

## CURRICULUM VITAE

### William D. Bugbee, MD

#### **CURRENT POSITION (2006-present)**

Attending Orthopaedic Surgeon  
Department of Orthopaedic Surgery  
Head, Division of Lower Extremity Reconstruction  
Director, Cartilage Transplant and Joint Preservation  
Director, Adult Reconstruction Fellowship  
Clinical Chief, Shiley Center for Orthopaedic Research  
Scripps Clinic, La Jolla CA USA

#### **ADDRESS**

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#### **OTHER POSITIONS**

Medical Director, JRF Ortho  
Medical Advisory Board, Allosource  
Co-Founder and Principal, Restoration Biologics LLC  
Associate and Advisor, UCSD Cartilage Tissue Engineering Lab  
Board of Directors, International Cartilage Repair Society

#### **PREVIOUS POSITIONS**

Associate Professor / Adjunct Professor  
Chief of Joint Replacement and Cartilage Transplantation  
Department of Orthopaedic Surgery  
University of California, San Diego  
Past President Engh Society  
Past President San Diego Orthopaedic Society  
AAOS Biologics Committee  
FDA Advisory Panel for Cellular, Tissue and Gene Therapy

#### **EDUCATION**

##### **FELLOWSHIP**

Adult Reconstructive Surgery, The Anderson Clinic  
Anderson Orthopaedic Research Institute, Alexandria, VA

##### **RESIDENCY**

Orthopaedic Surgery, University of California, San Diego Medical Center  
Affiliated Hospitals, San Diego, CA

##### **INTERNSHIP**

Surgery, University of California, San Diego Medical Center

## MEDICAL SCHOOL

University of California, San Diego, La Jolla, CA  
Regent's Scholar

## UNIVERSITY

University of California, Los Angeles, Los Angeles, CA  
Phi Beta Kappa

## CERTIFICATION AND LICENSURE

American Board of Orthopaedic Surgery (ABOS expires 2027)  
California Medical License G066930

## PROFESSIONAL SOCIETIES

American Academy of Orthopaedic Surgeons (AAOS)  
The Knee Society (KS)  
American Association of Hip and Knee Surgeons (AAHKS)  
International Cartilage Repair Society (ICRS)  
International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS)  
California Orthopaedic Society  
San Diego Orthopaedic Society  
Wilson-Bost Society

## JOURNAL REVIEWER/ EDITORIAL BOARDS

*American Journal of Sports Medicine*  
*Cartilage (editorial board)*,  
*Journal of Bone and Joint Surgery*  
*Journal of Cartilage and Joint Ppreservation*

## HONORS AND AWARDS

Phi Beta Kappa, UCLA  
Regents' Scholarship, School of Medicine, UCSD  
Vernon P. Thompson Award, Western Orthopaedic Association  
Department of Orthopaedics Teaching Award, University of California, San Diego  
Vernon P. Thompson & Lloyd W. Taylor Award, Western Ortho Assoc  
Young Investigator Award, Osteoarthritis Research Soc International (OARSI)  
Wayne H. Akeson Teaching Award, Department of Orthopaedics, UCSD  
San Diego "Top Doctor"  
Thornburg Medical Foundation Department of Surgery  
Chairman's Award for Research in Surgery  
Kappa Delta Elizabeth Winston Lanier Award, American Academy of Orthopaedic Surgeons (AAOS)

## SCIENTIFIC PUBLICATIONS

1. **Bugbee WD**, Botte MJ: Surface Anatomy of the Hand: The Relationships Between Palmar Skin Creases and Osseous Anatomy. *Clin Orthop Relat Res* 296:122–26, November 1993.
2. Oates KM, Barrera DL, Tucker WN, Chau CCH, **Bugbee WD**, Convery FR: *In vivo* Effects of Pressurization of Polymethyl Methacrylate Bone-Cement: Biomechanical and Histologic Analysis. *J Arthroplasty* 10(3): 373–81, June 1995.
3. Engh CA, **Bugbee WD**, Culpepper WJ: Cementless Acetabular Components: Optimum and Outcomes. *Orthopedics* 18(9): 813–15, September 1995.

4. **Bugbee WD**, Sychterz CJ, Engh CA: Bone Remodeling Around Cementless Hip Implants. *South Med J*, 89(11): 1036–40, November 1996.
5. **Bugbee WD**, Culpepper WJ, Engh CA Jr, Engh CA Sr: Long-Term Clinical Consequences of Stress-Shielding after Total Hip Arthroplasty without Cement. *J Bone Joint Surg Am* 79A(7): 1007–12, July 1997.
6. **Bugbee WD**, Ammeen DJ, Parks NL, Engh GA: 4- to-10-Year Results with the Anatomic Modular Total Knee. *Clin Orthop Relat Res* (348):158–65, March 1998.
7. **Bugbee WD**, Convery FR: Osteochondral Allograft Transplantation. *Clin Sports Med* 18(1): 67–75, January 1999.
8. **Bugbee WD**, Fresh Osteochondral Allografting. *Oper Tech Sports Med* 8(2): 158–62, April 2000.
9. **Bugbee WD**, Fresh Osteochondral Allografts. *Semin Arthroplasty* 11(4): 221–26, 2000.
10. Sirlin CB, Boutin RD, Brossmann J, Pathria MN, Convery FR, **Bugbee W**, Resnick D: Polydioxanone Biodegradable Pins in the Knee: MR Imaging. *AJR Am J Roentgenol* 176(1): 83–90, January 2001.
11. Sirlin CB, Brossmann J, Boutin RD, Pathria MN, Convery FR, **Bugbee W**, Deutsch R, Lebek LK, Resnick D: Shell Osteochondral Allografts of the Knee: Comparison of MR Imaging Findings and Immunologic Responses. *Radiology* 219(1): 35–43, April 2001.
12. **Bugbee WD**, Alternatives to Arthroplasty of the Knee: Biologic Resurfacing. *Curr Opin Orthop* 12: 1–7, 2001.
13. **Bugbee WD**, Ammeen DJ; Engh GA: Does Implant Selection Affect Outcome of Revision Knee Arthroplasty? *J Arthroplasty* 16(5): 581–85, August 2001.
14. Akeson WH, **Bugbee W**, Chu C, Giurea A, Differences in Mesenchymal Tissue Repair. *Clin Orthop Relat Res* 391S:S124–S141, October 2001.
15. **Bugbee WD**, Fresh Osteochondral Allografts. *J Knee Surg* 15(3): 191–5, 2002.
16. Kim CW, Jamali A, Tontz W Jr., Convery FR, Brage ME, **Bugbee WD**: Treatment of Post-traumatic Ankle Arthrosis with Bipolar Tibiotalar Osteochondral Shell Allografts. *Foot Ankle Int* 23(12): 1091–1102, December 2002.
17. Kurtis, MS, Schmidt TA, **Bugbee WD**, Loeser RF, Sah RL: Integrin-Mediated Adhesion of Human Articular Chondrocytes to Cartilage. *Arthritis Rheum* 48(1):110–18, January 2003.
18. Lee SH, Chang DK, Goel A, Boland CR, **Bugbee W**, Boyle DL, Firestein GS: Microsatellite Instability and Suppressed DNA Repair Enzyme Expression in Rheumatoid Arthritis. *J Immunol*, 2003 January 15;170(4):2214-20. Erratum in: *J Immunol* 170(9):4869, May 2003.
19. Tontz W Jr., **Bugbee W**, Brage ME: Use of Allografts in the Management of Ankle Arthritis. *Foot Ankle Clin* 8(2): 361–73, June 2003.
20. Boyle DL, Rosengren S, **Bugbee W**, Kavanaugh A, Firestein GS, Quantitative Biomarker Analysis of Synovial Gene Expression by real-time PCR. *Arthritis Res Ther* 5(6):R352–60, October 2003.
21. Williams SK, Amiel D, Ball ST, Allen RT, Wong VW, Chen AC, Sah RL, **Bugbee WD**, Prolonged Storage Effects on the Articular Cartilage of Fresh Human Osteochondral Allografts. *J Bone Joint Surg Am* 85-A(11):2111–20, November 2003.

22. Tasto JP, Ostrander R, **Bugbee W**, Brage M, The diagnosis and management of osteochondral lesions of the talus: osteochondral allograft update. *Arthroscopy Suppl* 1:138–41, December 2003.
23. Ball ST, Amiel D, Williams SK, Tontz W Jr., Chen A, Sah RL, **Bugbee WD**, The Effects of Storage on Fresh Human Osteochondral Allografts. *Clin Orthop Relat Res* (418): 246–56, January 2004.
24. **Bugbee WD**, Fresh Osteochondral Grafts for the Knee. *Techniques in Knee Surgery* 3(2):68–76, June 2004.
25. Rosengren S, Hoffman HM, **Bugbee W**, Boyle DL, Expression and regulation of cryopyrin and related proteins in rheumatoid arthritis synovium. *Ann Rheum Dis* 64(5):708–14, May 2005.
26. Borazjani BH, Chen AC, Bae WC, Nugent GE, Schumacher BL, Voegtline MS, Patil S, D’Lima DD, Firestein GS, Sah RL, **Bugbee WD**, Mechanisms and Consequences of Chondrocyte Injury During Impact Loading and Insertion of Human Osteochondral Grafts. *Trans Orthop Res Soc* 30:351, 2005.
27. Dietrick TB, **Bugbee, WD**, Distal Femoral Osteotomy Utilizing a Lateral Opening-Wedge Technique. *Techniques in Knee Surgery* 4(3):186–92, September 2005.
28. Allen RT, Robertson CM, Pennock AT, **Bugbee WD**, Harwood FL, Wong VW, Chen AC, Sah RL, Amiel D: Analysis of Stored Osteochondral Allografts at the Time of Surgical Implantation. *Am J Sports Med* 33(10):1479–94. October 2005.
29. Jamali AA, Emmerson BC, Chung C, Convery FR, **Bugbee WD**, Fresh Osteochondral Allografts – Results in the Patellofemoral Joint. *Clin Orthop Relat Res* 437:176–85, August 2005.
30. Meehan R, McFarlin S, **Bugbee W**, Brage M, Fresh Ankle Osteochondral Allograft Transplantation for Tibiotalar Joint Arthritis. *Foot Ankle Int* 26(10):793–802, October 2005.
31. Pennock AT, Robertson CM, Wagner F, Harwood FL, **Bugbee WD**, Amiel D: Does Subchondral Bone Affect the Fate of Osteochondral Allografts During Storage? *Am J Sports Med* 34(4):586–91, April 2006.
32. Robertson CM, Allen TR, **Bugbee WD**, Harwood FL, Healey RM, Amiel D: Upregulation of Apoptotic and Matrix-related Gene Expression During Fresh Osteochondral Allograft Storage. *Clin Orthop Relat Res* 442:260–66, January 2006.
33. Görtz S, **Bugbee WD**, Allografts in Articular Cartilage Repair. *J Bone Joint Surg Am* 88:1374–84, June 2006.
34. Görtz S, **Bugbee WD**, Fresh Osteochondral Allografts: Graft Processing and Clinical Applications. *J Knee Surg* 19(3):231–40, July 2006.
35. Borazjani BH, Chen AC, Bae WC, Patil S, Sah RL, Firestein GS, **Bugbee WD**, Effect of Impact on Chondrocyte Viability During the Insertion of Human Osteochondral Grafts. *J Bone Joint Surg Am* 88A(9) 1934–43, September 2006.
36. Pennock AT, Wagner F, Harwood FL, **Bugbee WD**, Amiel D: Prolonged Storage of Osteochondral Allografts: Does the Addition of Fetal Bovine Serum Improve Chondrocyte Viability? *J Knee Surg* 19(4):265–72, October 2006.
37. Görtz S, **Bugbee WD**, Fresh Osteochondral Allograft Resurfacing the Ankle. *Oper Tech Orthop* 16(4):244–48, October 2006.
38. Nugent-Derfus GE, Takara T, O’Neill JK, Cahill SB, Görtz S, Pong T, Inoue H, Aneloski NM, Wang WW, Vega KI, Klein TJ, Hsieh-Bonassera ND, Bae WC, Burke JD, **Bugbee WD**, Sah RL, Continuous

Passive Motion Applied to Whole Joints Stimulates Chondrocyte Biosynthesis of PRG4. *Osteoarthritis Cartilage* 15(5):566–74, May 2007.

