

Curriculum Vitae
DAVID W. LOWENBERG, M.D.

Address: Clinical Professor of Orthopaedic Surgery
Stanford University School of Medicine
450 Broadway Street, Pavilion C
Redwood City, CA 94063
p. 650.721.7623, **f.**650.721.3470

Education:

University:

University of California, Davis	1976-'81	B.S., 1981
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Medical School:

University of California, Los Angeles	1981-'85	M.D., 1985
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Post Graduate Training:

University of California, San Francisco	1985-'86	Surgical Intern
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University of California, San Francisco	1986-'90	Orthopaedic Surgery Resident
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Licensure and Certification:

California Medical License	1987	G059471
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Diplomate, American Board of Orthopaedic Surgery	7/10/1992	
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Awards and Honors:

Magna Cum Laude, University of California, Davis	1981	
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Departmental Citation: Most Outstanding
Graduate, Dept. of Viticulture and Enology 1981

Listed in *America's Top Doctors*, Castle Connolly Medical Ltd.,
New York, yearly since 2001.

Honored Lifetime Member in *Strathmore's Who's Who*, 2002

Distinguished Visiting Scholar, Department of Defense/AAOS joint program, Landstuhl
Regional Medical Center, May 2010.

Positions Held After Completion of Postgraduate Training:

In the University of California School of Medicine:

Department of Orthopaedic Surgery:

Clinical Instructor July 1, 1990-June 30, 1992

Assistant Clinical Professor July 1, 1992-June 30 1998

Associate Professor of Clinical
Orthopaedic Surgery July 1, 1998-June 15, 2010

Director, Problem Fracture and Limb Deformity Service
UCSF March 1, 1993 - November 30, 1999

Chief, Dept. of Orthopaedic Surgery,
UCSF/Mount Zion Medical Center September 1, 1996 - November 30, 1999

At California Pacific Medical Center::

Chief of Fracture Service,
California Pacific Medical Center January 1, 2000 – June 15, 2010

Co-Director,
Harry J. Buncke Microsurgery Laboratory April 1, 2002 – Present

Chairman, Department of Orthopaedic Surgery
California Pacific Medical Center January 1, 2004 – June 15, 2010

At Stanford University School of Medicine:

Chief, Orthopaedic Trauma Service
Stanford University School of Medicine June 15, 2010 – July 1, 2015

Clinical Professor of Orthopaedic Surgery
Stanford University School of Medicine June 15, 2010 – Present

Unit Based Medical Director of Orthopaedic Surgery
Stanford Medical Center
April 1, 2016 - Present

UCSF/Mount Zion Medical Center:

Active Staff 1990-2000

Veterans Administration Medical Center:
Active Staff 1990-1995

University of California, San Francisco Medical Center:
Active Staff 1993-2000

California Pacific Medical Center
Courtesy Staff 1990-1999
Active Staff December 1, 1999 - present

San Francisco General Hospital:
Courtesy Staff 1992-1996

Stanford Medical Center June 2010 – present

Lucille Packard Children's Hospital June 2010 - present

Service on Hospital Committees:

Blood Utilization and Transfusion Committee,
UCSF/Mount Zion Medical Center January 1, 1992 - November 30, 1999

Block Scheduling Committee,
UCSF/Mount Zion Medical Center January 1, 1995 - November 30, 1999

Medical Board, UCSF/Mount Zion
Medical Center September 1, 1996 - November 30, 1999

Surgical Committee, UCSF/Mount
Zion Medical Center September 1, 1996 - November 30, 1999

Quality Improvement Executive Committee,
UCSF/Mount Zion Medical Center September 1, 1997- March 1, 1999

Infection Control Committee,
UCSF (both campuses) January 1, 1997- March 1, 1999

Quality Assurance Committee, Department of Orthopaedic Surgery
California Pacific Medical Center March 1, 2000 – June 15, 2010

Quality Improvement Committee, Brown and Toland Medical Group
May 1, 2000 – 2007

Surgery & Operating Room Committee January 1, 2004 – June 15, 2010

Medical Executive Committee
California Pacific Medical Center January 1, 2004 – June 15, 2010

PPEC Committee July 1, 2010 – January 1, 2017
Stanford University School of Medicine

PIPS Committee July 1, 2010 - January 1, 2017
Stanford University School of Medicine

Committee on Professionalism April 1, 2013 – present
Stanford University School of Medicine

Dean's Task Force, Emergency Medicine Departmental Status
Stanford University School of Medicine August, 2014 – 2015

Clinical Educator Appointments and Promotion Committee
Stanford University School of Medicine August, 2014 – present

Unit-Based Medical Director, D Ground, Stanford University Medical Center
March 2016 - present

Medicine Hospitalist Divisional Chief Search Committee
Stanford University School of Medicine June, 2016 – 2017

Dean's Committee on Academic Roles and Responsibilities
Stanford University School of Medicine March, 2018 – May, 2019

Hospital Risk Management Physician's Advisory Committee
Stanford University School of Medicine July, 2019 - present

Service on State, National, and International Committees:

American Academy of Orthopaedic Surgeons:
Committee on Nursing and Allied Health February, 1997 – 2003

Association for Study and Application of the Methods of Ilizarov:
Research and Allocations Committee February, 1997 - 2002

Medical Advisory Committee

California State Athletic Commission	August, 1999-January, 2001
Credentialing Committee Blue Shield of California Health Plans	November, 2000 – June, 2003
Medical Consultant National Football League Players Association	August, 2001-April, 2014
Coordinator of National Ilizarov Surgeon’s Panel, Smith & Nephew, Inc., 2002 – 2003	
2 nd Vice President, Limb Lengthening and Reconstruction Society of North America	July 2004 to July 2005
1 st Vice President, Limb Lengthening and Reconstruction Society of North America	July 2005 to July 2006
President, Limb Lengthening and Reconstruction Society of North America	July 2006 to July 2007
Charter Member, Board of Directors of “Foundation for Orthopaedic Trauma” (FOT)	February 2005 – present
Member of Board of Governors, “Foundation for Orthopaedic Trauma”	March 2009 – present
Member, MCERT, United States Department of Health & Human Services	May 2011 - present
Treasurer, Foundation for Orthopaedic Trauma	March 2010 – May 2013
President, Foundation for Orthopaedic Trauma	May 2013 – May 2016
Consultant & Reviewer, Congressionally Directed Medical Research Programs, Department of Defense Research Grants; Washington, D.C., September 9 -11, 2013.	
Recertification Standard Setting Committee, American Board of Orthopaedic Surgery, May, 2014	
Executive Board Member, Osteosynthesis and Trauma Care Foundation (International), February 2016 – present	
President-Elect, Osteosynthesis and Trauma Care Foundation (International), June 2017 – June 2018	

Course Co-Chairman: Advanced Trauma Applications of the Ilizarov Technique, Hilton Head, SC, 10/7-10/9/94.

Visiting Professor, Central American Orthopaedic Society Annual Meeting and XII National Congress, Guatemala City, Guatemala, 10/16 – 10/19/95.

Course Chairman: Lower Extremity Trauma, Nursing and Allied Health Program of the American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, 2/14/97.

Program Co-Chairman for "Nursing and Allied Health Courses" (a total of four courses) presented at the 66th Annual Meeting of the American Academy of Orthopaedic Surgeons, Anaheim, CA, 2/4 - 2/8/99.

Visiting Professor Presentation, Department of Plastic Surgery, University of Messina, Sicily, 7/11/02.

Course Chairman: *Essentials of Ilizarov Course*, New York, NY, 5/1 – 5/2/03.

Course Chairman: State of the Art in Orthopaedics 2006 Trauma Course, Snowmass, CO, 2/12 – 2/13/06.

Course Chairman: American Academy of Orthopaedic Surgeons' Specialty Day of Limb Lengthening and Reconstruction Society of North America, Chicago, IL, 3/25/06.

Course Chairman: Limb Lengthening and Reconstruction Society, *16th Annual Meeting*, San Diego, CA, 7/21-7/23/06.

Course Chairman: American Academy of Orthopaedic Surgeons' Specialty Day of Limb Lengthening and Reconstruction Society of North America, San Diego, CA, 2/17/07.

Course Co-Chairman: Limb Lengthening and Reconstruction Society, *17th Annual Meeting*, Chicago, IL, 7/20-7/22/07.

Visiting Professor, Department of Orthopaedic Surgery, Murnau Trauma & Teaching Hospital, Murnau, Germany 9/11-9/12/07

Course Chairman: *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Stanford Court Hotel, San Francisco, CA, 10/26-10/27/07.

Course Chairman: California Pacific Medical Center 4th Annual Orthopaedic Education Course: *Musculoskeletal Infections, What is New in 2008*, Kabuki Hotel, San Francisco, CA, 9/5/08.

Course Chairman: *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Marriott Hotel, Napa, CA, 11/6-11/7/09.

Orthopaedic Trauma Association/U.S. Army Distinguished Visiting Surgeon's Program, Landstuhl Regional Medical Center, Germany, 5/1 – 5/15/2010.

Visiting Professor, Department of Orthopaedic Surgery, University of Giessen, Giessen, Germany, 5/10/2010.

Course Chairman: *Advances in Orthopaedic Trauma*, Mark Hopkins Hotel, San Francisco, CA, 11/5 - 11/6/2010.

Visiting Professor, Cedars-Sinai Medical Center 3rd Annual Orthopaedic Trauma Course, Los Angeles, CA, 9/17/2011.

Course Chairman: *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 11/4 - 11/5/2011.

Visiting Professor, University of Pittsburgh Department of Orthopaedic Surgery, Pittsburgh, PA, 9/19/2012.

Course Chairman: *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 11/9 - 11/10/2012.

Visiting Professor, University of Chile Department of Orthopaedic Surgery, Santiago, Chile, 5/2 – 5/3/2013.

Course Chairman: *Advances in Orthopaedic Trauma 2013*, Omni Hotel, San Francisco, CA, 10/25 – 10/26/2013.

Course Chairman: *Modern Circular External fixation in 2014*, San Francisco, CA, 8/1 – 8/2/2014.

Course Chairman: *Advances in Orthopaedic Trauma 2014*, Saint Francis Hotel, San Francisco, CA, 10/24 – 10/25/14.

Course Chairman: *Advances in Modern External Fixation*, Westin Hotel, New York , NY, 7/31 – 8/1/2015.

