery, The University of Michigan, Ann Arbor, MI, June, 2008.
50. Alternative Bearing Surfaces: The Good, Bad & Ugly. Orthopaedic Seminar Series at Lutheran Hospital, Cleveland Clinic, Cleveland, OH, September, 2008.
51. Metal-on-Metal THR: Biological Implications. Tronzo Visiting Professor Lecture, Department of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, PA, September, 2008.
52. Corrosion of Orthopaedic Implants: Who Cares? Tronzo Visiting Professor Lecture, Department of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, PA, September, 2008.
53. TED Prophylaxis: ACCP vs. AAOS. Who got it right? Patrick J. Kelly Visiting Professor, Department of Orthopaedic Surgery, Mayo Clinic, Rochester, MN, October, 2008.
54. Corrosion of Orthopaedic Implants: Who Cares? Patrick J. Kelly Visiting Professor, Department of Orthopaedic Surgery, Mayo Clinic, Rochester, MN, October, 2008.
55. Metal-on-Metal THR: Biological Implications. Patrick J. Kelly Visiting Professor, Department of Orthopaedic Surgery, Mayo Clinic, Rochester, MN, October, 2008.
56. Disc Arthroplasty: Beware of Wear. Department of Neurosurgery Grand Rounds, Rush University Medical Center, Chicago, IL, November, 2008.
57. Metal-on-Metal THR: Biological Implications. Donald A. Nagel, M.D. Visiting Professor, Stanford University School of Medicine, Department of Orthopedic Surgery, Stanford, CA, March, 2009.
58. Metal-on-Metal THR: Biological Implications. Grand Rounds, Department of Orthopaedic Surgery, Feinberg School of Medicine, Northwestern University, Chicago, IL, April, 2009.
59. Biological Implications of Wear and Corrosion of Orthopaedic Implants. Colloquium, Department of Materials Science and Engineering, McCormick Technological Institute, Northwestern University, Evanston, IL, May, 2010.
60. Metal-on-Metal THR: Biological Implications. Visiting Professor, Department of Orthopaedic Surgery, Wake Forest University School of Medicine, Winston-Salem, NC, May, 2010.

61. Corrosion of Orthopaedic Implants: Who Cares? Visiting Professor, Department of Orthopaedic Surgery, Wake Forest University School of Medicine, Winston-Salem, NC, May, 2010.
62. Biological Implications of Metal on Metal Bearings. Grand Rounds, Department of Orthopaedic Surgery, Rush University Medical Center, Chicago, IL, June, 2010.
63. Metal-on-Metal THR: Biological Implications. Visiting Professor, 2010 Resident Research Forum, Department of Orthopaedic Surgery and Rehabilitation, University of Nebraska Medical Center, Omaha, NE, November, 2010.
64. Biological Implications of Metal on Metal Bearings. Harvard Medical School Orthopaedic Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA, March, 2011.
65. Biologic Implications of Metal-on-Metal Hip Replacement. Resident Research Day and Alvin J. Ingram Memorial Lecture, University of Tennessee-Campbell Clinic, Memphis, TN, April, 2011.
66. Management of Patients With Symptomatic Metal on Metal Bearings. Goldenberg Memorial Lecture, New Jersey Orthopaedic Society, Somerset, NJ, October, 2011.
67. Metal on Metal Total Hip Replacements: What Have We Learned? Earl McBride Lecturer, The Association of Bone and Joint Surgeons 64<sup>th</sup> Annual Meeting, Charleston, SC, May, 2012.
68. Biological Implications of Metal on Metal Bearings in Total Hip Replacement. 36<sup>th</sup> J. B. Williams Guest Lecturer. Resident Graduation, Department of Orthopaedic Surgery, University of Connecticut School of Medicine, Farmington, CT, June, 2012.
69. American Academy of Orthopaedic Surgeons: Update. 36<sup>th</sup> J. B. Williams Guest Lecturer. Resident Graduation, Department of Orthopaedic Surgery, University of Connecticut School of Medicine, Farmington, CT, June, 2012.
70. Biological Implications of Metal on Metal Bearings in Total Hip Replacement. Visiting Professor, Annual Residents' Research Day, Division of Orthopaedic Surgery, The University of Alabama at Birmingham, Birmingham, AL, June 2012.
71. The Future of the American Academy of Orthopaedic Surgeons. Visiting Professor, Annual Residents' Research Day, Division of Orthopaedic Surgery, The University of Alabama at Birmingham, Birmingham, AL, June 2012.
72. Corrosion of Orthopaedic Implants: Who Cares? Orthopaedic Surgery Grand Rounds, San Antonio Military Medical Center, Fort Sam Houston, TX, January 2013.
73. Update on AAOS and Healthcare Reform. Commencement Speaker, Department of Orthopaedic Surgery and Rehabilitation, University of Florida College of Medicine – Jacksonville, Jacksonville, FL, May 2013.
74. Metal on Metal Bearings: Lessons Learned. Commencement Speaker, Department of Orthopaedic Surgery and Rehabilitation, University of Florida College of Medicine – Jacksonville, Jacksonville, FL, May 2013.
75. Servant Leadership. Commencement Speaker, Department of Orthopaedic Surgery and Rehabilitation, University of Florida College of Medicine – Jacksonville, Jacksonville, FL, May 2013.
76. AAOS Update. 2013 James S. Miles Lectureship, Department of Orthopaedics, University of Colorado School of Medicine, Denver, CO, June 2013.
77. Corrosion of Orthopaedic Implants: Who Cares? 2013 James S. Miles Lectureship, Department of Orthopaedics, University of Colorado School of Medicine, Denver, CO, June 2013.
78. Servant Leadership. 2013 James S. Miles Lectureship, Department of Orthopaedics, University of Colorado School

of Medicine, Denver, CO, June 2013.