39. Emmerson BC, Görtz S, Jamali AA, Chung C, Amiel D, **Bugbee WD**, Fresh Osteochondral Allografting in the Treatment of Osteochondritis Dissecans of the Femoral Condyle. *Am J Sports Med* 35(6):907–14, June 2007.
40. Görtz S, **Bugbee WD**, Allografts in Articular Cartilage Repair. *Inst Course Lect*, 56:469–80, 2007. (Review)
41. Santoro JE, Eastlack RK, Mirocha JM, **Bugbee WD**, Impact of Erythropoietin on Allogenic Blood Exposure in Orthopaedic Surgery. *Am J Orthop* 36(11):600–04, November 2007.
42. Williams SK, Amiel D, Ball ST, Allen RT, Tontz WL Jr, Emmerson BC, Badlani NM, Emery SC, Haghighi P, **Bugbee WD**, Analysis of Cartilage Tissue on a Cellular Level in Fresh Osteochondral Allograft Retrievals. *Am J Sports Med* 35(12):2022–32, December 2007.
43. Görtz S, Brittberg M, Mandelbaum B, **Bugbee WD**, The International Cartilage Repair Society (ICRS) – A Decade or a Lifetime in Articular Cartilage Repair. *Eur Musculoskelet Rev* 3(1): 80–83, 2008.
44. Han J, Bae WC, Hsieh-Bonassera N, Wong VW, Schumacher B, Görtz S, Masuda K, **Bugbee WD**, Sah RL, Shaped, Stratified, Scaffold-Free Grafts for Articular Cartilage Defects. *Clin Orthop Relat Res*. 466(8):1912–20, August 2008.
45. Patil S, Butcher W, D’Lima DD, Steklov N, **Bugbee WD**, Hoenecke HR, Effect of Osteochondral Graft Insertion Forces on Chondrocyte Viability. *Am J Sports Med*. 36(9):1726–32, September 2008.
46. Hwang J, Bae WC, Shieu W, Lewis CW, **Bugbee WD**, Sah RL, Increased Hydraulic Conductance of Human Articular Cartilage and Subchondral Bone Plate with Progression of Osteoarthritis. *Osteoarthritis Rheum*. 58(12):3831–42, December 2008.
47. Hsieh-Bonassera ND, Wu I, Lin JK, Schumacher BL, Chen AC, Masuda K, **Bugbee WD**, Sah RL, Expansion and Redifferentiation of Chondrocytes from Osteoarthritis Cartilage: Cells for Human Cartilage Tissue Engineering. *Tissue Eng Part A*. 15(11):3513–23, November 2009.
48. Temple-Wong MM, Bae WC, Chen MQ, **Bugbee WD**, Amiel D, Coutts RD, Lotz M, Sah RL, Biomechanical, structural, and biochemical indices of degenerative and osteoarthritic deterioration of adult human articular cartilage of the femoral condyle. *Osteoarthritis Cartilage*. 17(11):1469–76, November 2009.
49. Pallante AL, Bae WC, Chen AC, Görtz S, **Bugbee WD**, Sah RL, Chondrocyte Viability is Higher after Prolonged Storage at 37°C than at 4°C for Osteochondral Grafts. *Am J Sports Med.*, 37(Suppl 1):24S–32S, November 2009.
50. Williams GM, Chan EF, Temple-Wong MM, Bae WC, Masuda K, **Bugbee WD**, Sah RL, Shape, Loading, and Motion in the Bioengineering Design, Fabrication, and Testing of Personalized Synovial Joints. *J Biomech*, 43:156–165, January 2010.
51. Bae WC, Payanal MM, Chen AC, Hsieh-Bonassera ND, Ballard BL, Lotz MK, Coutts RD, **Bugbee WD**, Sah RL, Topographic Patterns of Cartilage Lesions in Knee Osteoarthritis, *Cartilage*, 1(1):10–19, January 2010.
52. Blewis ME, Lao BJ, Schumacher BL, **Bugbee WD**, Sah RL Firestein GS, Interactive Cytokine Regulation of Synoviocyte Lubricant Secretion. *Tissue Engr Part A*, 18(4):1329–37, April 2010.

53. Görtz S, De Young A, **Bugbee WD**, Fresh osteochondral allografting for osteochondral lesions of the talus. *Foot Ankle Int*, 31(4):283–90, April 2010.
54. Blewis ME, Lao BJ, Jadin KD, McCarty WJ, **Bugbee WD**, Firestein GS, Sah RL, Semi-permeable membrane retention of synovial fluid lubricants hyaluronan and proteoglycans 4 for a biomimetic bioreactor, *Biotechnol Bioeng*, 106(1):149–60, May 2010.
55. McCarty WJ, Pallante AL, Rone RJ, **Bugbee WD**, Sah RL, The proteoglycans metabolism of articular cartilage in joint-scale culture, *Tissue Eng Part A*, 16(5):1717–27, May 2010.
56. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allografting for Steroid-Associated Osteonecrosis of the Femoral Condyles. *Clin Orthop Relat Res*, 468(5):1269–78, May 2010.
57. Sgaglione NA, Chen E, Bert JM, Amendola A, **Bugbee WD**, Current strategies for non-surgical, arthroscopic, and minimally invasive surgical treatment of knee cartilage pathology. *Instr Course Lect*, 39:157–80, 2010.
58. Hwang J, Kyubwa EM, Bae WC, **Bugbee WD**, Masuda K, Sah RL, In vitro calcification of immature bovine articular cartilage: formation of a functional zone of calcified cartilage, *Cartilage*, 1(40):287–297, May 2010.
59. Linn MS, Chase DC, Healey RM, Harwood FL, **Bugbee WD**, Amiel D, Etanercept enhances preservation of osteochondral allograft viability, *Am J Sports Med*, 39(7):1494–99, July 2011.
60. Görtz S, Williams III RJ, Gersoff WK, **Bugbee WD**, Osteochondral and meniscal allograft transplantation in the football (soccer) player. *Cartilage* 3(1 Suppl):37S–42S, January 2012.
61. Gomoll AH, Filardo G, Almqvist FK, **Bugbee WD**, Jelic M, Monllau JC, Puddu G, Rodkey WG, Verdonk P, Verdonk R, Zaffagnini S, Marcacci M, Surgical treatment for early osteoarthritis. Part II: allografts and concurrent procedures. *Knee Surg Sports Traumatol Anthrosc*, 20(3):468–86, March 2012.
62. Chan EF, Harjanto R, Asahara H, Inoue N, Masuda K, **Bugbee WD**, Firestein GS, Hosalkar HS, Lotz MK, Sah RL, Structural and functional maturation of distal femoral cartilage and bone during postnatal development and growth in humans and mice. *Orthop Clin North Am*, 43(2):173–85, April 2012.
63. Bartok B, Boyle DL, Liu Y, Ren P, Ball ST, **Bugbee WD**, Rommel C, Firestein GS, PI3 Kinase  $\delta$  Is a Key Regulator of Synoviocyte Function in Rheumatoid Arthritis. *Am J Pathol*, 180(5):1906–16, May 2012,
64. Ballard BL, Antonacci JM, Temple-Wong MM, Hui AY, Schumacher BL, **Bugbee WD**, Schwartz AK, Guiard PJ, Sah RL: Effect of tibial plateau fracture on lubrication function and composition of synovial fluid. *J Bone Joint Surg Am*, 94(10):e64(1)–e64(9), May 2012.
65. **Bugbee WD**, Cavallo M, Giannini S, Osteochondral allograft transplantation in the knee, *J Knee Surg*, 25(2):109–16, May 2012.
66. Pallante AL, Chen AC, Ball ST, Amiel D, Masuda K, Sah RL, **Bugbee WD**, The in vivo performance of osteochondral allografts in the goat is diminished with extended storage and decreased cartilage cellularity, *Am J Sports Med*, 40(8):1814–1823, August 2012.
67. Pallante AL, Görtz S, Chen AC, Healey RM, Chase DC, Ball ST, Amiel D, Sah RL, **Bugbee WD**, Treatment of articular cartilage defects in the goat with frozen versus fresh osteochondral allografts: effects on cartilage stiffness, zonal composition, and structure at six months, *J Bone Joint Surg Am*. 7;94(21):1984–95, November 2012.

68. Levy YD, Görtz S, Pulido PA, McCauley JC, **Bugbee WD**, Do fresh osteochondral allografts successfully treat femoral condyle lesions? *Clin Orthop Relat Res*, 471(1):231–37, January 2013.
69. **Bugbee WD**, Khanna G, Cavallo M, McCauley JC, Görtz S, Brage ME, Bipolar fresh osteochondral allografting of the tibiotalar joint. *J Bone Joint Surg Am* 95(5):426–32, March 2013.
70. Patil S, Steklov N, **Bugbee WD**, Masters T, Colwell CW Jr, D'Lima DD, Anti-Gravity Treadmills Are Effective in Reducing Knee Forces, *J Orthop Res*, 31(5):672–9, May 2013.
71. Gomoll AH, Filardo G, Almqvist FK, **Bugbee WD**, Surgical treatment for early osteoarthritis. Part II: allografts and concurrent procedures. *Research Gate*, [www.researchgate.net](http://www.researchgate.net), May 2013.
72. Pallante AL, Chen AC, Temple-Wong MM, **Bugbee WD**, Sah RL, In vivo efficacy of fresh vs. frozen osteochondral allografts in the goat at 6 month is associated with PRG4 secretion, *J Orthop Res*, 31(6):880–6, June 2013.
73. **Bugbee WD**, Mizu-uchi H, Patil S, D'Lima DD. Accuracy of Implant Placement Utilizing Customized Patient Instrumentation in Total Knee Arthroplasty, *Adv Orthop*, 2013:1–6, September 2013. doi:10.1155/2013/891210.
74. Pallante-Kichura AL, Cory E, **Bugbee WD**, Sah RL. Bone Cysts After Osteochondral Allograft Repair of Cartilage Defects in Goats Suggest Abnormal Interaction Between Subchondral Bone and Overlying Synovial Joint Tissues, *Bone*, 57(1):259–68, November, 2013.
75. Horton MT, Pulido PA, McCauley JC, **Bugbee WD**. Revision Osteochondral Allograft Transplantations: Do They Work? *Am J Sports Med*, 41(11):2507–11, November 2013.
76. **Bugbee W**, Aram L, Schenher A, Swank M. Tibial Posterior Slope Is Extremely Variable in Patients Undergoing TKA, *Bone Joint J*, 95-B (Supp 24), 21, December 2013.
77. Huang EH, Copp S, **Bugbee W**. Accuracy of an Accelerometer-Based Hand-Held Surgical Navigation System for Alignment in Total Knee Arthroplasty, *Bone Joint J*, 95-B (Supp24), 253, December 2013.
78. **Bugbee W**, Pulido PA, Goldberg T, D'Lima D, Use of an Antigravity Treadmill for Rehabilitation After Total Knee Replacement, *Bone Joint J*, 95-B (Supp 24), 254, December 2013.
79. **Bugbee W**, Aram L, Schenher A, Swank M, Distal Femoral Valgus Is Highly Variable in Patients Undergoing Total Knee Arthroplasty, *Bone Joint J*, 95-B (Supp 24), 255, December 2013.
80. Chang EY, Pallante-Kichura AL, Bae WC, Du J, Statum S, Wolfson T, Gamst A, Cory E, Amiel D, Bydder GM, **Bugbee WD**, Sah RL, Chung CB, Development of a Comprehensive Osteochondral Allograft MRI Scoring System (OCAMRISS) with Histopathologic, Micro-Computed Tomography, and Biomechanical Validation, *Cartilage*, 5(1):16–27, January 2014.
81. Sherman SL, Garrity J, Bauer KL, Cook JL, Stannard JP, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for the Knee: Current Concepts Review, *J Am Acad Orthop Surg*, 22(2):121–133, February 2014.
82. **Bugbee WD**, Brage ME, Bipolar Osteochondral Allograft Transplantation of the Tibiotalar Joint for Ankle Arthritis, *J Bone Joint Surg Am, Essent Surg Tech*, 4(1):e3, February 2014.
83. Murphy RT, Pennock AT, **Bugbee WD**, McCauley J, Osteochondral Allografting of the Knee in the Pediatric and Adolescent Population, *Am J Sports Med*, 42(3):635–640, March 2014.
84. Hunt HE, Sadr K, DeYoung AJ, Görtz S, **Bugbee WD**, The Role of Immunologic Response in Fresh Osteochondral Allografting of the Knee, *Am J Sports Med*, 42(4):886–891, April 2014.