Course Chairman: *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 12/4 - 12/5/2015.

Course Chairman: *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

Course Chairman: *Advances in Orthopaedic Trauma 2016*, Omni Hotel, San Francisco, CA, 12/2 - 12/3/2016.

Course Chairman: *Advances in Orthopaedic Trauma 2017*, Omni Hotel, San Francisco, CA, 12/1 - 12/2/2017.

Visiting Professor, University of Arizona Orthopaedic Resident Graduation, Banner/University of Arizona Medical Center, Phoenix, AZ, 5/11 – 5/12/2018.

Visiting Professor, Department of Orthopaedic Surgery, University of Nevada, Las Vegas School of Medicine, Las Vegas, NV, 5/14 – 5/15/2019.

Visiting Professor, University of Pennsylvania, Department of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, PA, 9/11 - 9/12/2019.

Journal Editor and Reviewer Positions:

Guest Editor, *Clinical Orthopaedics & Related Research*, Limb Lengthening and Reconstruction Symposium, December, 2008.

Reviewer, *Journal of Orthopaedic Trauma*, October, 2010 – present.

Reviewer, *Clinical Orthopaedics and Related Research*, July, 2008 – present.

Associate Editor, *Journal of Orthopaedic Trauma*, May, 2014 – present.

Guest Editor, *Techniques in Orthopaedics*, A Tribute to George Cierny, December, 2015.

Membership in Professional Societies:

Diplomate, American Academy of Orthopaedic Surgeons, 1993 - present

Leroy C. Abbott Society, 1990 - present

Limb Lengthening & Reconstruction Society of North America (*previously* ASAMI), 1992 - present

Foundation for Orthopaedic Trauma, 2007 - present

Osteosynthesis and Trauma Care Foundation – International, 2012 - present

Orthopaedic Trauma Association, 2008 - present

California Orthopaedic Association, 2010 - present

Wilson Interurban Club 2000, - present

The Harry J. Buncke Society, 2012 - present

Western Orthopaedic Association, 2010 - present

Lectures, Grand Rounds, and Presentations:

"Anterior Cruciate Ligament Reconstruction: A Clinical Review", UC Grand Rounds, Ralph K. Davies Medical Center, San Francisco, CA, 1987.

"The Arthrogryposis Syndromes", East Bay Rounds, Children's Hospital of Northern California, Oakland, CA, 10/88.

"Endoprosthetic Replacement for Unstable Intertrochanteric Fractures", UC Grand Rounds, Pacific Presbyterian Medical Center, San Francisco, CA, 3/89.

"The Ilizarov Method as Performed in Kurgan", Mount Zion Hospital and Medical Center of UC San Francisco Orthopaedic Rounds, San Francisco, CA, 12/89.

"The Ilizarov Method as Performed in Kurgan", Pacific Presbyterian Medical Center Orthopaedic Rounds, San Francisco, CA, 12/89.

"The Ilizarov Method as Performed in Kurgan", Bay Area Chapter of National Association of Orthopaedic Nurses, San Francisco, CA, 1/90

"History of the Ilizarov Device", Course on introduction to the Ilizarov Method, Marriott Hotel, San Francisco, CA, 3/21/90.

"The Surgical Management of Acetabular Fractures", UCSF Grand Rounds, San Francisco General Hospital, San Francisco, CA, 3/24/90

"A New Method for the Treatment of Subtrochanteric Femur Fractures", Abbott Society, San Francisco, CA, 5/90.

Laboratory Instructor: seminar and workshop, "Limb Lengthening and Correction of Deformities and Treatment of Pseudarthrosis and Fractures by External Fixator", Eighteenth Pediatric Orthopaedic International Seminar, San Francisco, CA, 5/22/90.

"Frontiers in Russian Orthopaedics - An Introduction to the Ilizarov Method". National Association of Orthopaedic Nurses, Tri-Chapter Annual Meeting, San Francisco, CA, 9/8/90.

Faculty Advisor: "Tibial Component Design in Total Knee Arthroplasty", UCSF Grand Rounds, Veterans Administration Medical Center, San Francisco, Ca, 4/20/91.

"Surgical Approach to Arthritis Management", Arthritis Foundation Public Forum, San Francisco, CA, 5/23/91.

"Rehabilitation Modalities for the Ilizarov Apparatus", Physical Therapy Department, UCSF/Mount Zion Medical Center, San Francisco, CA, 7/9/91.

"Surgical Treatment of Ankle Fracture Injuries", AAOS Seminar on Sports Trauma, UCSF/Mount Zion Medical Center, San Francisco, CA, 8/10/91.

Lab Instructor: "Essential Concepts and Methodology for Application of the Ilizarov Technique", Oak Knoll Naval Hospital, Oakland, CA, 1/4-1/5/92.

"New Developments in Orthopaedic Trauma". Advances in Emergency Medicine, UCSF Department of Emergency Medicine, San Francisco, CA, 4/1/92.

Faculty Advisor: "Treatment of Humeral Nonunions". UCSF Grand Rounds, Veterans Administration Medical Center, San Francisco, CA, 4/11/92.

"Advances in Orthopaedic Trauma", Department of Physical Therapy, California Pacific Medical Center, San Francisco, CA, 5/14/92.

"New Perspectives in the Treatment of Ankle Sprains", American Academy of Sports Physicians Annual Meeting, Chicago, IL, 7/31/92.

"Hemi-Arthroplasty for Comminuted Intertrochanteric Femur Fractures", Total Hip and Knee Arthroplasty: Issues for the '90's, Napa, CA, 8/14-8/15/92/

Lab Instructor: Shoulder Arthroscopy, Eleventh Annual Fall Course, Arthroscopy Association of North America, Monterey, CA, 11/19-11/22/92.

"Pins and Plaster: Is it Still Useful in 1992?". Complex Distal Radius Fractures; A Cadaver Laboratory Course, sponsored by the Department of Orthopaedic Surgery of the University of California, San Francisco, CA, 10/24/92.

"Orthopaedic Uses of Allograft Tissues". UCSF/Mount Zion Medical rounds, San Francisco, CA, 3/30/93.

"Advances in the Treatment of Problem Fractures and Limb Deformity", Brown Bag Lecture, University of California, San Francisco, CA, 7/28/93.

Visiting Professor: University of Oregon Center for Health Sciences, instruction and lecture on the Ilizarov Method, Portland, OR, 8/13-8/14/93.

Course Instructor: Advanced Applications of the Ilizarov Technique, Rancho Bernardo, CA, 10/8-10/10/93.

"Perioperative Analgesia in Orthopaedic Surgery", Update: Ambulatory Surgery, Current Issues and Controversies, 79th Annual Clinical Congress, American College of Surgeons, San Francisco, CA, 10/13/93.

"The Ilizarov Method in the Treatment of Complex Fractures, Nonunions, Malunions, and Deformity". Radiology Grand Rounds Conference, Veterans Administration Medical Center, San Francisco, CA, 10/20/93.

"Limb Lengthening: Indications and Innovations", 27th Annual Advances and Controversies in Clinical Pediatrics, Department of Pediatrics, University of California School of Medicine, San Francisco, CA, 5/12/94.

Course Instructor: "Introduction to the Ilizarov Method", Ilizarov Minicourse, Fairmont Hotel, San Francisco, CA, 5/24/94.

"New Developments in Limb Lengthening and Tissue Neogenesis", UCSF/Mount Zion Medical Center, General Surgery Grand rounds, San Francisco, CA, 6/2/94.

"New Developments in Restoration and Correction of Limb Length by Induction of Bone and Tissue Neogenesis", The Cardiology Medical Group of San Francisco, CA, 6/9/94.

"Simultaneous Ilizarov and Freeflap for Tibial Defects", American Society of Plastic and Reconstructive Surgery, Annual Meeting, San Diego, CA, Lowenberg, D.W., Eshima, I., Moelleken, B., 9/28/94.

Course Co-Chairman: Advanced Trauma Applications of the Ilizarov Technique, Hilton Head, SC, 10/7-10/9/94. Lectures given.

"The Ilizarov Technique for Post Traumatic Reconstruction", University of California, San Francisco Grand Rounds, Department of Orthopaedic Surgery, Lowenberg, D.E., Colyvas, N., Fontes, R., San Francisco, CA, 10/15/94.

"The Tension/Stress Effect on Bone Neogenesis", UCSF/Mount Zion Alumni Day Guest Lecture, San Francisco, CA, 11/4/94.

"The Ilizarov Technique for Tissue Neogenesis", University of California, San Francisco, Department of Anesthesiology, San Francisco, CA, 11/19/94.

"Post-Traumatic Reconstruction utilizing the Ilizarov Method", Medical Staff Noontime Lecture, Saint Francis Memorial Hospital, San Francisco, CA, 1/10/95.

"The Ilizarov Method in Post-Traumatic Reconstruction and Limb Salvage", Orthopaedic Surgery Grand Rounds, Stanford University School of Medicine, Palo Alto, CA, 3/15/95.

"The Ilizarov Method in Post-Traumatic Reconstruction", Medical Staff Grand Rounds, Queen of the Valley Hospital, Napa, CA, 3/24/95.

"Post-Traumatic Reconstruction Utilizing the Ilizarov Method", Medical Staff Noon Conference, Watsonville Community Hospital, Watsonville, CA, 3/27/95.

"The Ilizarov Method in Modern Orthopaedic Practice", Medical Staff Grand Rounds, Community Hospital of the Monterey Peninsula, Monterey, CA, 3/29/95.

Trabulsy, P, Mathes, S, Lowenberg, DW; "Evaluation of 90 Consecutive Grade IIIB Open Tibia Fractures: Soft Tissue and Bony Management"; International Society of Plastic Surgery. Yokohama, Japan, 4/95.

Lowenberg, DW, Lee, A; "The Arthroscopic Brostrom Procedure"; Inman-Abbott Annual Lectureship. University of California, San Francisco, 5/4/95.

Louie, KW, Lowenberg, DW; "The Management of Nonunions with the Ilizarov Method"; Inman-Abbott Annual Lectureship. University of California, San Francisco, 5/5/95.

Lowenberg, DW, Louie, KW; "Massive Segmental Bone Transport for Limb Reconstruction"; Inman-Abbott Annual Lectureship, University of California, San Francisco, 5/5/95.

"Post-Traumatic Reconstruction Utilizing the Ilizarov Method", Orthopaedic Surgery Section, Northern California Chapter, American College of Surgeons Annual Meeting, San Francisco, CA, 5/13/95.

"The Role of the Ilizarov Technique in Returning Severe Trauma Victims Back to Exercise"; American Academy of Sports Physicians Annual Meeting, San Francisco, CA, 7/30/95.

"Fibular Fixation with the Ilizarov Method"; Annual Ilizarov Advanced Trauma Course, Amelia Island, Florida, 10/6-10/8/95.

"*No Touch* Compression and Distraction of Tibial Nonunions"; Annual Ilizarov Advanced Trauma Course, Amelia Island, Florida, 10/6-10/8/95.

"Acute Shortening: When and Where"; Annual Ilizarov Advanced Trauma Course, Amelia Island, Florida, 10/6-10/8/95.

"Limb Salvage and Reconstruction with the Ilizarov Method"; Visiting Professor Lecture, XII National Congress of the Guatemalan Orthopaedic and Traumatology Association, Guatemala City, Guatemala, 10/16-10/19/95.

"Treatment of the Vascularly Compromised Limb"; Visiting Professor Lecture, XII National Congress of the Guatemalan Orthopaedic and Traumatology Association, Guatemala City, Guatemala, 10/16-10/19/95.

"The *No Touch* Technique in the Treatment of Tibial Nonunions"; Visiting Professor Lecture, XII National Congress of the Guatemalan Orthopaedic and Traumatology Association, Guatemala City, Guatemala, 10/16-10/19/95.

"Treatment of Nonunions and the Principles of Distraction Osteogenesis"; Orthopaedic Surgery Residents' Basic Science lecture, University of California, San Francisco, 11/21/95.

"Treatment of Combined Bone and Soft Tissue Defects"; Department of Orthopaedic Surgery Grand Rounds, University of California, San Francisco, 4/3/96.

"Delayed and One-Stage Free Flap and Ilizarov Frame Application"; Soft Tissue and Bony Defect Symposium, Seattle, Washington, 5/10-5/12/96.

"Distraction Osteogenesis: Theory and Principles"; Department of Oral Surgery Grand rounds, University of California, San Francisco, 5/14/96.

"Rehabilitation Following the Ilizarov Procedure"; UCSF/Mount Zion Department of Physical Therapy weekly conference, UCSF/Mount Zion Medical Center, 5/21/96.

Lowenberg, DW, **Feibel, RJ**, Louie, KW, Eshima, I; "Combined Muscle Flap and Ilizarov Reconstruction for Bone and Soft Tissue Defects"; Canadian Orthopaedic Association Annual Meeting, Quebec, 5/28/96.

"Analysis of Nonunions"; Essential Concepts of the Ilizarov Method, Vail, Colorado, 7/24-7/28/96.

"Distraction Osteogenesis"; Essential Concepts of the Ilizarov Method, Vail, Colorado, 7/24-7/28/96.

"Treatment of Combined Bone and Soft Tissue Defects"; Essential Concepts of the Ilizarov Method, Vail, Colorado, 7/24-7/28/96.

"Massive Segmental Bone Transport for Limb Reconstruction"; A.S.A.M.I. 7th Annual Scientific Meeting, San Francisco, CA, 2/12/97.

Course Chairman: Lower Extremity Trauma, Nursing and Allied Health Program of the American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, 2/14/97.

"Treatment of Complex Fractures with the Ilizarov Method", Course on Lower Extremity Trauma, Nursing and Allied Health program of the American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, 2/14/97.

"Free Flap and Ilizarov Frame Application in Acute Trauma", Fourth Annual Ilizarov Trauma Course, Copper Mountain, Colorado, 3/13-3/16/97.

"Treatment of the Dysvascular Limb", Fourth Annual Ilizarov Trauma Course, Copper Mountain, Colorado, 3/13-1/16/97.

"Massive Segmental Bone Transport for Segmental Defects", Fourth Annual Ilizarov Trauma Course, Copper Mountain, Colorado, 3/13-3/16/97.

"New Perspectives in Limb Salvage and Limb Regeneration", UCSF/Mount Zion Medical Grand Rounds, San Francisco, CA, 3/21/97.

"New Perspectives in Limb Salvage and Limb Regeneration", John Muir Medical Center Grand Rounds, Walnut Creek, CA, 5/19/97.

"New Perspectives in Limb Salvage and Limb Regeneration", Doctors Medical Center Medical Staff Grand Rounds, Modesto, CA, 8/6/97.

"Treatment of Complex Fractures with the Ilizarov Method", presented at: Orthopaedics '97, Advances and Challenges; Modesto, CA, 8/6/97.

"The Ilizarov Method", UCSF Department of Orthopaedic Surgery residents basic science lecture, 10/1/97.

"Use of the Intramedullary Hip Screw (IMHS) in the Treatment of Peritrochanteric Femur Fractures", *Comprehensive Trauma Solutions*, sponsored by the University of Tennessee College of Medicine; Tucson, Arizona, 10/30-11/2/97.

"Reconstruction of Segmental Tibial and Femoral Defects with Distraction Lengthening", *Comprehensive Trauma Solutions*, sponsored by the University of Tennessee College of Medicine; Tucson, Arizona, 10/30-11/2/97.

"Treatment of Severely Crushed Tibiae", *Comprehensive Trauma Solutions*, sponsored by the University of Tennessee College of Medicine; Tucson, Arizona, 10/30-11/2/97.

"New Perspectives in Limb Salvage and Limb Regeneration", Department of Plastic Surgery Grand Rounds, Ralph K. Davies Medical Center, San Francisco, CA, 1/8/98.

"Modification of Shear to Compression Ratios with Frame Modifications for Progressive Fracture Obliquities", First International Meeting of the Association for the Study and Application of the Methods of Ilizarov (ASAMI), New Orleans, LA, 3/15-3/17/98.

"New Perspectives in Limb Salvage and Limb Regeneration:", Department of Orthopaedic Surgery Grand Rounds, Seton Medical Center, Daly City, CA, 3/25/98.

Rovinsky, D, Holmes, W, Ghannam, J, Lowenberg, DW; "*Motorcycle Madness: Treatment of the Injured Motorcycle Rider.*" Department of Orthopaedic Surgery Grand Rounds, University of California, San Francisco, 4/8/98.

Lowenberg, DW, **Herzka, A**, Ashford, F, Nork, S; "Modification of Shear to Compression Ratios with Frame Modifications for Progressive Fracture Obliquities." Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/8/98.

"Examination and Treatment of Common Shoulder Disorders", UCSF/Mount Zion Pain Management Fellows Conference, UCSF/Mount Zion Medical Center, San Francisco, CA, 7/7/98.

"Use of the Ilizarov Method in the Treatment of Segmental Defects, Nonunions and Osteomyelitis", UCSF Department of Orthopaedic Surgery residents basic science lecture, 9/9/98.

"Acute Shortening of Limb Deficiencies: When and Where", *Advances in External Fixation* (annual advanced Ilizarov instructional course), Cancun, Mexico, 10/22-10/25/98.

"Fibular Fixation in Ilizarov Surgery", *Advances in External Fixation* (annual advanced Ilizarov instructional course), Cancun, Mexico, 10/22-10/25/98.

"Modification of Shear to Compression Ratios with Frame Modifications for Progressive Fracture Obliquities", *Advances in External Fixation* (annual advanced Ilizarov instructional course), Cancun, Mexico, 10/22-10/25/98.

"No Touch Compression and Distraction of Nonunions", *Advances in External Fixation* (annual advanced Ilizarov instructional course), Cancun, Mexico, 10/22-10/25/98.

"Use of the GSH Retrograde Nail for Treatment of Supracondylar Femur Fractures", *Surgical Advances in Fracture Management*, sponsored by the New York University School of Medicine; Aspen, Colorado, 1/14 - 1/17/99.

"Basic Techniques of the Ilizarov Method", *Surgical Advances in Fracture Management*, sponsored by the New York University School of Medicine; Aspen, Colorado, 1/14 - 1/17/99.

Moderator for *Nonunion* section of Annual Meeting of the Association for the Study and Applications of the Methods of Ilizarov; Dana Point, CA, 2/3/99.

Program Co-Chairman for "Nursing and Allied Health Courses" (a total of four courses) presented at the 66th Annual Meeting of the American Academy of Orthopaedic Surgeons, Anaheim, CA, 2/4 - 2/8/99.

Wood, GW, Browner, BD, Helfet, DL, **Lowenberg, DW**, "*Instructional Course Lecture: Treatment of Complex Tibial Nonunions*", presented at the 66th Annual Meeting of the American Academy of Orthopaedic Surgeons, Anaheim, CA, 2/4 - 2/8/99.

Kawaguchi, AT, Lowenberg, DW, Wilson, M; "Retrograde Filling of the Dorsalis Pedis Artery with Intact Pedal Pulses and Abnormal Angiograms." Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 4/29/99.

"Distraction Osteogenesis: The Method and its Modifications", *Application of the Ilizarov Method for the Tibia and Lower Extremities*, sponsored by Wright State University School of Medicine; Key West, Florida, 5/20 - 5/23/99.

"The Biomechanics of Oblique Fracture Planes; Methods for Modification of Shear to Compression Ratios", *Application of the Ilizarov Method for the Tibia and Lower Extremities*, sponsored by Wright State University School of Medicine; Key West, Florida, 5/20 - 5/23/99.

"Retrograde Filling of the Dorsalis Pedis Artery; One-Vessel Limbs in light of Normal Peripheral Pulses", *Application of the Ilizarov Method for the Tibia and Lower Extremities*, sponsored by Wright State University School of Medicine; Key West, Florida, 5/20 - 5/23/99.

"Combined Muscle Flap and Ilizarov Reconstruction for Bone and Soft Tissue Defects", *Application of the Ilizarov Method for the Tibia and Lower Extremities*, sponsored by Wright State University School of Medicine; Key West, Florida, 5/20 - 5/23/99.

Wood, GW, Browner, BD, Helfet, DL, **Lowenberg, DW**, "*Instructional Course Lecture: Treatment of Complex Tibial Nonunions*", presented at the 67th Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, Florida, 3/19/00.

"New Perspectives in the Treatment of Nonunions and Osteomyelitis", Medical Grand Rounds, California Pacific Medical Center, San Francisco, CA, 3/28/00.