85. **Bugbee W**, Tirico LE, Osteochondral allograft reconstruction: improvements in surgical techniques and allograft processing, *Oper Tech Orthop*, 24:19–26, April 2014.
86. Mologne TS, Cory E, Hansen BC, Naso AN, Chang N, Murphy MM, Provencher MT, **Bugbee WD**, Sah RL, Osteochondral Allograft Transplant to the Medial Femoral Condyle Using a Medial or Lateral Femoral Condyle Allograft: Is There a Difference in Graft Sources? *Am J Sports Med*, 42(9):2205–13, September 2014
87. Steinhoff AK, **Bugbee WD**, Outcomes of Total Knee Arthroplasty After Osteochondral Allograft Transplantation, *Orthop J Sports Med*, 2(9), September 2014.
88. **Bugbee WD**, Kermanshahi AY, Munro MM, McCauley JC, Copp SN, Accuracy of a hand-held surgical navigation system for tibial resection in total knee arthroplasty, *Knee*, 21(6):1225–8, December 2014.
89. Meric G, Gracitelli GC, Görtz S, De Young AJ, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Bipolar Reciprocal Osteochondral Lesions of the Knee, *Am J Sports Med*, 43(3):709–14, March 2015.
90. Gracitelli GC, Kaleka CC, **Bugbee WD**, Osteochondral Allograft Transplantation for the Knee, *J Minerva Ortope Trauma*, 66(2):75–86, April 2015.
91. Getgood A, Gelber J, Görtz S, DeYoung A, **Bugbee WD**, Combined Osteochondral Allograft and Meniscal Allograft Transplantation – A Survivorship Analysis, *Knee Surg Sports Traumatol Arthrosc*, 23(4):946–53, April 2015.
92. Gracitelli GC, Meric G, Briggs DT, Pulido PA, McCauley JC, Belloti JC, **Bugbee WD**, Fresh Osteochondral Allografts in the Knee: Comparison of Primary Transplantation Versus Transplantation After Failure of Previous Subchondral Marrow Stimulation, *Am J Sports Med*, 43(4):885–91, April 2015.
93. Gracitelli GC, Meric G, Pulido PA, McCauley JC, **Bugbee WD**, Osteochondral Allograft Transplantation for Knee Lesions after Failure of Cartilage Repair Surgery, *Cartilage*, 6(2):98–105, April 2015.
94. Ekwall AK, Whitaker JW, Hammaker D, **Bugbee W**, Wang W, Firestein GS. The Rheumatoid Arthritis Risk Gene, *LBH*, Regulates Growth in Fibroblast-like Synoviocytes, *Arthritis Rheumatol*, 67(5):1193–202, May 2015
95. Cameron JI, McCauley JC, Kermanshahi AY, **Bugbee WD**, Lateral Opening-wedge Distal Femoral Osteotomy: Pain Relief, Functional Improvement, and Survivorship at 5 Years, *Clin Orthop Relat Res*, 473:2009–2015, June 2015.
96. Meric G, Gracitelli GC, McCauley JC, Pulido PA, Chang EY, Chung CB, **Bugbee WD**, Osteochondral Allograft MRI Scoring System (OCAMRISS) in the Knee: Interobserver Agreement and Clinical Application, *Cartilage*, 6(3):142–149, July 2015.
97. Meric G, Gracitelli GC, Aram L, Swank M, **Bugbee WD**, Tibial Slope is Highly Variable in Patients Undergoing Primary Total Knee Arthroplasty: Analysis of 13,546 Computed Tomography Scans, *J Arthroplasty*, 30(7):1228–32, July 2015
98. Meric G, Gracitelli GC, Aram LJ, Swank ML, **Bugbee WD**, Variability in Distal Femoral Anatomy in Patients Undergoing Total Knee Arthroplasty: Measurements on 13,546 Computed Tomography Scans, *J Arthroplasty*, 30(10):1835–8. October 2015.
99. Briggs DT, Sadr KN, Pulido PA, **Bugbee WD**, The Use of Osteochondral Allograft Transplantation for Primary Treatment of Cartilage Lesions in the Knee, *Cartilage*, 6(4):203–207, October 2015.



100. Huang EH, Copp SN, **Bugbee WD**, Accuracy of a Handheld Accelerometer-Based Navigation System for Femoral and Tibial Resection in Total Knee Arthroplasty, *J Arthroplasty*, 30(11):1906–10, November 2015.
101. Patil S, Bunn A, **Bugbee WD**, Colwell CW, D'Lima DD, Patient-Specific Implants Better Approximate Natural Kinematics than Standard Total Knee Arthroplasty, *Knee*, 22(6):624–629, December 2015.
102. **Bugbee WD**, Pallante-Kichura AL, Görtz S, Amiel D, Sah R, **Kappa Delta Award** paper: Osteochondral allograft transplantation in cartilage repair: Graft storage paradigm, translational models, and clinical applications, *J Orthop Res*, 34(1):31–38, January 2016.
103. Meric G, Gracitelli GC, **Bugbee WD**, In Reply, *J Arthroplasty*, 31(2):550–1, February 2016.
104. Cameron JI, Pulido PA, McCauley JC, Bugbee WD, Osteochondral Allograft Transplantation of the Femoral Trochlea, *Am J Sports Med*, 44(3):633–638, March 2016.
105. **Bugbee WD**, Pulido PA, Goldberg T, D'Lima DD, Use of an Anti-Gravity Treadmill for Early Postoperative Rehabilitation after Total Knee Replacement: A Pilot Study to Determine Safety and Feasibility, *Am J Orthop*, www.amjorthopedics.com E167-E173, May/June 2016.
106. Zouzias IC, **Bugbee WD**, Osteochondral Allograft Transplantation in the Knee, *Sports Med Arthrosc*, 24(2):79–84, June 2016.
107. **Bugbee W**, Osteochondral allograft transplantation: clinical outcome and return to sport, *Aspetar Sports Medicine Journal*, 5:246–251, July 2016.
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52. Butcher W, Patil S, Steklov N, Tucker B, **Bugbee WD**, D'Lima D, Hoenecke H, Chondrocyte Viability After Osteochondral Graft Transplantation. American Academy of Orthopaedic Surgeons (AAOS) 71<sup>st</sup> Annual Meeting, San Francisco, CA, March 2004.
53. **Bugbee WD**, Brage M, Meehan R, Fresh Ankle Osteochondral Allografting (Transplantation) for Tibiotalar Joint Arthritis, *Poster No. P446*, American Academy of Orthopaedic Surgeons (AAOS) 71<sup>st</sup> Annual Meeting, San Francisco, CA, March 2004.
54. **Bugbee WD**, Khadivi B, Fresh Osteochondral Allografting in the Treatment of Osteonecrosis of the Knee, *Paper No.108*, American Academy of Orthopaedic Surgeons (AAOS) 71<sup>st</sup> Annual Meeting, San Francisco, CA, March 2004.
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62. **Bugbee WD**, Fresh Osteochondral Allografting in the Treatment of Osteonecrosis of the Knee. International Cartilage Repair Society (ICRS) – 5<sup>th</sup> Symposium, Gent/Belgium, May 2004.
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65. **Bugbee WD**, Borazjani BH, Firestein GS, Sah R, Lima DD, Hargens A, Mechanisms and Consequences of Chondrocyte Injury During Impact Loading and Insertion of Human Osteochondral Grafts. Orthopaedic Research Society (ORS) 51<sup>st</sup> Annual Meeting, Washington, DC, January 20–23, 2005.
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67. Wagner F, Pennock AT, Harwood FL, **Bugbee WD**, Amiel D, Media Optimization for Storage of Osteochondral Allografts. European Orthopaedic Research Society (ORS) Meeting, Lisbon, Portugal, C4, June 2–4, 2005.
68. Allen RT, Robertson CM, Pennock AT, **Bugbee WD**, Harwood FL, Chen AC, Sah RL, Amiel D, Analysis of Stored Osteochondral Allografts at the Time of Surgical Implantation. *Lloyd W. Taylor Award*, Western Orthopaedic Association (WOA), Hawaii, July 20–23, P. 67, 2005.
69. Wagner F, Pennock AT, Harwood FL, **Bugbee WD**, Amiel D, Media Optimization for Storage of Osteochondral Allografts. European Tissue Eng Society Meeting, Munich, 0210, September 3, 2005.

70. Park DY, Chung DB, **Bugbee WD**, Fresh Osteochondral Allografts for Younger, Active Individuals with Osteoarthritis of the Knee. International Cartilage Repair Society (ICRS) Meeting, San Diego, CA, January 9–11, 2006.
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77. Pennock AT, Allen RT, Robertson CM, **Bugbee WD**, Harwood FL, Wong VW, Chen AC, Sah RL, Amiel D, The Fate of Cartilage in Osteochondral Allografts at the Time of Implantation. *Poster 31:1418*, Orthopaedic Research Society (ORS) 52<sup>nd</sup> Annual Meeting, Chicago, IL, March 19–22, 2006.
78. Laurencin CT, Jiranek W, El-Amin SF, **Bugbee WD**, Kwon MS, Scientific Exhibit No SE68, Xenotransplantation: Challenges and Choices in Orthopaedic Surgery – AAOS Biological Implants Committee, American Academy of Orthopaedic Society (AAOS) 73<sup>rd</sup> Annual Meeting, Chicago, IL, March 22–26, 2006.
79. Park DY, Chung C, **Bugbee WD**, Fresh Osteochondral Allografting for Younger, Active Individuals with Osteoarthritis of the Knee. American Academy of Orthopaedic Society (AAOS) 73<sup>rd</sup> Annual Meeting, Chicago, IL, March 22–26, 2006.
80. Görtz S, Ho A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Cartilage Lesions in the Knee. American Academy of Orthopaedic Society (AAOS) 73<sup>rd</sup> Annual Meeting, Chicago, IL, March 22–26, 2006.
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82. Han EH, Bae WC, Wong VW, Hsieh-Bonassera ND, Görtz S, Masuda K, **Bugbee WD**, Sah RL, Shaped, Scaffold-Free Cartilaginous Grafts for Articular Cartilage Defects, *Poster No. 529*, Orthopaedic Research Society (ORS) 53<sup>rd</sup> Annual Meeting, San Diego, CA, February 2007.