Wood, GW, Browner, BD, Helfet, DL, **Lowenberg, DW**, "*Instructional Course Lecture: Treatment of Complex Tibial Nonunions*", presented at the 68th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, 2/28/01.

"Use of the Ilizarov Method in the Treatment of Segmental Defects, Nonunions and Osteomyelitis", Department of Physical Therapy Rounds, California Pacific Medical Center, San Francisco, CA, 3/20/01.

"The Ilizarov Technique: How to Insert Wires and Half Pins", *Essentials of Ilizarov Course*, Dana Point, CA, 4/27 – 4/29/01.

"The Ilizarov Technique: Advanced Wire and Half Pin Fixation and Reduction Techniques", *Essentials of Ilizarov Course*, Dana Point, CA, 4/27 – 4/29/01.

"Challenges in the Management of Osteoarthritis", *sponsored by* The Arthritis Foundation, San Francisco, CA, 9/12/01.

"Modification of Shear to Compression Ratios with Frame Modifications for Progressive Fracture Obliquities", Department of Microsurgery Grand Rounds, California Pacific Medical Center, San Francisco, CA, 9/20/01.

Panelist on Symposium for "Treatment of Proximal Femur Fractures", Smith & Nephew, Inc. National Sales Meeting; Palm Springs, CA, 1/18/02.

Wood, GW, Browner, BD, Helfet, DL, **Lowenberg, DW**, "*Instructional Course Lecture: Treatment of Complex Tibial Nonunions*", presented at the 69th Annual Meeting of the American Academy of Orthopaedic Surgeons, Dallas, TX, 2/13/02.

Quatra, F, **Lowenberg, DW**, Romeo, O, Brooks, D, Buncke, HJ, "Deoxyspergualin and an Anti-TcR Monoclonal Antibody Prolong Survival of Composite Tissue Allografts in a Rat Model", presented at Wilson Interurban Club, San Francisco, CA, 4/12/02.

Quatra, F, Lowenberg, DW, Romeo, OM, Brooks, D, Buncke, HJ, "Deoxyspergualin and an Anti-TcR Monoclonal Antibody Prolong Survival of Composite Tissue Allografts in a Rat Model", presented at 47th Annual Meeting of the Plastic Surgery Research Council, Boston, MA, 4/17 – 4/20/02.

Quatra, F, Romeo, OM, Lowenberg, DW, Brooks, D, Buncke, HJ,

“Functional transplantation of the pronator quadratus muscle for fascial reanimation. A small muscle for a small job.”, presented at 47th Annual Meeting of the Plastic Surgery Research Council, Boston, MA, 4/17 – 4/20/02.

“The Ilizarov Technique: How to Insert Wires and Half Pins”, *Essentials of Ilizarov Course*, Atlanta, GA, 4/25 – 4/26/02.

“The Ilizarov Technique: Advanced Wire and Half Pin Fixation and Reduction Techniques”, *Essentials of Ilizarov Course*, Atlanta, GA, 4/25 – 4/26/02.

“Acute Shortening: When and Where”, *Comprehensive Ilizarov Course*, Atlanta, GA, 4/27 – 4/29/02.

“Translational and Rotational Correction with the Ilizarov Apparatus”, *Comprehensive Ilizarov Course*, Atlanta, GA, 4/27 – 4/29/02.

“Treatment of Tibial Nonunions with the Ilizarov Method: An Algorithmic Approach”, presented at *Western Orthopaedic Association* Northern California Chapter Annual Meeting, Monterey, CA, 5/17 – 5/19/02.

Quatra, F, **Lowenberg, DW**, Romeo, OM, Brooks, D, Buncke, HJ, “Deoxyspergualin and an Anti-TcR Monoclonal Antibody Prolong Survival of Composite Tissue Allografts in a Rat Model”, *Western Orthopaedic Association* Northern California Chapter Annual Meeting, Monterey, CA, 5/17 – 5/19/02.

Quatra, F, Lowenberg, DW, Romeo, OM, Brooks, D, Buncke, HJ, “Induzione di tolleranza negli allotrapianti di tessuti compositi. Parte I: Sviluppo del protocollo nel ratto”, presented at the Spring Meeting of the Italian Society for Microsurgery, Ischia, Italy, 6/1/02.

Perri, D, Quatra, F, Lowenberg, DW, Romeo, OM, Brooks, D, Buncke, HJ, “Induzione di tolleranza negli allotrapianti di tessuti compositi. Parte II: Assenza di macrochimerismo ematologico e possibili meccanismi di azione”, presented at the Spring Meeting of the Italian Society for Microsurgery, Ischia, Italy, 6/1/02.

Quatra, F, Lowenberg, DW, Romeo, OM, Brooks, D, Buncke, HJ, “Induzione di tolleranza negli allotrapianti di tessuti compositi. Parte III: Tossicità e graft-versus-host disease”, presented at the Spring Meeting of the Italian Society for Microsurgery, Ischia, Italy, 6/1/02.

Quatra, F, Lowenberg, DW, Romeo, OM, Brooks, D, Buncke, HJ, “The dynamic balance between rejection, tolerance, and graft-versus-host disease in limb transplantation”, presented at the VIII Congress of the Italian and American Plastic Surgeons, Ischia, Italy, 6/5 – 6/8/02.

Quatra, F, Lowenberg, DW, Romeo, OM, Brooks, D, Buncke, HJ, “Fifth

extensor compartment artery vascularized arthroplasty for scapholunate ligament reconstruction”, presented at the VIII Congress of the Italian and American Plastic Surgeons, Ischia, Italy, 6/5 – 6/8/02.

“Treatment of Tibial Nonunions with the Ilizarov Method: An Algorithmic Approach”, Visiting Professor Presentation, Department of Plastic Surgery, University of Messina, Sicily, 7/11/02.

“The Ilizarov Technique: Advanced Wire & Half Pin Fixation & Reduction Techniques”, *Essentials of Ilizarov Course*, Marina del Rey, CA, 11/21–11/22/02.

“Acute Shortening: When and Where”, *Comprehensive Ilizarov Course*, Marina del Rey, CA, 11/23 – 11/24/02.

“Translational and Rotational Correction with the Ilizarov Apparatus”, *Comprehensive Ilizarov Course*, Marina del Rey, CA, 11/23 – 11/24/02.

“The Pathomechanics of Long Bone Nonunions”, presented at *Western Orthopaedic Association* Northern California Chapter Annual Meeting, Squaw Valley, CA, 3/11 – 3/12/03.

“Introduction to Ilizarov Components”, *Essentials of Ilizarov Course* (Course Chairman), New York, NY, 5/1 – 5/2/03.

“The Ilizarov Technique: Advanced Wire and Half Pin Fixation and Reduction Techniques”, *Essentials of Ilizarov Course* (Course Chairman), New York, NY, 5/1 – 5/2/03.

“Translational and Rotational Correction with the Ilizarov Apparatus”, “Acute Shortening: When and Where”, *Comprehensive Ilizarov Course* (Course Chairman), New York, NY, 5/3 – 5/4/03.

“Orthopaedic Surgery and Sports Medicine”, *Family Practice Board Review Course*, San Francisco, CA, 5/20/03.

“The Pathomechanics of Long Bone Nonunions”, Orthopaedic Surgery Grand Rounds, California Pacific Medical Center, San Francisco, CA, 6/13/03.

Akdogan, Z, Quatro, F, Lowenberg, DW, Baxter-Lowe, LA, Brooks, D, Buncke, HJ, “Microscopic Chimerism in Lymphatic Organs Persists After Vascularized Bone Marrow Transplantation”, presented at 29th Annual Meeting of the European Group for Blood and Marrow Transplantation, Istanbul, Turkey, 7/15/03.

“Whole Limb Allotransplantation”, Special Guest Lectureship for Limb Lengthening and Reconstruction Society, *13th Annual Meeting*, Boston, MA, 7/25/03.

“Radiological Interpretation of Treatment for Nonunions Utilizing the Ilizarov Method”, Department of Radiology Grand Rounds, California Pacific Medical Center, San Francisco, CA, 9/4/03.

“Orthopaedic Surgery and Sports Medicine”, *Emergency Medicine Board Review Course*, San Francisco, CA, 10/1/03.

“Introduction to Ilizarov Components”, *Essentials of Ilizarov & Spatial Frame Course*, Tucson, AZ, 10/22 – 10/25/03.

“The Ilizarov Technique: Advanced Wire and Half Pin Fixation and Reduction Techniques”, *Essentials of Ilizarov & Spatial Frame Course*, Tucson, AZ, 10/22 – 10/25/03.

“Acute Shortening: When and Where”, *Essentials of Ilizarov & Spatial Frame Course*, Tucson, AZ, 10/22 – 10/25/03.

“Treatment and Evaluation of Tibial Nonunions Utilizing the Ilizarov Method”, *Department of Microsurgery Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 11/21/03.

“The Pathomechanics of Long Bone Nonunions” & “Acute Shortening of Limbs: When and Where”, *Department of Microsurgery Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 12/5/03.

“The Ilizarov Method in Acute Trauma Applications” and other Ilizarov-based educational lectures, *Visiting Professor*, Department of Orthopaedic Surgery, Kansas City Orthopaedic Surgery Residency of the School of Osteopathic Medicine, Kansas City, MO, 1/6/04.

“The Pathomechanics of Long Bone Nonunions”, Wilson – Bost Interurban Club Annual Meeting, San Francisco, CA, 4/16/04.

"The Ilizarov Method for Treatment of Acute Tibial Fractures." *Clinical Symposium*, Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 4/29/04.

“Orthopaedic Surgery and Sports Medicine”, *Family Practice Board Review Course*, San Francisco, CA, 6/1/04.

“Treatment Algorithm for Complex Tibial Nonunions and Osteomyelitis.” *St. Francis Memorial Hospital Combined Medical and Surgical Grand Rounds*, San Francisco, CA, 2/15/05.

“Treatment Algorithm for Complex Tibial Nonunions and Osteomyelitis.” *Department of Microsurgery Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 2/18/05.

“The Piriformis Approach for Femoral Rodding”, State of the Art in Orthopaedics 2005 Trauma Course, Snowmass, CO, 3/16 – 3/17/05.

“Circular Fixation for Proximal and Distal Tibia Fractures”, State of the Art in Orthopaedics 2005 Trauma Course, Snowmass, CO, 3/16 – 3/17/05.