83. Temple MM, Nguyen QT, Moy TM, Cardenas CO, Nguyen TD, **Bugbee WD**, Wong VW, Sah RL, Synovial Fluid and Cartilage Degeneration Modulate In Vitro Wear of Articulating Cartilage, *Poster No. 611*, Orthopaedic Research Society (ORS) 53<sup>rd</sup> Annual Meeting, San Diego, CA, February 2007.
84. Hwang J, Bae WC, Shieu W, Lewis CW, **Bugbee WD**, Sah RL, Changes in Human Subchondral Bone Plate Hydraulic Conductance with Progression of Osteoarthritis. Orthopaedic Research Society (ORS) 53<sup>rd</sup> Annual Meeting, San Diego, CA, February 2007.
85. Emmerson BC, Gortz S, Jamali AA, Chung C, Amiel D, **Bugbee WD**, Fresh Osteochondral Allografting in the Treatment of Osteochondritis Dissecans of the Femoral Condyle. *Podium 5977*, American Orthopaedic Society for Sports Medicine (AOSSM) Specialty Day, San Diego, February 17, 2007.
86. Emmerson B, Görtz S, Jamali A, Chung C, Amiel D, **Bugbee WD**, Fresh Osteochondral Allografting in the Treatment of Osteochondritis Dissecans of the Femoral Condyle. International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS), Florence, Italy, May 27–31, 2007.
87. Görtz S, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Cartilage Lesions of the Knee. International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS), Florence, Italy, May 27–31, 2007.
88. Blewis M, Lao BJ, Orwoll BE, Schumacher BL, **Bugbee WD**, Firestein GS, Sah RL, Lubricant Secretion by Human Synoviocytes on Small Intestinal Submucosa Fifth Symposium, Phoenix, AZ, February 15–16, 2008.
89. Bae W, Payanal MM, Chen AC, Hsieh-Bonaserra ND, Ballard BL, Lotz MK, Coutts RD, **Bugbee WD**, Sah RL, Clinical Patterns and Pathways of Knee Osteoarthritis: Cluster Analysis and Maps, *Poster No. 695*, Orthopaedic Research Society (ORS). San Francisco, March 2–5, 2008.
90. Hsieh-Bonaserra ND, Wu I, Lin JK, Schumacher BL, Chen AC, Masuda K, Sah RL, **Bugbee WD**, Expansion and Redifferentiation of Chondrocytes from Osteoarthritic Cartilage: Cells for Human Cartilage Tissue Engineering, *Poster #544*, Orthopaedic Research Society (ORS). San Francisco, March 2–5, 2008.
91. Blewis ME, Orwoll BE, Lao BJ, Schumacher BL, **Bugbee WD**, Firestein GS, Sah RL, Interactive Cytokine Regulation of Synoviocyte Hyaluronan and Proteoglycan 4 Secretion Rates, *Poster/Short Talk 374*, Orthopaedic Research Society (ORS). San Francisco, March 2–5, 2008.
92. Görtz S, Khadivi B, Jamali A, **Bugbee WD**, Fresh Osteochondral Allografting for Steroid-Induced Osteonecrosis of the Femoral Condyles. American Association of Hip and Knee Surgeons (AAHKS), Dallas, TX, November 7–9, 2008.
93. **Bugbee WD**, Görtz S, De Young A, Fresh osteochondral allografting for steroid-associated osteonecrosis of the femoral condyles. *Thornburg Medical Foundation 2008 Department of Surgery Chairman's Award for Research in Surgery*, Scripps Clinic, Grand Rounds, La Jolla, December 17, 2008.
94. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Biopolar Cartilage Lesions of the Knee. Knee Society Interim Meeting, Denver, CO, October 2–4, 2008.
95. Blewis ME, Jadin KD, Lao BJ, McCarty WJ, Antonacci JM, **Bugbee WD**, Firestein GS, Sah RL, Bioengineering of lubricious synovial fluid in a biomimetic bioreactor. Tissue Engineering and Regenerative Medicine International Society of North America, San Diego, CA December 7–10, 2008.
96. Hwang J, Kyubwa EM, Bae WC, **Bugbee WD**, Masuda K, Sah RL, In vitro calcification of immature articular cartilage to form a functional zone of calcified cartilage. Tissue Engineering and Regenerative Medicine International Society of North America, San Diego, CA December 7–10, 2008.

97. Pallante A, Bae WD, Chen AC, Amiel D, **Bugbee WD**, Sah RL, Effects of Temperature and Serum on Storage of Fresh Goat Osteochondral Grafts. Tissue Engineering and Regenerative Medicine International Society of North America, San Diego, CA December 7–10, 2008.
98. Blewis ME, Lao BJ, Jadin KD, McCarty WJ, Antonacci JM, **Bugbee WD**, Firestein GS, Sah RL, Biomimetic Bioengineering of Synovial Fluid: A Bioreactor for a Functional Lubricant Solution, *Paper No 121*, Orthopaedic Research Society (ORS), Las Vegas, CV, February 22–25, 2009.
99. Pallante AL, Bae WC, Chen AC, Amiel D, **Bugbee WD**, Sah RL, Effects of Temperature and Serum on Storage of Fresh Goat Osteochondral Grafts, *Paper No 839*, Orthopaedic Research Society (ORS), Las Vegas, CV, February 22–25, 2009.
100. Hwani J, Kyubwa EM, Bae WC, **Bugbee WD**, Masuda K, Sah RL, In Vivo Calcification of Immature Articular Cartilage: Formation of a Functional Zone of Calcified Cartilage, *Paper No 1304*, Orthopaedic Research Society (ORS), Las Vegas, CV, February 22–25, 2009.
101. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Osteochondral Lesions of the Talus, *Paper No. 482*, American Academy of Orthopaedic Surgeons (AAOS), Las Vegas, NV, February 25–28, 2009.
102. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Bipolar Cartilage Lesions of the Knee, *Paper No 513*, American Academy of Orthopaedic Surgeons (AAOS), Las Vegas, NV, February 25–28, 2009.
103. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allografting for Steroid-Associated Osteonecrosis of the Femoral Condyles, *Paper No. 514*, American Academy of Orthopaedic Surgeons (AAOS), Las Vegas, NV, February 25–28, 2009.
104. Hunt H, De Young A, Lebeck LL, **Bugbee WD**, The Role of Immunologic Response in Fresh Osteochondral Allografting of the Knee, *Paper No. 15*, American Academy of Orthopaedic Surgeons (AAOS), Las Vegas, NV, February 25–28, 2009.
105. Trice ME, **Bugbee WD**, Greenwald AS, Heim CS, Articular Cartilage Restoration: A Review of Currently Available Methods for Repair of Articular Cartilage Defects, *Scientific Exhibit*, American Academy of Orthopaedic Surgeons (AAOS), Las Vegas, NV, February 25–28, 2009.
106. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Bipolar Cartilage Lesions of the Knee, the Knee Society Specialty Day, Las Vegas, NV, February 28, 2009.
107. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Osteochondral Lesions of the Talus, American Orthopaedic Foot & Ankle Society (AOFAS), Las Vegas, NV, February 28, 2009.
108. Hunt, H, De Young A, Görtz S, Lebeck L, **Bugbee WD**, The Role of Immunologic Response in Osteochondral Allografting of the Knee, Scripps Research Summit, La Jolla, CA, April 30, 2009.
109. Hunt H, De Young A, Görtz S, Lebeck L, **Bugbee WD**, The Role of Immunologic Response in Fresh Osteochondral Allografting of the Knee: *Paper 19.1.1*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.
110. Görtz S, De Young A, **Bugbee WD**, The Fresh Osteochondral Allograft Transplantation for Osteochondral Lesions of the Talus, *Paper 19.1.2*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.

111. Linn MS, Roberston CM, **Bugbee WD**, Amiel D, The Effect of Long-Term Storage of Osteochondral Allografts, *Paper 19.1.4*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.
112. Hsieh-Bonassera ND, Wu I, Lin JK, Gupta U, Schumacher BL, Chen AC, Masuda K, **Bugbee WD**, Sah RL, Human Cartilage Tissue Engineering Using Chondrocytes from Osteoarthritic Cartilage, *Poster No. P47*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.
113. Pallante AL, Bae WC, Chen AC, Görtz S, **Bugbee WD**, Sah RL, Effects of Storage at 4C and 37C on Chondrocyte Viability in Fresh Goat Osteochondral Grafts, *Poster No. P136*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.
114. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allografting for Steroid-Associated Osteonecrosis of the Femoral Condyles, *Poster No. P197*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.
115. Görtz S, De Young A, **Bugbee WD**, Fresh Osteochondral Allograft Transplantation for Bipolar Cartilage Lesions of the Knee, *Poster No. P202*, International Cartilage Repair Society (ICRS), 8<sup>th</sup> World Congress, Miami, FL, May 23–26, 2009.
116. Grissom M, Oei W, Hansen B, Temple-Wong M, **Bugbee WD**, Sah R, Effect of Dilution on the Boundary Lubricating properties of Osteoarthritic Synovial Fluid. *Poster*. Biomedical Bioengineering Society Conference. Pittsburgh, PA, October 7–10, 2009
117. Linn MS, Chase D, Healey RM, **Bugbee WD**, Amiel D, Warm Storage Could Enhance Preservation of Osteochondral Allograft Viability. Western Orthopaedic Association (WOA), San Diego, January 29, 2010.
118. Linn MS, Healey RM, **Bugbee WD**, Chase D, Amiel D, Etanercept Enhances Preservation of Osteochondral Allograft Viability. Orthopaedic Research Society (ORS), New Orleans, March 6–9, 2010.
119. Temple-Wong MM, Hansen BC, Grissom MJ, Cai MZ, Noori NB, Roberts JM, Love RE, Oei WF, Antonacci JM, Schumacher BL, **Bugbee WD**, Sah RL, Effect of Knee Osteoarthritis on the Boundary Lubricating Molecules and Function of Human Synovial Fluid, Orthopaedic Research Society (ORS), New Orleans, March 6–9, 2010.
120. Bae WC, **Bugbee WD**, Sah RL,. Classification of Topographic Patterns of Knee OA: Relation to Risk Factors and Progression. *Poster/Short Talk*. Orthopaedic Research Society (ORS), New Orleans, March 6–9, 2010.
121. Pallante AL, Görtz S, Chen AC, Ball ST, Amiel D, Sah RL, **Bugbee WD**, “Function and structure of cartilage defect repair with frozen and fresh osteochondral allografts in the goat”, Orthopaedic Research Society (ORS), New Orleans, March 6–9, 2010.
122. Lin A, De Young A, Görtz S, **Bugbee W**, Combined Osteotomy and Osteochondral Allografting for Knee Reconstruction. American Academy of Orthopaedic Surgeons (AAOS), New Orleans, LA, March 9–13, 2010.
123. Linn MS, Healey RM, **Bugbee W**, Chase D, Amiel D, Etanercept Enhances Preservation of Osteochondral Allograft Viability. American Academy of Orthopaedic Surgeons (AAOS), New Orleans, LA, March 9–13, 2010.
124. **Bugbee W**, De Young A, Görtz S. Isolated Osteochondral Allografting of the Femoral Trochlea. *Poster No. P452*. American Academy of Orthopaedic Surgeons (AAOS). New Orleans, LA, March 9–13, 2010.