“Humeral Diaphyseal Nonunions; Treatment Strategies”, State of the Art in Orthopaedics 2005 Trauma Course, Snowmass, CO, 3/16 – 3/17/05.

“Circular Fixation for Proximal and Distal Tibia Fractures”, 50th Annual Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/6/05.

“The Piriformis Approach for Femoral Rodding”, 50th Annual Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/6/05.

Lowenberg, DW, **Soto, G**; “Incidence of Brachialis Interposition in Humeral Nonunions”, 50th Annual Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/6/05.

“Use of the Universal Distal Radius Fixation System in the Treatment of Distal Radius Fractures”, *American Society for Surgery of the Hand Course & Meeting*, San Francisco, CA, 5/6 – 5/7/05.

“Orthopaedic Surgery and Sports Medicine”, *Family Practice Board Review Course*, Oakland, CA, 6/20/05.

Dahl M, **Lowenberg DW**: “OP-1 in the Treatment of Long Bone Atrophic Nonunions; Initial Clinical Experience”, Limb Lengthening and Reconstruction Society, 15th Annual Meeting, New York, NY, 7/29/05.

“Use of the Ilizarov Method in Upper Extremity Limb Salvage”, 1st Annual California Pacific Medical Center Orthopaedic Education Day: *Advances in Upper Extremity Surgery*, San Francisco, CA, 9/9/05.

Lowenberg, DW, **Soto, G**; “Incidence of Brachialis Interposition in Humeral Nonunions”, 1st Annual California Pacific Medical Center Orthopaedic Education Day: *Advances in Upper Extremity Surgery*, San Francisco, CA, 9/9/05.

“Use of Ilizarov Bone Regeneration in Conjunction with Microsurgical Tissue Transfer in Limb Salvage”, 1st Annual *Microsurgical Nursing Symposium*, California Pacific Medical Center, San Francisco, CA, 10/20/05.

“Long Bone Nonunions: Causes and Treatment Algorithms”, *Department of Microsurgery Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 11/4/05.

“Soft Tissue Coverage, State of the Art”, State of the Art in Orthopaedics 2006 Trauma Course, Snowmass, CO, 2/12 – 2/13/06.

“Biomechanical History of External Fixation: The Past and the Future”, State of the Art in Orthopaedics 2006 Trauma Course, Snowmass, CO, 2/12 – 2/13/06.

“Humeral Shaft Fracture: Plate Fixation”, State of the Art in Orthopaedics 2006 Trauma Course, Snowmass, CO, 2/12 – 2/13/06.

“External Fixation: Biomechanical History & Future Technological Developments”, *Department of Microsurgery Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 3/17/06.

“Soft Tissue Coverage for Acute and Chronic Limb Injuries: Current State of the Art”, American Academy of Orthopaedic Surgeons’ Specialty Day of the Limb Lengthening and Reconstruction Society of North America, Chicago, IL, 3/25/06.

“Humeral Nonunions”, *section presenter*, The Masters’ Fracture Forum, Dana Point, CA, 4/6 - 4/8/06.

“Soft Tissue Coverage, State of the Art”, Wilson – Bost Interurban Club Annual Meeting, Sacramento, CA, 4/21/06.

“Soft Tissue Coverage for Acute and Chronic Limb Injuries: Current State of the Art”, AIOD/Foundation of Orthopaedic Trauma Annual Internal Forum, Nice, France, 6/23-6/24/06.

“Use of the Taylor Spatial Frame for Correction of Distal Forearm Deformities: A Template Algorithm”, Limb Lengthening and Reconstruction Society, 16th Annual Meeting, San Diego, CA, 7/21-7/23/06.

“The Use of OP-1 in the Treatment of Long Bone Nonunions”, 7th Annual Chicago Trauma Symposium, Chicago, IL, 7/29/06.

Lowenberg, DW, **Horton, KM**, Buncke, GM, Brooks, D, Buntic, RF, Kaska, S, Louie, KW “Outcome Analysis of Combined Ilizarov Bone Transport and Immediate Free Tissue Transfer for Lower Extremity Salvage” American Society of Plastic Surgeons Annual Meeting, San Francisco, CA, 10/6 - 10/11/06.

“Lower Extremity Deformity Analysis is Pre-Operative Planning for Knee Arthritis”, 2nd Annual California Pacific Medical Center Orthopaedic Education Day: *Knee Arthritis Following Sports Injury: Current Concepts*, San Francisco, CA, 9/29 – 9/30/06.

“Use of the Ilizarov Method in the Salvage of Combined Bone and Soft Tissue Injuries”, 2nd Annual Microsurgical Nursing Symposium, California Pacific Medical Center, San Francisco, CA, 10/5/06.

“Outcome Analysis of Combined Ilizarov External Fixation, Bone Transport, and Free Tissue Transfer for Lower Extremity Salvage”, 4th Meeting of the A.S.A.M.I. International, Kyoto, Japan, 10/11 – 10/14/06.

Louie, KW, Lowenberg, DW; “The Role of the Taylor Spatial Frame in Revision High Tibial Osteotomy Surgery”, 4th Meeting of the A.S.A.M.I. International, Kyoto, Japan, 10/11 – 10/14/06.

“Limits of Locked Plating”, *International Trauma Symposium*, Orlando, FL, 11/3 – 11/4/06.

“Tibial Nailing: Limitations and Indications”, *International Trauma Symposium*, Orlando, FL, 11/3 – 11/4/06.

“Nonunion Treatment Strategies”, *International Trauma Symposium*, Orlando, FL, 11/3 – 11/4/06.

“Treatment Strategies for Tibia Fractures with Bone and Soft Tissue Defects”, American Academy of Orthopaedic Surgeons’ Specialty Day of Limb Lengthening and Reconstruction Society of North America, San Diego, CA, 2/17/07.

“Use of the Ilizarov Method in the Salvage of Combined Bone and Soft Tissue Injuries”, *Department of Microsurgery Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 2/23/07.

“Proximal Humeral Fractures: Evidence Based Literature, What Needs to be Fixed?”, Columbia Trauma Symposium, New York, NY, 5/4 - 5/5/07.

“Rehabilitation of Wrist Fractures” Columbia Trauma Symposium, New York, NY, 5/4 - 5/5/07.

“Locked Plating versus External Fixation in the Treatment of Distal Radial Fractures”, Annual Osteosynthesis & Trauma Care Foundation Leadership Forum, Nice, France, 6/22 – 6/23/07.

“Outcome Analysis of Combined Ilizarov External Fixation, Bone Transport, and Free Tissue Transfer for Lower Extremity Salvage”, Limb Lengthening and Reconstruction Society, *17th Annual Meeting*, Chicago, IL, 7/20-7/22/07.

“Eight Most Common Reasons for Failure in Severe bone and Soft Tissue Injuries”, *Management of Segmental Bone Defects Symposium* during *The Baltimore Limb Deformity Course*, Baltimore, MD, 8/31/07.

“Limb Salvage – My Last 18 Years Experience”, Visiting Guest Lecturer for Trauma Department Grand Rounds, Unfallklinik Murnau, Murnau, Germany, 9/11/07.

“Subtrochanteric Fractures: Treatment with Plate Fixation”, *An Integrated Approach to Fracture Treatment: Optimal Biology, Optimal Fixation*”, Nice, France, 9/13/07.

“Chronic Bone and Soft Tissue Infections: Management Strategies”, Gerhard Kuntscher Society Annual Meeting, Strasbourg, France, 9/15/07.

“Use of OP-1 (Bone Morphogenic Protein-7) in the Treatment of Fractures and Nonunions, My 5 Year Experience”, OP-1 Users Group Symposium, Chicago, IL, 9/29/07.

“Experience with OP-1 in Distraction Osteogenesis and Ring Fixators”, OP-1 Users Group Symposium, Chicago, IL, 9/29/07.

“Complications Encountered in OP-1 Application in Clinical Practice”, OP-1 Users Group Symposium, Chicago, IL, 9/29/07.

“Use of the Ilizarov Method in Upper Extremity Limb Salvage and Deformity Correction”, *3rd Annual Microsurgical Nursing Symposium*, California Pacific Medical Center, San Francisco, CA, 10/4/07.

“Bone Morphogenic Proteins in the Treatment of Nonunions”, *Hand & Upper Extremity Trauma Course*, Napa, CA, 10/7/07.

“Tibial Nailing: Indications and Limitations”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Stanford Court Hotel, San Francisco, CA, 10/26-10/27/07.

“Mechanical Axis Evaluation in the Lower Extremity”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Stanford Court Hotel, San Francisco, CA, 10/26-10/27/07.

“Proximal Humeral Fractures: Evidence Based Medicine, To Fix or Replace?”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Stanford Court Hotel, San Francisco, CA, 10/26-10/27/07.

“External Fixation: Where Have We Been, Where are We Going”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Stanford Court Hotel, San Francisco, CA, 10/26-10/27/07.

“Treatment of Nonunions and Advancements in Fracture Healing”, University of California, San Diego Department of Orthopaedic Surgery Grand Rounds Lecture, San Diego, CA, 2/13/08.

“Bone and Soft Tissue Defects of the Tibia Treated Primarily with Free Tissue Transfer”, American Academy of Orthopaedic Surgeons’ Specialty Day of *Limb Lengthening and Reconstruction Society of North America*, San Francisco, CA, 3/8/08.

“Complex Limb Salvage, My Last 20 Years”, California Pacific Medical Center Department of Medicine Grand Rounds Lecture, San Francisco, CA, 2/25/08.

“Outcome Analysis of Combined Ilizarov Bone Transport and Immediate Free Tissue Transfer for Lower Extremity Salvage”, Wilson – Bost Interurban Club Annual Meeting, San Francisco, CA, 3/28/08.

“Outcome Analysis of Combined Ilizarov Bone Transport and Immediate Free Tissue Transfer for Lower Extremity Salvage”, 53rd Annual Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/9/08.

“Use of Circular External Fixation to Maintain Foot Position During Free Tissue Transfer to the Foot and Ankle”, *Limb Lengthening and Reconstruction Society, 18th Annual Meeting*, Albuquerque, NM, 7/10-7/12/08.

“Osteomyelitis: The Scope of the Problem”, California Pacific Medical Center 4th Annual Orthopaedic Education Course: *Musculoskeletal Infections, What is New in 2008*, Kabuki Hotel, San Francisco, CA, 9/5/08.