125. Trice ME, **Bugbee WD**, Greenwald AS, Heim CS, Articular Cartilage Restoration: A Review of Currently Available Methods for Repair of Articular Cartilage Defects, *Scientific Exhibit*, American Academy of Orthopaedic Surgeons (AAOS), New Orleans, LA, March 9–13, 2010.
126. Linn, MS, Healey RM, **Bugbee W**, and Amiel D, Warm Storage Could Enhance Preservation of Osteochondral Allograft Viability. California Orthopaedic Association (COA), Lake Tahoe, April 15-18, 2010.
127. Linn MS, Chase D, Healey RM, **Bugbee W**, Amiel D, Warm Storage Could Enhance Preservation of Osteochondral Allograft Viability. OREF/ORS Southwest Regional Resident Research Competition, Coronado, CA, May 12, 2010.
128. Chase D, Pallante AL, Görtz S, Chen AC, Ball ST, Sah RL, **Bugbee WD**, Amiel D. Histological and Biochemical Characterization of Fresh vs. Frozen Osteochondral Allografts after Six Months In Vivo in a Goat Model, *3rd place winner*, ORES/ORS Southwest Regional Resident Research Competition, Coronado CA, May 12, 2010.
129. Pallante AL, Görtz S, Chen A, Ball, Amiel D, Sah RL, **Bugbee WD**, In vivo analysis of fresh versus frozen osteochondral allografts for articular cartilage repair. *Podium*. International Cartilage Repair Society (ICRS), Sitges, Barcelona, Spain, September 26–29, 2010.
130. **Bugbee W**, De Young A, Görtz S, Isolated osteochondral allografting of the patella. *Poster*: International Cartilage Repair Society (ICRS), Sitges, Barcelona, Spain, September 26–29, 2010.
131. Chase D, Pallante AL, Görtz S, Chen AC, Ball ST, Sah RL, **Bugbee WD**, Amiel D, Histological and Biochemical Characterization of Fresh vs. Frozen Osteochondral Allografts after Six Months In Vivo in a Goat Model, *Poster*: International Cartilage Repair Society (ICRS), Sitges, Barcelona, Spain, September 26–29, 2010.
132. **Bugbee W**, De Young A, Görtz S, Isolated osteochondral allografting of the femoral trochlea. *Podium*. International Cartilage Repair Society (ICRS), Sitges, Barcelona, Spain, September 26–29, 2010.
133. **Bugbee W**, De Young A, Görtz S, Predictors of osteochondral allograft failure. *Podium*. International Cartilage Repair Society (ICRS), Sitges, Barcelona, Spain, September 26–29, 2010.
134. Pallante AL, Görtz S, Chen, AC, Chase D, Ball ST, Amiel D, Sah RL, **Bugbee WD**, Effects of Frozen and Fresh Osteochondral Allografts in Repair of Cartilage Defects in the Goat, International Cartilage Repair Society (ICRS), Sitges, Barcelona, Spain, September 26–29, 2010.
135. **Bugbee WD**, Mizu-uchi H, Patil S, D’Lima DD, Accuracy of implant placement using customized patient instrumentation, Knee Society Interim Meeting, Rochester, Minnesota, September 9–11, 2010.
136. **Bugbee WD**, Mizu-uchi H, Patil S, D’Lima DD, Predictors of osteochondral allograft failure, Knee Society Interim Meeting, Rochester, Minnesota, September 9–11, 2010.
137. **Bugbee WD**, Mizu-uchi H, Patil S, D’Lima DD, Knee injury and osteoarthritis outcome score (KOOS) for assessing outcome in TKA., Rochester, Minnesota, September 9–11, 2010.
138. **Bugbee WD**, Mizu-uchi H, Patil S, D’Lima DD, Twenty-five year experience with osteochondral allografting in the knee, Knee Society Interim Meeting, Rochester, Minnesota, September 9–11, 2010.
139. Pallante A, Görtz S, Chen A, Schumacher B, Temple-Wong M, Sah R, **Bugbee W**, Association of Osteochondral Allograft Efficacy with PRG4 Secretion In Vivo in the Goat, *Poster 2099*, Orthopaedic Research Society (ORS), Long Beach, CA, January 13–16, 2011.



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141. **Bugbee WD**, Mizu-uchi H, Patil S, D’Lima DD, Accuracy of implant placement using customized patient instrumentation, *Poster P196*, American Academy of Orthopaedic Surgeons (AAOS), San Diego, CA, February 16–19, 2011.
142. Trice ME, Greenwald AS, **Bugbee W**, Cartilage Restoration: A Case-Based Review – AAOS Biologic Implants Committee, *Scientific Exhibit SE60*, American Academy of Orthopaedic Surgeons (AAOS), San Diego, CA, February 16–19, 2011.
143. Ball ST, Meyer RS, Campbell PA, **Bugbee WD**, Hillman J, Boyle D, Firestein GS, Inflammatory Cytokines are Elevated in Patients with Adverse Reactions to Metal-on-Metal THAs, *Paper 065*, American Academy of Orthopaedic Surgeons (AAOS), San Diego, CA, February 16–19, 2011.
144. **Bugbee W**, De Young A, Görtz S, Twenty-five year experience with osteochondral allografting in the knee, *Paper 197*, American Academy of Orthopaedic Surgeons (AAOS), San Diego, CA, February 16–19, 2011
145. **Bugbee W**, De Young A, Görtz S, Predictors of osteochondral allograft failure. American Academy of Orthopaedic Surgeons (AAOS), *Podium 202*, San Diego, CA, February 16–19, 2011.
146. Pallante AL, Görtz S, Chen AC, Ball ST, Amiel D, Sah RL, **Bugbee WD**, In vivo Analysis of Fresh versus Frozen Osteochondral Allografts for Articular Cartilage Repair. American Academy of Orthopaedic Surgeons (AAOS), *Podium 202*, San Diego, CA, February 16–19, 2011.
147. **Bugbee WD**, Mizu-uchi H, Patil S, D’Lima DD, Accuracy of implant placement using customized patient instrumentation, *Podium*, The Knee Society, San Diego, CA, February 19, 2011.
148. **Bugbee W**, De Young A, Görtz S, Twenty-five year experience with osteochondral allografting in the knee, *Podium*, American Orthopaedic Society for Sports Medicine (AOSSM), San Diego, CA, February 19, 2011.
149. Pallante AL, Görtz S, Bae WC, Chen AC, Bydder GM, Chung CB, Amiel D, Sah RL, **Bugbee WD**, In Vivo Analysis of Cartilage Defect Repair with Frozen and Fresh Osteochondral Allografts in the Goat. *Podium*, American Orthopaedic Society for Sports Medicine (AOSSM), San Diego, CA, February 19, 2011.
150. Grogan SP, Pauli C, **Bugbee WD**, Colwell CW Jr, Lotz MK, Chung CB, Jin S, D’Lima DD, Toward Direct Formation of Organized Engineered Tissues in Cartilage Defects Combining Hydrogels and Nanomagnetism, *Poster*, The Future of Genomic Medicine IV, La Jolla, CA, March 3–4, 2011.
151. Görtz S, Lin A, De Young A, **Bugbee W**, Combined Osteotomy and Osteochondral Allografting in the Knee. *Poster 5720*. 8th Biennial ISAKOS Congress, Rio de Janeiro, Brazil, May 15-19, 2011.
152. Pallante A, Görtz S, Chen A, Ball S, Amiel D, **Bugbee W**, Sah R, Function and structure of cartilage defect repair with frozen and fresh osteochondral allografts in the goat. *Podium*. 75th Annual Meeting of the Western Orthopaedic Association (WOA), Honolulu, HI, July 27-30, 2011.
153. Görtz S, Lin A, De Young A, **Bugbee W**, Combined Osteotomy and Osteochondral Allografting in the Knee. *Poster*. 75th Annual Meeting of the Western Orthopaedic Association (WOA), Honolulu, HI, July 27-30, 2011.

154. Levy Y, Görtz S, Pulido P, **Bugbee W**, Long-term follow-up of fresh osteochondral allografting of the femoral condyle. *Podium*, Interim Knee Society, London, ON, Canada, September 15–17, 2011.
155. Temple-Wong MM, Quach P, Archer BJ, Hansen BC, Chen AC, Hasegawa A, D’Lima DD, **Bugbee WD**, Lotz MK, Sah RL, Hyaluronan Concentration and Size Distribution in Human Knee Synovial Fluid: Variations with Age and Cartilage Degeneration. Orthopaedic Research Society (ORS), San Francisco, CA, February 4–7, 2012.
156. Pallante AL, Görtz S, Chen AC, Amiel D, Masuda K, Sah RL, **Bugbee WD**, The In Vivo Performance of Osteochondral Allografts in the Goat is Diminished with Extended Storage and Decreased Cartilage Cellularity. Orthopaedic Research Society (ORS), San Francisco, CA, February 4–7, 2012.
157. Levy Y, Görtz S, Pulido P, **Bugbee WD**, “Long-term Follow Up of Fresh Osteochondral Allografting of the Femoral Condyle”, *Paper 700*, American Academy of Orthopaedic Surgeons (AAOS), San Francisco, CA, February 7–11, 2012.
158. Kahna G, Görtz S, Brage M, **Bugbee WD**, “Bipolar Fresh Osteochondral Allografting of the Tibiotalar Joint”, *Paper 436*, American Academy of Orthopaedic Surgeons (AAOS), San Francisco, CA, February 7–11, 2012.
159. Levy Y, Görtz S, Pulido P, McCauley J, **Bugbee B**, “Long-term Follow Up of Fresh Osteochondral Allografting of the Femoral Condyle”, *Podium*, Osteoarthritis Research Society International (OARSI), Barcelona, Spain, April 26–29, 2012.
160. Pallante AL, Görtz S, Chen AC, Ball ST, Amiel D, Masuda K, Sah RL, **Bugbee WD**, “The In Vivo Performance of Osteochondral Allografts in the Goat is Diminished with Extended Storage and Decreased Cartilage Cellularity”, *Podium*, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
161. Levy Y, Gortz S, Pulido P, **Bugbee W**, “Long Term Follow-Up of Fresh Osteochondral Allografting of the Femoral Condyle”, *Poster P4*, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
162. Kahna G, Gortz S, Brage M, **Bugbee WD**, “Bipolar Fresh Osteochondral Allografting of the Tibiotalar Joint”, *Poster P9*, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
163. Horton MT, Pulido PA, McCauley JC, **Bugbee WD**, “Outcome of Failed Osteochondral Allografts Treated with Revision Osteochondral Allografting”, *Poster P3*, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
164. Pallante AL, Görtz S, Chen AC, Ball ST, Amiel D, Masuda K, Sah RL, **Bugbee WD**, “The In Vivo Performance of Osteochondral Allografts in the Goat is Diminished with Extended Storage and Decreased Cartilage Cellularity”, *Podium*, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
164. Khanna G, Görtz S, Brage ME, **Bugbee WD**, “Bipolar Fresh Osteochondral Allografting of the Tibiotalar Joint”, *Podium*, American Orthopaedic Foot & Ankle Society (AOFAS), San Diego, CA, June 21–23, 2012,
165. Steinhoff A, **Bugbee WD**, “Knee Society Function Score Versus Knee Osteoarthritis Outcome Scores After Knee Arthroplasty”, The Knee Society 2012 Members Meeting, Garden City, NJ, September 6–8, 2012.
165. Horton MT, Pulido PA, McCauley JC, **Bugbee WD**, “Revision Osteochondral Allografts: Do they work?” *Poster*, American Association of Hip and Knee Surgeons (AAHKS), Dallas, TX, November 2–4, 2012.