“Chronic Bone and Soft Tissue Infections; Their Common Causes and Treatment Methods”, California Pacific Medical Center 4th Annual Orthopaedic Education Course: *Musculoskeletal Infections, What is New in 2008*, Kabuki Hotel, San Francisco, CA, 9/5/08.

“Long Term Functional Outcome of Salvaged Limbs with Combined Free Tissue Transfer and Bone Transport”, California Pacific Medical Center 4th Annual Orthopaedic Education Course: *Musculoskeletal Infections, What is New in 2008*, Kabuki Hotel, San Francisco, CA, 9/5/08.

“Complex Humeral Fracture Controversies”, *Trauma Case Controversies Symposium*, New York, NY, 9/26-9/27/08.

“Diagnosis and Treatment of Compartment Syndrome”, *Community Surgeon Dissection Course*, Ft. Lauderdale, FL, 11/14-11/15/08.

Case Symposium: “Combined Bone and Soft Tissue Defects; Treatment Alternatives”, American Academy of Orthopaedic Surgeons’ Specialty Day of *Limb Lengthening and Reconstruction Society of North America*, Las Vegas,, NV, 2/28/09.

“Use of Circular External Fixation to Maintain Foot Position During Free Tissue Transfer to the Foot and Ankle”, 54th Annual Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/8/09.

“Limb Salvage, My Last 20 Years”, MD² Annual Meeting, St. Francis Hotel, San Francisco, CA, 9/25/09.

“Proximal Humeral Fractures: Evidence Based Medicine”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Marriott Hotel, Napa, CA, 11/6-11/7/09.

“Humeral Shaft Nonunions: Treatment Strategies”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Marriott Hotel, Napa, CA, 11/6-11/7/09.

“The 8 Most Common Reasons Why Fracture Care Fails”, *Orthopaedic Reconstruction & Trauma -- New Treatment Innovations*, Marriott Hotel, Napa, CA, 11/6-11/7/09.

“Comprehensive Treatment of Complete Arm Amputations”, 1st Foundation for Orthopaedic Trauma Resident Course, Las Vegas, NV, 2/11 – 2/12/10.

“Nonunions & Limb Salvage: Where we have been ... Where we are going”, Orthopaedic Surgery Grand Rounds, Stanford University Medical Center, Stanford, CA, 3/17/10.

“Limb Salvage and Other Stuff”, Wilson – Bost Interurban Club Annual Meeting, San Francisco, CA, 4/9/10.

Limb Salvage and Transplantation, Where We Have Been and Where Are We Going”, Department of Orthopaedic Surgery Grand Rounds, Landstuhl Regional Medical Center, Landstuhl, Germany, 5/13/10.

Lowenberg, DW, Parrett, B, **Buntic, R**, Buncke, GW: “Long Term Follow Up Cost Comparison of Free Flap Ilizarov Frame Treatment Versus Amputation in

Lower Extremity Lim Salvage”, 55th Annual Inman-Abbott Annual Lectureship. University of California, San Francisco, CA, 5/14/2010.

“Intramedullary Nailing: Tips and Tricks”, Advanced Techniques for Intramedullary Nailing, Product Training for the Orthopaedic Surgeon, Hyatt Regency, San Francisco, CA, 8/5 – 8/6/2010.

“Treatment of Complex Humeral Fractures”, Annual Orthopaedic Trauma Case Controversies, New York, NY, 10/1 - 10/2/2010.

“Osteomyelitis: The Scope of the Problem”, Kaiser Permanente Group James O. Johnston Annual Education Symposium, Oakland, CA, 10/29/2010.

“Tibial Nailing: Indications and Limitations”, *Advances in Orthopaedic Trauma*, Mark Hopkins Hotel, San Francisco, CA, 11/5 - 11/6/2010.

“Advanced Lower Extremity Rodding: Tips and Tricks”, *Advances in Orthopaedic Trauma*, Mark Hopkins Hotel, San Francisco, CA, 11/5 - 11/6/2010.

“Treatment of Proximal Humeral Fractures: Evidence Based Medicine”, *Advances in Orthopaedic Trauma*, Mark Hopkins Hotel, San Francisco, CA, 11/5 - 11/6/2010.

“Limb Salvage: Where we have been ... Where we are going”, Department of Plastic Surgery Grand Rounds, Stanford University Medical Center, Stanford, CA, 1/11/11.

“Nonunions & Limb Salvage: Where we have been Where we are going”, AIOD Germany New Technologies Forum, San Diego, CA, 2/17/11.

“Treatment of Infected Nonunions for Dummies”, 2nd Annual Meeting, Foundation for Orthopaedic Trauma, Las Vegas, NV, 3/4/11.

“Osteomyelitis & the Treatment of Musculoskeletal Infections”, Northern California Chapter, Western Orthopaedic Association 78th Annual Meeting, Carmel, CA, 4/9/11.

“Advanced Lower Extremity Intramedullary Rodding: Tips & Tricks”, Northern California Chapter, Western Orthopaedic Association 78th Annual Meeting, Carmel, CA, 4/9/11.

“Open Fractures and Wound Management: Flaps are the Answer”, Orthopaedic Trauma 2011: Best Clinical Science & Practices, Columbia University College of Physicians & Surgeons, New York, NY, 5/7/11.

“Treatment Options for Complex Humeral Fractures”, 10th Annual Masters’ Fracture Forum, Huntington Beach, CA, 5/12 – 5/14/11.

“Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage”, Limb Lengthening and Reconstruction Society, 21st Annual Meeting, Chicago, IL, 7/22-7/23/2011.

“Bone Loss in the Femur & Tibia: Treatment Strategies”, Cedars-Sinai Medical Center 3rd Annual Orthopaedic Trauma Course *Best Clinical Science & Practice*, Los Angeles, CA, 9/17/2011.

“Peri-Articular Tibial Fractures: When to Use External Fixation”, Cedars-Sinai Medical Center 3rd Annual Orthopaedic Trauma Course *Best Clinical Science & Practice*, Los Angeles, CA, 9/17/2011.

“Chronic Osteomyelitis of the Tibia: Is There Anything New?”, Cedars-Sinai Medical Center 3rd Annual Orthopaedic Trauma Course *Best Clinical Science & Practice*, Los Angeles, CA, 9/17/2011.

“War-Related Injuries: The Current Scope of the Problem”, Orthopaedic Surgery Grand Rounds, Stanford University Medical Center, Stanford, CA, 10/5/11.

“Orthopaedic Trauma Surgery: An Overview”, Surgery 204 lectureship to 1st and 2nd year medical students, Stanford University School of Medicine, 10/21/11.

“Lower Extremity Trauma”, *Caring for the Complex Orthopaedic Patient: New Challenges & Solutions*, Annual Stanford University Nursing Course, Palo Alto, CA, 11/1/11.

“Femoral Shaft Fractures: Where Treatment Still Remains a Dilemma”, *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 11/4 - 11/5/2011.

“Tibial Nailing: Indications, Alternatives & Limitations”, *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 11/4 - 11/5/2011.

“War Related Injuries; The Landstuhl Experience”, *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 11/4 - 11/5/2011.

“Femoral Shaft Fractures: Where Treatment Still Remains a Dilemma”, *OTC Hellas Orthopaedic Trauma Society 3rd Annual Symposium*, Athens, Greece, 11/18 – 11/19/2011.

“Tibial Nailing: Indications, Alternatives & Limitations”, *OTC Hellas Orthopaedic Trauma Society 3rd Annual Symposium*, Athens, Greece, 11/18 – 11/19/2011.

“Current Trends & Innovations in the Treatment of Osteomyelitis”, *OTC Hellas Orthopaedic Trauma Society 3rd Annual Symposium*, Athens, Greece, 11/18 – 11/19/2011.

“Salvage of Limb Threatening Complications to the Lower Extremity”, *OTC Hellas Orthopaedic Trauma Society 3rd Annual Symposium*, Athens, Greece, 11/18 – 11/19/2011.

“Limb Salvage Versus Amputation: A Long Term Cost & Outcome Analysis”, *OTC Hellas Orthopaedic Trauma Society 3rd Annual Symposium*, Athens, Greece, 11/18 – 11/19/2011.

“Salvage Considerations in Chronic Fracture/Dislocations of the Ankle”, *Thought Leaders in Trauma: Advanced Case Complications Symposium*, San Francisco, CA, 12/3/11.

“Proximal Humeral Fractures: What Needs to be Fixed, Indications & Techniques for Repair”, *Fragility Fractures, Osteosynthesis & Trauma Care (OTC) Advanced Course*, Houston, TX, 12/5/11.

“Proximal Humeral Fractures: Arthroplasty Indications and Best Evidence”, *Fragility Fractures, Osteosynthesis & Trauma Care (OTC) Advanced Course*, Houston, TX, 12/5/11.

“Distal Radius Fractures: Open Reduction & Internal Fixation with Locked Plating, Approaches & Techniques”, *Fragility Fractures, Osteosynthesis & Trauma Care (OTC) Advanced Course*, Houston, TX, 12/5/11.

“Infection Management: Prevention & Treatment”, *Extremity War Injuries VII, A Decade at War: Evolution of Orthopaedic Combat Casualty Care*, co-sponsored by the American Academy of Orthopaedic Surgery and The Department of Defense, Washington, DC, 1/18 – 1/20/2012.

“Limb Salvage; What is New. *Tips & Tricks*”, Stanford Ambulatory Care Nurses’ Inservice, Stanford University Medical Center, Palo Alto, CA, 1/27/12.

“Osteomyelitis & Infected Nonunions, *A Better Understanding*”, Foundation of Orthopaedic Trauma 3rd Annual Resident Education Symposium, Las Vegas, NV, 3/2/12.

“Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage”, Foundation of Orthopaedic Trauma 3rd Annual Resident Education Symposium, Las Vegas, NV, 3/2/12.

“Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage”, Wilsoo Bost Interurban Society Annual

Meeting, Shriner's Hospital, Sacramento, CA, 4/13/12.

"Open Fractures: How I Debride and Treat", Orthopaedic Trauma: A Practical Guide in 2012, Columbia University College of Physicians & Surgeons, New York, NY, 5/11 – 5/12/12.

"Complications of Osteosynthesis – Case Presentations", Orthopaedic Trauma: A Practical Guide in 2012, Columbia University College of Physicians & Surgeons, New York, NY, 5/11 – 5/12/12.