166. Patil S, Bunn A, **Bugbee WD**, Colwell CW, D'Lima DD, "Patient-Specific Implants and Cutting Guides Better Approximate Natural Kinematics than Standard Total Knee Arthroplasty", *Poster 0965*, Orthopaedic Research Society (ORS), San Antonio, TX, January 26–29, 2013.
167. Chang N, Cory E, Pallante AL, Chan EF, Lotz MK, **Bugbee WD**, Sah RL, "Distinctive subchondral bone plate structures in osteoarthritis", Orthopaedic Research Society (ORS), San Antonio, TX, January 26–29, 2013.
168. Horton MT, Pulido PA, McCauley JC, **Bugbee WD**, "Revision Osteochondral Allografts: Do they work?" *Podium 192*, American Academy of Orthopaedic Surgeons (AAOS), Chicago, IL, March 19–23, 2013.
169. Steinhoff A, **Bugbee WD**, "Knee Society Function Score versus Knee Osteoarthritis Outcome Scores after Knee Arthroplasty", Open meeting of The Knee Society, Chicago, IL, March 23, 2013.
170. **Bugbee WD**, Kermanshahi A, "Lateral Opening Wedge Distal Femoral Varus Osteotomy for Correction of Valgus Deformity of the Knee", *Podium 113*, American Academy of Orthopaedics Surgeons (AAOS), Chicago, IL, March 19–23, 2013.
171. Pennock A, Murphy R, **Bugbee WD**, "Osteochondral Allografts for Knee Lesions in the Pediatric and Adolescent Population", 40th Annual David H. Sutherland Pediatric Orthopedic Visiting Professorship, Rady Children's Hospital, CA, May 16–17, 2012.
172. Pallante AL, Cory E, **Bugbee WD**, Sah R, "Bone Cysts after Osteochondral Allograft Repair of Cartilage Defects in Adult Goats", *Podium No. 25.2.2*, International Cartilage Repair Society (ICRS), Izmir, Turkey, September 15–18, 2013.
173. Sadr K, Pulido PA, McCauley JC, **Bugbee WD**, "Fresh Osteochondral Allograft Transplantation for Osteochondritis Dissecans of the Knee", *Podium No. 25.2.6*, International Cartilage Repair Society (ICRS), Izmir, Turkey, September 15–18, 2013.
174. Murphy RT, Pennock AT, **Bugbee WD**, "Osteochondral Allograft Transplantation of the Knee in the Pediatric and Adolescent Population", *Poster P140*, International Cartilage Repair Society (ICRS), Izmir, Turkey, September 15–18, 2013.
175. Tirico LET, Santos LAU, Demange MK, Gobbi RG, Angelini FJ, Rezenda MU, Pécora JR, Croci AT, Camanho GL, **Bugbee WD**, "Standards of procurement, processing and utilization of fresh osteochondral allografts in Brazil", *Poster 141*, International Cartilage Repair Society (ICRS), Izmir, Turkey, September 15–18, 2013.
176. **Bugbee W**, Aram L, Schenher A, Swank M, "Tibial posterior slope is extremely variable in patients undergoing TKA", *Podium*. International Society for Technology in Arthroplasty (ISTA) 26th Annual Congress, October, 16-19, 2013, Palm Beach Florida.
177. **Bugbee WD**, Pulido PA, Goldberg T, D'Lima DD, "Use of an Antigravity Treadmill for Rehabilitation after Total Knee Replacement", *E-Poster and short talk*, International Society for Technology in Arthroplasty (ISTA) 26th Annual Congress, October, 16-19, 2013, Palm Beach Florida.
178. **Bugbee WD**, Aram L, Schenher A, Swank M, "Distal femoral valgus is highly variable in patients undergoing total knee arthroplasty", *E-Poster and short talk*, International Society for Technology in Arthroplasty (ISTA) 26th Annual Congress, October, 16-19, 2013, Palm Beach Florida.
179. Huang EH, Copp SN, **Bugbee WD**, "Accuracy of an Accelerometer-based Hand-Held Surgical Navigation System for Alignment in Total Knee Arthroplasty", *E-Poster and short talk*, International

Society for Technology in Arthroplasty (ISTA) 26th Annual Congress, October, 16-19, 2013, Palm Beach Florida.

180. Sadr KN, Pulido PA, McCauley JC, **Bugbee WD**, “Fresh Osteochondral Allograft Transplantation for Osteochondritis Dissecans of the Knee”, *Podium*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, New Orleans, LA, March 11–15, 2014
181. **Bugbee W**, Aram L, Schenher A, Swank M, “Distal femoral valgus is highly variable in patients undergoing total knee arthroplasty”, *Podium*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, New Orleans, LA, March 11–15, 2014
182. Chang N, Maheshwari A, Chen AC, Cory EB, Inoue N, Koichi M, **Bugbee WD**, Sah R, “Multiscale Structural Variation of the Subchondral Plate with Osteochondral Surface Deterioration”, *Spotlight Session*, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
183. Hui A, Chang MJ, Brown CC, Hsu FH, Temple-Wong MM, **Bugbee WD**, Masuda K, Sah RL, “Normal and Osteoarthritic Human Synovial Fluid Regulation of Articular Cartilage Proteoglycan-4 Secretion: Role of O<sub>2</sub>, TGF- $\beta$  and IL-1”, *Poster*, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
184. Su AW, Chen Y, Dong Y, Wailes DH, Wong VW, Chen AC, **Bugbee WD**, Sah RL, “Mechanical Mediators of Cartilage Damage During Impact: Energy Density and Shear”, *Poster*, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
185. Cory E, Hansen BC, Naso AN, Chang N, Murphy MM, Provencher MT, **Bugbee WD**, Mologne TS, Sah RL, “Lateral Femoral Condyle Allografts Provide an Acceptable Articular Contour when Implanted into Medial Femoral Condyle Recipient Sites”, *Podium*, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
186. Hsu FH, Sulkar H, Sankar BS, Wu AG, **Bugbee WD**, Chen AC, Sah RL, “Osteoarthritis affects the specialized biomechanical properties of the superficial zone and the deep zone of articular cartilage of the human knee”, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
187. Su AW, Chen Y, Dong Y, Wailes DH, Wong VW, Chen AC, **Bugbee WD**, Sah RL, “Energy density and shear are mechanical mediators of cartilage damage during impact”, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
188. Patil S, Bunn A, **Bugbee W**, Colwell CW, D’Lima D, “Patient-Specific Implants and Cutting Guides Better Approximate Natural Kinematics than Standard Total Knee Arthroplasty”. *Podium*, German Congress of Orthopaedics and Trauma Surgery, Berlin, Germany, October 22–25, 2014.
189. Getgood A, Gelber J, Görtz S, DeYoung A, **Bugbee WD**, “Combined Osteochondral Allograft And Meniscal Allograft Transplantation – A Survivorship Analysis”, *Podium*, Meniscus Transplantation Study Group Meeting, Las Vegas, NV, March 27, 2015
190. Sadr KN, Pulido PA, McCauley JC, **Bugbee WD**, “Fresh Osteochondral Allograft Transplantation for Osteochondritis Dissecans of the Knee”, *Podium*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Las Vegas, NV, March 24–28, 2015.
191. **Bugbee WD**, Aram L, Schenher A, Swank M, “Distal femoral valgus is highly variable in patients undergoing total knee arthroplasty”, *Podium*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Las Vegas, NV, March 24–28, 2015.

192. Gracitelli GC, Meric G, Pulido PA, Görtz S, De Young A, **Bugbee W**, “Fresh Osteochondral Allograft Transplantation for Isolated Patellar Cartilage Injury”, *Poster 433*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Las Vegas, NV, March 24–28, 2015.
193. **Bugbee WD**, “Osteochondral Allograft Transplantation in Cartilage Repair: Graft Storage Paradigm, Translational Models, and Clinical Application”, 2015 *Kappa Delta Elizabeth Winston Lanier Award*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Las Vegas, NV, March 28–31, 2015.
194. Sadr KN, Pulido PA, McCauley JC, **Bugbee WD**, “Fresh Osteochondral Allograft Transplantation for Osteochondritis Dissecans of the Knee”, *Podium*, American Orthopaedic Society for Sports Medicine (AOSSM) Specialty Day, Las Vegas, NV, March 28, 2015.
195. Caffrey JP, Hansen BC, Shia KL, Arnold DP, Samy KE, Chen AC, Cory E, Varghese S, Masuda K, **Bugbee WD**, Sah RL, “Customized Osteochondral Grafts for Cartilage Resurfacing: Effects of Contour and Placement on Biomechanics of Femoro-Tibial Contact in the Goat”, *Poster 351*, Orthopaedic Research Society (ORS) Annual Meeting, Las Vegas, NV, March 28–31, 2015.
196. Su AW, Wailes DH, Chen Y, Wong V, Cory E, Chen AC, **Bugbee WD**, Sah R, “Biomechanics and Mechanobiology of Osteochondral Graft Insertion: Cartilage Damage is Associated with Delivered Energy and Reduced by a Waisted Graft Geometry”, *Poster 804*, Orthopaedic Research Society (ORS) Annual Meeting, Las Vegas, NV, March 28–31, 2015.
197. Hansen BC, Cory E, Provencher MT, **Bugbee WD**, Mologne TS, Sah RL, “Topological Match of Medial and Lateral Femoral Condyle Donor Osteochondral Grafts to Medial Femoral Condyle Recipient Sites”, *Poster 1215*, Orthopaedic Research Society (ORS) Annual Meeting, Las Vegas, NV, March 28–31, 2015.
198. Cameron J, Pulido P, DeYoung A, Görtz S, **Bugbee WD**, “Outcome following isolated osteochondral allograft transplantation of the femoral trochlea”, *Eposter*, International Cartilage Repair Society (ICRS) 2015, Chicago, IL, May 8–11, 2015.
199. Briggs D, Sadr K, Pulido P, **Bugbee WD**, “The use of osteochondral allograft transplantation for primary treatment of cartilage injuries in the knee”, *Eposter*, International Cartilage Repair Society (ICRS) 2015, Chicago, IL, May 8–11, 2015.
200. **Bugbee WD**, Biological Joint Restoration: “Results of 402 Osteochondral Allograft Transplantations in the Knee”, *Eposter*, International Cartilage Repair Society (ICRS) 2015, Chicago, IL, May 8–11, 2015.
201. Chang N, Murphy MM, Cory E, Chen AC, **Bugbee WD**, Sah RL, “Loss of cartilage matrix fixed charge density in failed osteochondral allografts at localized defect and host-donor interface sites”, *Eposter*, International Cartilage Repair Society (ICRS) 2015, Chicago, IL, May 8–11, 2015.
202. Meric G, Gracitelli G, Görtz S, DeYoung A, **Bugbee WD**, “Fresh osteochondral allograft transplantation for reciprocal bipolar osteochondral lesions of the knee”, *Podium*, International Cartilage Repair Society (ICRS) 2015, Chicago, IL, May 8–11, 2015.
203. Meric G, Gracitelli G, McCauley JC, Pulido P, Chang N, **Bugbee WD**, “OCA MRI Scoring System (OCAMRISS) in the knee: interobserver agreement and clinical application”, *Podium*, International Cartilage Repair Society (ICRS) 2015, Chicago, IL, May 8–11, 2015.
204. Getgood A, Gelber J, Görtz S, DeYoung A, **Bugbee WD**, “Combined Osteochondral Allograft And Meniscal Allograft Transplantation – A Survivorship Analysis”, *Podium*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, 10<sup>th</sup> Biennial ISAKOS Congress, Lyon, France, June 7–11, 2015.

205. Briggs D, Sadr K, Pulido P, **Bugbee WD**, “The Use Of Osteochondral Allograft Transplantation For Primary Treatment Of Cartilage Injuries In The Knee” *Podium*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, 10th Biennial ISAKOS Congress, Lyon, France, June 7–11, 2015.
206. Meric G, Gracitelli GC, Aram LJ, Swank ML, **Bugbee WD**, Variability in Distal Femoral Anatomy in Patients Undergoing Total Knee Arthroplasty: Measurements on 13,546 Computed Tomography Scans, *Podium*, Orthopedics and Traumatology Congress, Belek, Turkey, October 27–November 1, 2015.
207. Chang N, Wong VW, **Bugbee WD**, Schumacher BL, Sah RL, “Chondrocyte Fate Inferred from 3-D Bioimage Informatics of Cell Organization in Human Articular Cartilage”, *Poster 0477*, Orthopaedic Research Society (ORS) Annual Meeting, Orlando, FL, March 5–8, 2016.
208. Grogan SP, Lee T, Lee EE, Racusin AW, Hoenecke HR, **Bugbee WD**, D’Lima DD, Characterization of Adipose-derived Cells Via Multi-color Flow Cytometry, for Chondrogenic Capacity, and Modulation of Cytokines in Osteoarthritic Explant cultures, *Poster 0596*, Orthopaedic Research Society (ORS) Annual Meeting, Orlando, FL, March 5–8, 2016.
209. **Bugbee WD**, Nielsen ES, McCauley J, Pulido P, Return to Sport and Recreational Activity After Osteochondral Allografting of the Knee, ICRS 13<sup>th</sup> World Congress, Sorrento, Italy, September 24-27, 2016
210. **Bugbee WD**, Javidan P, McCauley J, Osteochondral Allograft Transplantation: Effect of Blood Type Matching Between Donor and Recipient on Clinical Outcome, ICRS 13<sup>th</sup> World Congress, Sorrento, Italy, September 24-27, 2016
211. Tabbaa SM, Sun Y, Jiang W, Cory E, McIlwraith CW, Frisbie DD, **Bugbee WD**, Sah RL. Marrow removal approach to enhance osteochondral repair. *World Congress of the International Cartilage Repair Society*, 2016 (Sorrento, Italy; podium)
212. Tabbaa SM, Glazer C, McIlwraith CW, Frisbie DD, **Bugbee WD**, Sah RL. Effect of warming on release of marrow elements from osteochondral cores. *Orthopaedic Research Society Annual Meeting*, 2017 (San Diego, CA; poster)
213. Tabbaa SM, Glazer C, McIlwraith CW, Frisbie DD, Sah R, **Bugbee W**, The Effect of Warming on Release of Marrow Elements from Osteochondral Cores, *Poster 311*, Orthopaedic Research Society (ORS) 2017 Annual Meeting, San Diego, California, March 20–23, 2017
214. Chang N, Wong VW, **Bugbee WD**, Sah RL, 3-D Visualization of Subchondral Plate Vascular Channels by Digital Volumetric Imaging, *Poster 778*, Orthopaedic Research Society (ORS) 2017 Annual Meeting, San Diego, California, March 20–23, 2017
215. Wilde J, Copp S, McCauley JC, **Bugbee WD**, One Dose of Intravenous Tranexamic Acid is Equivalent to Two Doses of Intravenous Tranexamic Acid in Total Hip Arthroplasty, *Paper 029*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
216. Gaul F, Tirico LE, McCauley JC, Pulido PA, **Bugbee WD**, Long-Term Follow Up of Revision Osteochondral Allograft Transplantation of the Ankle, *Paper 399*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
217. Early S, Tirico LE, McCauley JC, Pulido P, **Bugbee WD**, Long-Term Follow Up of Fresh Osteochondral Allograft Transplantation for Steroid-Associated Osteonecrosis of the Femoral Condyles, *Paper 534*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.

218. Tirico LE, McCauley JC, Pulido PA, **Bugbee WD**, Is Patient Satisfaction Associated with Clinical Outcomes after Osteochondral Allograft Transplantation in the Knee? *Paper 911*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
219. Wilde J, Copp S, McCauley JC, **Bugbee WD**, One Dose of Intravenous Tranexamic Acid is Equivalent to Two Doses of Intravenous Tranexamic Acid in Total Knee Arthroplasty, *Poster P0198*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
220. Tirico LE, McCauley JC, Pulido PA, **Bugbee WD**, Lesion Size Does Not Predict Outcome in Fresh Osteochondral Allograft, *Poster P0402*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
221. Schmidt K, Tirico LE, McCauley JC, Pulido PA, **Bugbee WD**, Osteochondral Allograft Transplantation: Is Graft Storage Time Associated with Clinical Outcomes and Graft Survivorship? *Poster P0900*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
222. Tirico LE, McCauley JC, Pulido P, **Bugbee W**, Modern Osteochondral Allograft Transplantation: The “Gold Standard” for Femoral Condyle Cartilage Repair? *Paper 4*, American Orthopaedic Society for Sports Medicine and Arthroscopy (AOSSM), Specialty Day, New Orleans, LA, March 10, 2018.
223. **Bugbee, WD**, Osteochondral Allografts for Osteochondral Lesions of the Talus, International Cartilage Repair Society (ICRS) World Congress, Macao, April 9-12 2018
224. **Bugbee, WD**, Long Term Follow-up Of Osteochondral Allografts for Osteonecrosis of the Knee, International Cartilage Repair Society (ICRS) World Congress, Macao, April 9-12 2018
225. Tabbaa S, **Bugbee, WD**, The Effect of Warming on Chondrocyte Viability, Orthopaedic Research Society (ORS) Annual Meeting February 2-5 2019
226. **Bugbee WD**, Pallante-Kichura AL, Görtz S, Pulido PA, McCauley JC, Amiel D, Sah R, Fresh Osteochondral Allograft Transplantation: Our Experience with 20 Years of Translational Research, *Scientific Exhibit SE70*, American Academy of Orthopaedic Surgeons (AAOS) 2019 Annual Meeting, Las Vegas, NV, March 12–16, 2019.
227. Sizer S, McCauley JC, **Bugbee WD**, Rosen A, Today’s Nonagenarians: Too Old for Arthroplasty? *Poster 00035*, American Academy of Orthopaedic Surgeons (AAOS) 2019 Annual Meeting, Las Vegas, NV, March 12–16, 2019.
228. Brown ML, McCauley JC, Gracitelli GC, **Bugbee WD**, Osteochondritis Dissecans Lesion Location Is Highly Concordant with Mechanical Axis Deviation, ICRS World Congress, Vancouver Canada, October 2019
229. **Bugbee WD**, Osteochondral Allograft Transplantation of the Knee in “Ideal” Candidates: Clinical Outcomes and Graft Survivorship, ICRS World Congress October 2019
230. **Bugbee WD**, Which Variables Predict Osteochondral Allograft Failure? ICRS World Congress October 2019
231. Tabbaa SM, Crawford D, Farr J, **Bugbee WD**. Analysis of Private Payer Medical Policies for Osteochondral Allograft Transplantation. World Congress of the International Cartilage Repair Society (ICRS), 2019 (Vancouver, Canada; poster)

232. **Bugbee WD**, Osteochondral Allograft Transplantation of the Knee in “Ideal” Candidates: Clinical Outcomes and Graft Survivorship, Presented as *EPaper*, American Academy of Orthopaedic Surgeons (AAOS) 2020 annual meeting, March 24–28, 2020.
233. **Bugbee WD**, Kenney S, Copp SN, McCauley J, Does A Supervised Patient Ambulation Program Reduce the Risk of Falls After Total Joint Arthroplasty? The Knee Society Members Meeting, September, 2020
234. **Bugbee WD**, Surgical Management of the Young Degenerative Knee: “Power Ranking” the Options. Knee Society Members Meeting, Napa, CA, September 10, 2021.
235. Sizer S, Rosen AS, McCauley JC, **Bugbee WD**, “Today’s Nonagenarians: Too Old for Arthroplasty?” *ePaper*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) 2021: Global Congress, November 27–28, 2021
236. **Bugbee WD**, “Osteochondral Allograft Transplantation in Ideal Candidates: Clinical Outcomes and Graft Survivorship.” *ePoster*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) 2021: Global Congress, November 27–28, 2021
237. **Bugbee WD**, “Which Variables Predict Osteochondral Allograft Failure?” *ePoster*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) 2021: Global Congress, November 27–28, 2021
238. Kenney S, Copp, SN, McCauley JC, **Bugbee WD**, “Does a Supervised Patient Ambulation Program Reduce the Risk of Falls after Total Joint Arthroplasty?” *ePoster*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) 2021: Global Congress, November 27–28, 2021
239. Mologne TS, **Bugbee WD**, Kaushal S, Daly-Seiler C, Goulet R, Casden M, Grant JA. Osteochondral Allograft Transplants for Large Oval Defects of the Medial Femoral Condyle: Comparison of Lateral vs. Medial Femoral Condyle Donors and Single vs. Double Plug Constructs. *ePoster*, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) 2021: Global Congress, November 27–28, 2021

#### INVITED LECTURES/ TEACHING

1. “Surgical and Nonsurgical Treatments for Arthritis,” Sam and Rose Stein Institute for Research on Aging; San Diego, CA, April 21, 1999.
2. “Osteochondral Allografts,” Bridging the Gap to Donation – Update ’99, Organ and Tissue Donation Symposium; San Diego, CA, April 27, 1999.
3. “Fresh Musculoskeletal Allografts,” American Association of Tissue Banks 23<sup>rd</sup> Annual Meeting; San Diego, CA, August 23, 1999.
4. “Joint Replacement Update,” Fifth Annual UCSD Primary Care Orthopaedics Conference; La Jolla, CA, September 1999.
5. Bugbee WD: Osteochondral Allografting for the Treatment of the Focal Chondral Defect. *AAOS The Arthritic Knee* CD-ROM, 2000. American Academy of Orthopaedic Surgeons, 2000.