"Microvascular Bone Transfer for Tibial Segment Bone Defects", Orthopaedic Trauma: A Practical Guide in 2012, Columbia University College of Physicians & Surgeons, New York, NY, 5/11 – 5/12/12.

"Common Fractures in the Elderly: Current State of the Art" (*session organizer and moderator*), Western Orthopaedic Society 76th Annual Meeting, Portland, OR, 6/15/12.

"Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage", Western Orthopaedic Society 76th Annual Meeting, Portland, OR, 6/15/12.

"Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage", Stanford University School of Medicine Annual Founder's Day Lectures, Stanford University, 6/21/12.

"Salvage of Limb Threatening Complications to the Lower Extremity", XVI Curso Internacional Avances en Ortopedia, Universidad Guadalajara Campus Puerto Vallarta, Puerto Vallarta, Mexico, 7/18 – 7/21/12.

"Proximal Humeral Fractures, Evidence Based Medicine: *What Needs to be Fixed*", XVI Curso Internacional Avances en Ortopedia, Universidad Guadalajara Campus Puerto Vallarta, Puerto Vallarta, Mexico, 7/18 – 7/21/12.

"Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage", XVI Curso Internacional Avances en Ortopedia, Universidad Guadalajara Campus Puerto Vallarta, Puerto Vallarta, Mexico, 7/18 – 7/21/12.

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Mexico, 7/18 – 7/21/12.

“Osteomyelitis & Infected Nonunions, *A Better Understanding*”, XVI Curso Internacional Avances en Ortopedia, Universidad Guadalajara Campus Puerto Vallarta, Puerto Vallarta, Mexico, 7/18 – 7/21/12.

“Osteomyelitis and Infected Nonunions; A Better Understanding”, Orthopaedic Surgery Grand Rounds, University of Pittsburgh Medical Center, Pittsburgh, PA, 9/19/12.

“Chronic Osteomyelitis of the Tibia: Bone Management”, 4th Annual Los Angeles Orthopaedic Trauma Symposium, Los Angeles, CA, 9/22/12.

“Pilon Fractures: Internal or External Fixation; How I have Changed My Practice in the Past Ten Years”, 4th Annual Los Angeles Orthopaedic Trauma Symposium, Los Angeles, CA, 9/22/12.

“Aseptic Non-Union of the Femur: Management Strategies”, 4th Annual Los Angeles Orthopaedic Trauma Symposium, Los Angeles, CA, 9/22/12.

“Treatment of the Ipsilateral Neck/Shaft Fracture: What is Optimal in 2012?”, *Advances in Orthopaedic Trauma*, Omni Hotel, San Francisco, CA, 11/9 - 11/10/2012.

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“Management of Hip Fractures in the Geriatric Population”, *Geriatric Multidisciplinary Care Conference*, Stanford University School of Medicine, Stanford, CA, 2/8 – 2/9/13.

“Bone Regeneration In Clinical Practice”, Orthopaedic Surgery 270: Orthopaedic Tissue Engineering, Stanford University School of Medicine, 2/21/2013.

“A Primer: Thinking Like a Microbe”, Foundation for Orthopaedic Trauma 4th Annual Resident Education Symposium, Las Vegas, NV, 3/1/2013.

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"Long Term Results and Costs of Muscle Flap Coverage with Ilizarov Bone Transport in Lower Limb Salvage", *Trauma Update 2013: Fractures of the Tibia*, University of Chile, Santiago, Chile, 5/3/2013.

"Orthopaedic Trauma: Advances in Treatment & Understanding", Science & Technology Seminar Series, Stanford University, 5/6/2013.

Symposium Panelist, "Management of Periprosthetic Femur Fractures", Inman-Abbott Lectureship, University of California, San Francisco, 5/11/2013.

"Extremity Trauma: A Case-Driven Primer to Avoiding Complications", *Annual Emergency Trauma Care Update Symposium*, Stanford University School of Medicine, 6/21/2013.

"Advances in Treatment of Osteomyelitis; How to Think Like a Microbe", Orthopaedic Surgery Grand Rounds, Stanford University School of Medicine, 9/18/2013.

"Biomechanics of External Fixation; The Past & the Future", *Advances in Orthopaedic Trauma 2013*, Omni Hotel, San Francisco, CA, 10/25 – 10/26/2013.

"Hoffman Limb Reconstruction Fixator: A New Platform for Circular Fixation in Fracture Management", *Advances in Orthopaedic Trauma 2013*, Omni Hotel, San Francisco, CA, 10/25 – 10/26/2013.

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“Lower Extremity Deformity Analysis for Sports Medicine”, Stanford Sports Medicine Service Weekly Conference; Stanford, CA, 12/17/2013.

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“Temporal Trends in the Incidence, Treatment, and Outcomes of Hip Fracture in Older Patients Initiating Dialysis or After Kidney Transplant in the United States”, *Wilson-Bost Interurban Society Annual Meeting*, Stanford, CA, 4/26/2014.

“Treatment of Complex Fracture Deformities”, *Trauma Case Controversies*, San Francisco, CA, 5/2 – 5/3/14.

“Treatment of Open Tibia Fractures”, *Trauma Case Controversies*, San Francisco, CA, 5/2 – 5/3/14.

“Diagnosis and Treatment of Infected Nonunions”, *AAOS/ORS Invited Symposium: Musculoskeletal Infections; Where are We in 2014?*, Rosemont, IL, 5/9 – 5/10/2014.

“Symposium: What is new in Orthopaedic Trauma”, California Orthopaedic Association Annual Meeting, Monterey CA, 5/30 – 6/1/2014.

“The Best Orthopaedic Surgical Paper I Have Read This Year”, California Orthopaedic Association Annual Meeting, Monterey CA, 5/30 – 6/1/2014.

Panelist: “Complex Fractures About the Ankle”, *2nd International Foot and Ankle Course*, Chicago IL, 6/6 – 6/7/2014.

“The Hoffman LRF System; Its Use in Lower Extremity Trauma”, *2nd International Foot and Ankle Course*, Chicago IL, 6/6 – 6/7/2014.

“The Hoffman LRF Circular Fixation Frame: System Overview”, *Modern Circular External fixation in 2014*, San Francisco, CA, 8/1 – 8/2/2014.

“Advanced Wire and Pin Fixation”, *Modern Circular External fixation in 2014*, San Francisco, CA, 8/1 – 8/2/2014.

“Biomechanics of External Fixation and Design Needs of Future Fixators”, *Modern Circular External fixation in 2014*, San Francisco, CA, 8/1 – 8/2/2014.

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“Bone Reconstruction in Infected Nonunions”, *Honorary Reinhard Schnettler Trauma Research Symposium*, Geissen, Germany, 9/30/2014.

“Hip Fractures in End Stage Renal Disease: National Demographics and Data”, *Advances in Orthopaedic Trauma 2014*, Saint Francis Hotel, San Francisco, CA, 10/24 – 10/25/14.

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“Deformity Analysis of the Lower Extremity”, Stanford Sports Medicine Weekly

Conference, Stanford University Department of Orthopaedic Surgery, 12/16/2014.

“Evaluation and Treatment of Long Bone Nonunions”, *15th Annual AAOS/OTA Orthopaedic Trauma Update 2015*, Orlando, FL, 2/19 – 2/21/2015.

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“Treatment of Infected Subtrochanteric Femur Fractures”, *Complex Trauma Controversies*, La Jolla, CA, 5/1 – 5/2/2015.

“Treatment of Open Tibia Fractures with Vascular Injury”, *Complex Trauma Controversies*, La Jolla, CA, 5/1 – 5/2/2015.

“Advances in Treatment and Understanding of Musculoskeletal Infections”, *Microsurgery Departmental Grand Rounds*, California Pacific Medical Center, San Francisco, CA, 6/26/2015.

“Introduction to the Hoffman LRF Circular Fixation System”, *Advances in Modern External Fixation*, Westin Hotel, New York, NY, 7/31 – 8/1/2015.

“Biomechanics of External Fixation and Design Needs of Future Fixators”, *Advances in Modern External Fixation*, Westin Hotel, New York, NY, 7/31 – 8/1/2015.

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“Fibular Fixation in External Fixation”, “Advanced Wire and Half Pin Fixation, Building Fixation Off the Rings”, *Advances in Modern External Fixation*, Westin Hotel, New York, NY, 7/31 – 8/1/2015.

“Bone Transport and Corticotomy Techniques”, “Advanced Wire and Half Pin Fixation, Building Fixation Off the Rings”, *Advances in Modern External Fixation*, Westin Hotel, New York, NY, 7/31 – 8/1/2015.

“Treatment of Tibial Pilon Fractures with Circular External Fixation”, “Advanced Wire and Half Pin Fixation, Building Fixation Off the Rings”, *Advances in*

Modern External Fixation, Westin Hotel, New York, NY, 7/31 – 8/1/2015.

“The Hoffman LRF Foot and Ankle Modules”, “Advanced Wire and Half Pin Fixation, Building Fixation Off the Rings”, *Advances in Modern External Fixation*, Westin Hotel, New York, NY, 7/31 – 8/1/2015.

“New Perspectives in the Treatment of Osteomyelitis, A Collaborative Approach”, *Division of Infectious Disease Grand Rounds*, Stanford University School of Medicine, Stanford, CA, 8/6/2015.

“Newer Perspectives in Limb Salvage 2015”, 25th Annual Trauma & Critical Care Symposium, Stanford University and Santa Clara Valley Medical Center, Palo Alto, CA, 8/13/2015.

“New Trends and Understanding of Osteomyelitis”, Department of Orthopaedic Surgery Grand Rounds, Stanford University School of Medicine, 10/14/2015.

“Evaluation and Treatment of Tibial Pylon Fractures; Case-Based Learning”, *Advances in Orthopaedic Trauma 2015*, Omni Hotel, San Francisco, CA, 12/4 – 12/5/2015.

Koval, K, **Lowenberg, DW**, “Use of Orthobiologics and Bone Void Filling Techniques in Clinical Practice”, *Advances in Orthopaedic Trauma 2015*, Omni Hotel, San Francisco, CA, 12/4 – 12/5/2015.

“Lower Extremity Deformity Analysis for Limb Realignment”. Division of Sports Medicine Weekly Conference, Department of Orthopaedic Surgery, Stanford University School of Medicine, 12/15/2015.

“Perspectives in Limb Salvage & Distraction Osteogenesis”, *Ortho 270 Course: Tissue Engineering* (2nd and 3rd year medical students), Stanford University School of Medicine, Stanford, CA, 1/21/2016.

“Infected Nonunions: Theory and New Approaches to Treatment”, *Foundation for Orthopaedic Trauma 7th Annual Trauma Symposium*, Las Vegas, NV, 1/29/2016.

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“Evolution and Development of the Hoffman LRF System”, *Limb Lengthening & Reconstruction Society of North America Specialty Day Meeting*, American Academy of Orthopaedic Surgeons Annual Meeting, Orlando, FL, 3/5/2016.

“Antibiotics and Musculoskeletal Infections: The Scope of the Problem”, Department of Microsurgery Grand Rounds, California Pacific Medical Center, San Francisco, CA, 3/25/2016.

“Antibiotics and Musculoskeletal Infections: The Scope of the Problem”, Wilson-Bost Interurban Society Annual Meeting, Stanford University School of Medicine, Palo Alto, CA, 4/2/2016.

“Infected Multi-level Tibial Nonunions”, Annual Complex Trauma Case Controversies, Sofitel Hotel, Los Angeles, CA, 5/5 – 5/6/2016.

“Vascular Injuries About the Knee; Case Driven Learning”, Osteosynthesis and Trauma Care Foundation Leadership Forum, Verona, Italy, 6/16 – 6/17/2016.

“Introduction to the Hoffman LRF Circular Fixation System”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

“Biomechanics of External Fixation and Design Needs of Future Fixators”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

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“Fibular Fixation in External Fixation”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

“Treatment of Tibial Pilon Fractures”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

“Telescopic Motors and Hinges About the Foot With the LRF System”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

“Equinus Correction With the LRF System: Case Examples”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

“Bone Transport and Corticotomy Techniques”, *Advances in Modern External Fixation*, Swissotel, Chicago, IL, 7/29 – 7/30/2016.

“Treatment of 1,000 Long Bone Nonunions: What I Have Learned”, *26th Annual Baltimore Limb Deformity Course*, Four Seasons Hotel, Baltimore, MD, 8/26 – 8/28/2016.

“New Paradigm in the Management of Osteomyelitis”, *1st George Cierny Memorial Lectureship*, Sharp Medical Center, San Diego, CA, 9/22/2016.

“Bone Transport & Treatment of the Docking Site for Segmental Long Bone Defects”, Orthopaedic Trauma Association Annual Meeting, Washington National Harbor, Virginia, 10/5 – 10/8/2016.

“Evaluation and Treatment of Distal Tibial Fractures; Case-Based Learning”, *Advances in Orthopaedic Trauma 2016*, Omni Hotel, San Francisco, CA, 12/2 – 12/3/2016.

“New Innovations in the Care of Musculoskeletal Infections; Case-Based Learning”, *Advances in Orthopaedic Trauma 2016*, Omni Hotel, San Francisco, CA, 12/2 – 12/3/2016.

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“Lower Extremity Deformity Analysis”. Division of Sports Medicine Weekly Conference, Department of Orthopaedic Surgery, Stanford University School of Medicine, 12/13/2016.

“The *Osteosynthesis and Trauma Care Foundation*, its Mission and Global Function”, *Foundation for Orthopaedic Trauma 8th Annual Trauma Symposium*, Las Vegas, NV, 2/17/2017.

“Perspectives in Limb Salvage & Distraction Osteogenesis”, *Ortho 270 Course: Tissue Engineering* (2nd and 3rd year medical students), Stanford University School of Medicine, Stanford, CA, 3/2/2017.

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“What I Have Learned From 1,000 Nonunion Cases: surgical Tips and Tricks”. *12th Annual International San Francisco Orthopaedic Trauma Course*, San Francisco, CA, 4/27 – 4/29/2017.

“Nonunions, Malunions, and Deformity Correction”. Stanford Residency Core Curriculum Lectures, Stanford University School of Medicine, 5/3/2017.

“Soft Tissue Coverage for Open Tibia Fractures”, *29th Annual Orthopaedic Trauma: A Practical Guide to What We Need to Know in 2017*, New York, NY, 5/5 – 5/6/2017.

Distal Tibial Plating; What Went Wrong?”, *29th Annual Orthopaedic Trauma: A Practical Guide to What We Need to Know in 2017*, New York, NY, 5/5 – 5/6/2017.

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“Newer Perspectives in the Treatment of Long Bone Osteomyelitis”, *10th Annual Osteosynthesis and Trauma Care Internal Forum*, Amsterdam, Netherlands, 6/15 – 6/16/2017.

“Newer Perspectives in the Treatment and Care of Osteomyelitis”, *Western Orthopaedic Association Annual Meeting*, Kauai, Hawaii, 8/3 – 8/5/2017.

“Treatment of Infected Subtrochanteric Fractures and Nonunions”, *10th Annual Trauma Case Controversies*, New York, NY, 9/15 – 9/16/2017.

“Newer Perspectives in the Treatment and Care of Osteomyelitis”, *Osteosynthesis and Trauma Care (OTC) International Research Forum*, Malaga, Spain, 10/20 – 10/21/2017.

“Antibiotics and Musculoskeletal Infections: New Perspectives to a Growing Problem”, *Stanford University School of Medicine Plastic Surgery Grand Rounds*, 11/21/2017.

“Care of Osteomyelitis and Musculoskeletal Infections Following Trauma”, *Advances in Orthopaedic Trauma 2017*, Omni Hotel, San Francisco, CA, 12/1 – 12/2/2017.

“Review Questions on Trauma Care in 2017”, *Advances in Orthopaedic Trauma 2017*, Omni Hotel, San Francisco, CA, 12/1 – 12/2/2017.

“Lower Extremity Deformity Analysis”. Division of Sports Medicine Weekly Conference, Department of Orthopaedic Surgery, Stanford University School of Medicine, 12/5/2017.

“The *Osteosynthesis and Trauma Care Foundation* (OTCF): A yearly overview”, *Foundation for Orthopaedic Trauma 9th Annual Trauma Symposium*, Las Vegas, NV, 2/2/2018.

“Perspectives in Limb Salvage & Distraction Osteogenesis”, *Ortho 270 Course: Tissue Engineering* (2nd and 3rd year medical students), Stanford University School of Medicine, Stanford, CA, 2/8/2018.

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"Antibiotic Stewardship in the Treatment of Chronic Osteomyelitis: Entering the Post-Antibiotic Era", Wilson-Bost Interurban Society Annual Meeting, University of California, Davis & Shriner's Hospital Medical Centers, Sacramento, CA, 4/6/2018.

"Musculoskeletal Infection: Diagnosis and Management", *13th Annual San Francisco Orthopaedic Trauma Course*, San Francisco, CA, 4/26 – 4/28/18.

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"Use of the Hoffman LRF System in Trauma and Tibial Fractures", *University of Arizona Resident LRF System Course and Cadaver Lab*, Banner Medical Center, Phoenix, AZ, 5/11/18.

"Newer Perspectives in the Use of Antibiotics and the Treatment of Chronic Osteomyelitis", University of Arizona Resident Graduation, Phoenix, AZ, 5/11/18.

"Treatment of 1,000 Nonunions: What I Have Learned", *11th Annual University of Arizona Resident Research Day and Graduation*, Phoenix, AZ, 5/12/18.

"29 Years of a Limb Salvage Practice; Attempted Thoughts on a Healthier Life", *11th Annual University of Arizona Resident Research Day and Graduation*, Phoenix, AZ, 5/12/18.

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“Lower Extremity Deformity Analysis: A Stepwise Approach to Defining Deformity Parameters”, Sports Orthopaedic and Rehabilitation Fellows Weekly Lecture, Redwood City, CA, 7/25/2018.

“Use of Fine Wire External Fixation in Distal Tibial Fractures With or Without Articular Extension”, International Orthopaedic Trauma Association Symposium, *Orthopaedic Trauma Association (OTA) Annual Meeting*, Orlando, FL, 10/17/2018.

“New Approaches in the Treatment of Chronic Osteomyelitis: *Entering the Post-Antibiotic Era*”, Stanford University School of Medicine Department of Orthopaedic Surgery Grand Rounds, Stanford, CA 11/7/2018.

“Pain Management in the Orthopaedic Trauma Patient: Non-opioid Solutions”, *Annual OTC Research Symposium*, Toronto, Canada, 11/16-11/17/2018.

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“The *Osteosynthesis and Trauma Care Foundation* (OTCF): A yearly overview”, *Foundation for Orthopaedic Trauma 10th Annual Trauma Symposium*, Las Vegas, NV, 2/8/2019.

“Effect of electron beam sterilization on 3D printed PCL/ β -TCP scaffolds for bone tissue engineering”, *Foundation for Orthopaedic Trauma 10th Annual Trauma Symposium*, Las Vegas, NV, 2/8/2019.

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“Open Access Publishing: A Paradigm Shift for Future Knowledge Dissemination”, *14th Annual International Orthopaedic Trauma Course*, San Francisco, CA, 5/16 – 5/18/2019.

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“Diagnosis and Treatment of Nonunions and Limb Deformity”, Stanford Orthopaedic Surgery Didactic Lecture Series, Stanford University School of Medicine, 6/26/2019.

“Antibiotic Stewardship in the Treatment of Chronic Osteomyelitis: *Entering the Post-Antibiotic Era*”, University of Pennsylvania Department of Orthopaedic Surgery Grand Rounds, University of Pennsylvania School of Medicine, Philadelphia, PA, 9/12/2019.

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Lowenberg DW, Yang P. “Synthetic Graft Substitutes: What is the Future?” *OTC Hot Topic Workshop*, Prague, Czechoslovakia, 11/15 – 11/16/2019.

“Evolution and History of External Fixation”, *Bone Growth and Transport for the Reconstruction and Repair of Extremity Injuries*”, 12th International Meeting on External Fixation, Morelia, Mexico, 11/20 – 11/23/2019.

“The Biomechanics of External Fixation in the Treatment of Extremity Injuries”, *Bone Growth and Transport for the Reconstruction and Repair of Extremity Injuries*”, 12th International Meeting on External Fixation, Morelia, Mexico, 11/20 – 11/23/2019.

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Poster Presentations

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