6. "Alternatives to Total Knee Arthroplasty, Cartilage Repair," The Total Hip and Knee Meeting; Deer Valley, UT, June 15–16, 2000.
7. "Total Hip Replacement," UCSD Rheumatology Conference; San Diego, CA, July 21, 2000.
8. "Osteochondral Allograft: An Alternative Treatment for Arthroplasty," "Stress Shielding – Fact or Fiction Clinical Consequences." Contemporary Issues in Total Joint Arthroplasty; Mammoth Lakes, CA, August 17–19, 2000.
9. "Biologic Resurfacing of the Knee" Issues in Orthopaedics; Coeur d'Alene, ID, September 2000.
10. "Management of Periprosthetic Femur Fracture with Supracondylar/Distal Femoral Nail", "How to Balance the PCL", AAOS - Unicondylar, Total and Revision Knee Arthroplasty: Basic Techniques and Solutions to Difficult Problems; Chicago, IL, October 13–15, 2000.
11. Bugbee, WD: Fresh Osteochondral Allografting. Fall Scientific Meeting, Pennsylvania Orthopaedic Society, Philadelphia, November 2000.
12. "Bone Remodeling in Hip Arthroplasty." Mexican Hip Surgery Society Conference; Guadalajara, Mexico, March 2001.
13. "Blood Management in Joint Replacement." Mexican Hip Surgery Society Conference; Guadalajara, Mexico, March 2001.
14. Cartilage Transplantation." Mexican Hip Surgery Society Conference; Guadalajara, Mexico, March 2001.
15. "Biological Resurfacing of Articular Cartilage." UCSD Rheumatology Conference; San Diego, CA, April 2001.
16. "History of Mobile Bearing Knee Design." New Technologies for the Millennium; Indian Wells, CA, April 2001.
17. "Allografting." Presented at the PeriAnesthesia Nurses Association of California Ambulatory Surgery Update Conference, Riverside, CA, June 2001.
18. "Blood Replacement in Surgery." Presented at the PeriAnesthesia Nurses Association of California Ambulatory Surgery Update Conference, Riverside, CA, June 2001.
19. "Treatment of Articular Cartilage Injuries in the Athlete." Symposium #4: Sports Medicine, Western Orthopaedic Association Annual Meeting; San Francisco, CA, September 2001.
20. "Fresh Osteochondral Allografts." Annual UCSD Cartilage Symposium, La Jolla, CA, October 2001.
21. "Surgical Treatment of Arthritis and Joint Replacement." Sixth Annual UCSD Primary Care Orthopaedics Conference; La Jolla, CA, October 2001.
22. "Osteochondral Allograft Techniques and Outcomes." Santa Monica Orthopaedic and Sports Medicine Research Foundation Second Annual Articular Cartilage Course for Sports Medicine Fellows, Carlsbad, CA, December 2001.
23. "Total Joint Arthroplasty." UCSD Rheumatology Conference, San Diego, CA, January 2002.
24. "MIU-The New Frontier." Contemporary Techniques and Issues in Orthopaedics - Reconstructive Program; Whistler, British Columbia, March 2002.

25. "Uni-Knee Arthroplasty: Should You Consider this Option?" Contemporary Techniques and Issues in Orthopaedics - Reconstructive Program; Whistler, British Columbia, March 2002.
26. "Periprosthetic Fractures: What to Do." Contemporary Techniques and Issues in Orthopaedics - Reconstructive Program; Whistler, British Columbia, March 2002.
27. "Cartilage Injuries." Visiting Lecture Series, UCLA School of Medicine, Department of Orthopaedics; Los Angeles, California, July 2002.
28. "Knee Arthroplasty: Biomechanics and Surgical Results." Moderator, Session #S309, SICOT/SIROT 2002 Congress; San Diego, CA, August 2002.
29. "Osteochondral Allografts." Surgical Resurfacing of the Knee; Los Angeles, CA, August 2002.
30. "Osteochondral Allografting." Visiting Lecture Series (Grand Rounds); UC Irvine School of Medicine, Department of Orthopaedics, Irvine, California, September 2002.
31. "Fresh Osteochondral Allografts." Second Annual UCSD Cartilage Symposium; La Jolla, CA, October 2002.
32. "Osteochondral Allografting." Joint-Preserving Treatment of the Knee Symposium, Johns Hopkins Medicine, Department of Orthopaedic Surgery, Division of Arthritis Surgery; Williamsburg, VA, November 2002.
33. "Articular Cartilage Transplantation." Society of Military Orthopaedic Surgeons; San Diego, CA, December 2002.
34. "Options for the Arthritic Knee." Santa Monica Orthopaedic and Sports Medicine Research Foundation Third Annual National Articular Cartilage Course for Sports Medicine Fellows; Carlsbad, CA, December 2002.
35. "Osteochondral Allograft Transplantation." Santa Monica Orthopaedic and Sports Medicine Research Foundation Third Annual National Articular Cartilage Course for Sports Medicine Fellows; Carlsbad, CA, December 2002.
36. "Articular Cartilage Transplantation." Johns Hopkins School of Medicine Department of Orthopaedic Surgery 2<sup>nd</sup> Annual Stein Finerman Lecture; Baltimore, MD, December 2002.
37. "The Surgical Treatment of Articular Defects of the Knee." Instructional Course #194, American Academy of Orthopaedic Surgeons 70<sup>th</sup> Annual Meeting; New Orleans, LA, February 2003.
38. "Joint Resurfacing: Recent Advances." Special Orthopedics Conference, UCSD Division of Rheumatology, Allergy, and Immunology; San Diego, CA, February 2003.
39. "Orthopaedic Uses of Allograft Tissue." Lifesharing Conference: Tissue Donation and Referral Process Updates; San Diego, CA, February 2003.
40. "Management of Lateral Compartment Arthritis in the Young Patient: Femoral Osteotomy." Advances in Orthopaedic Surgery—Treatment Options in Reconstructive Surgery; Vail, CO, March 2003.
41. "Biologic Resurfacing in the Knee." Innovative Advances in Hip & Knee Reconstruction & the Science of Orthobiologics; Scottsdale, AZ, March 2003.
42. "Tibial Osteotomy." Innovative Advances in Hip & Knee Reconstruction & the Science of Orthobiologics; Scottsdale, AZ, March 2003.

43. "Fresh Osteochondral Allografting." Pennsylvania Orthopaedic Society 2003 Spring Scientific Meeting; Charleston, SC, April 2003.
44. "Autologous Osteochondral Graft Transfer Technique & Results: Shell Allograft Technique." AAOS CME Course #3619: The Surgical Alternatives to Total Knee Arthroplasty; Rosemont, IL, June 2003.
45. "Osteochondral Allograft Transplantation and Realignment Procedure." Surgical Resurfacing of the Knee; Los Angeles, CA, August 2003.
46. "Osteotomies Around the Knee." Visiting Lecture Series (Grand Rounds), UC Irvine School of Medicine, Department of Orthopaedics; Irvine, CA, September 2003.
47. "Articular Cartilage Transplantation." Western Orthopaedic Association, Los Angeles Chapter; Los Angeles, CA, January 2004.
48. "The Life-Enhancing Benefits of Tissue Donation." Lifesharing and the San Diego Mortuary Association's "Working Behind the Scenes" Forum on Donation; San Diego, CA, October 2003.
49. Bugbee W. "Surgical Management of Arthritis and Cartilage Disease." Topics and Advances in Internal Medicine: University of California, San Diego, CME Course, San Diego, CA, February 2004.
50. "Patellofemoral Arthritis; Surgical Management." Techniques & Issues in Orthopaedics, Emerging Trends: Whistler 2004 Orthopaedic Symposium. Whistler, British Columbia, Canada, February 2004.
51. "Osteochondral Transplant for Degenerative Joint Disease." An Incredible Journey: Orthopaedic Surgery at Loma Linda University in the 20<sup>th</sup> Century; Total Joint Replacement. Orthopaedic Surgery and the Neufeld Society of Loma Linda University, Loma Linda, CA, March 2004.
52. "Osteochondral Allograft Transplantation." Invited Guest Speaker, St. Joseph Hospital Physician Education/Western Orthopaedic Association – Orange County Chapter. Orange, CA, April 2004.
53. "Osteochondral Allograft Transplantation." Second Annual Western Regional Surgeon Meeting, Innovative Advances in Hip & Knee Reconstruction & the Science of Orthobiologics, Scottsdale, AZ, April 2004.
54. "Fresh Osteochondral Allograft Transplantation – The UCSD Experience." Invited Visiting Professor to Allegheny General Hospital, Pittsburgh, PA, April 2004.
55. "Allografts for Cartilage Repair." Chicago Cartilage Course, Distinguished National Faculty/Invited Speaker. Chicago, IL, May 2004.
56. "Pre-operative Planning in Total Knee Arthroplasty and PLC Management in Total Knee Arthroplasty." Intelligent Advances in Orthopaedics presents, Mobile Bearing Technology in Total Knee Arthroplasty Conference, DePuy. Invited Faculty, Orthopaedic Specialty Institute, St. Joseph's Hospital, Orange, CA, August 2004.
57. "Providing Resources and Education for Optimizing the Patient." Clinical Advantages – Symposium for Physicians. Sponsored by PRE-OP, San Diego, CA. September 21, 2004.
58. "Allografts in AVN of the Femoral Head & Allografts in DJD of the Knee." 77<sup>th</sup> Annual Clinical Assembly of Osteopathic Specialists, San Diego, CA. September 30–October 3, 2004.
59. "Adult Reconstruction, Hip & Knee," DePuy's Residents Review Course, 4th & 5th Year Program. Presenter & Cochair, La Jolla, CA. September 30–October 3, 2004.

60. "Allograft Osteochondral Plugs and Transplants; Minimally Invasive and Guidance Systems for Total Hip and Knee Replacement Surgery." Orthopedics Today New York Course, New York City, November 13–14, 2004.
61. "Long-Term Results of Fresh Osteochondral Allografts for Post Traumatic Knee Defects," The American Orthopaedic Society for Sports Medicine: Soft Tissue Allografts in Orthopaedic Surgery: Science and Application. Atlanta, GA, January 16, 2005.
62. "Fresh Osteochondral Allografts: Graft Processing and Clinical Applications." The American Orthopaedic Society for Sports Medicine: Soft Tissue Allografts in Orthopaedic Surgery: Science and Application. Atlanta, GA, January 16, 2005.
63. "Isolated Patellofemoral Arthritis," Surgical Options Today. Transforming Orthopaedics: Technology for Improved Surgical Outcomes, Whistler, British Columbia, Canada, March 9–13, 2005.
64. "Osteotomy: A Slowly Vanishing Technique?" Transforming Orthopaedics: Technology for Improved Surgical Outcomes, Whistler, British Columbia, Canada, March 9–13, 2005.
65. "Managing the PCL in TKA." Innovative Technologies in Rotating Platform Knee Arthroplasty; Orthopaedic Specialty Institute, Orange, CA, May 13, 2005.
66. "Clinical Results of CAS TKA," Orthopaedic Specialty Institute, Orange, CA, May 13, 2005.
67. "Pre-op Planning and Implant Choice in TKA." Innovative Technologies in Rotating Platform Knee Arthroplasty; Orthopaedic Specialty Institute, Orange, CA, May 13, 2005.
68. "Innovations in the Treatment of Articular Cartilage," Arthroscopy Association of North America, Vancouver, BC, Canada; May 14, 2005.
69. "Osteotomies of the Knee – Valgus/Varus Deformity," Practical Applications in Articular Cartilage Repair, The West Coast Sports Medicine Foundation, Manhattan Beach, CA, June 11, 2005.
70. "Blood Management in the 21<sup>st</sup> Century," Fourth Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip, Marina del Rey, CA, June 10–12, 2005.
71. "Biologic Resurfacing," Fourth Symposium on Joint Preserving and Minimally Invasive Surgery of the Hip, Marina del Rey, CA, June 10–12, 2005.
72. "Rationale for Computer Navigation in TKA," Brainlab Surgical Skills Course, Westchester, IL, August 27, 2005.
73. "Osteochondral Allograft Transplantation," The American Orthopaedic Society for Sports Medicine. AOSSM Surgical Skills Course: Articular Cartilage Repair in the Athlete's Knee, Rosemont, IL, August 27, 2005.
74. "Unicompartmental Total Knee Replacement: Prosthetic Biologic vs. Osteotomy," The American Orthopaedic Society for Sports Medicine. AOSSM Surgical Skills Course: Articular Cartilage Repair in the Athlete's Knee, Rosemont, IL, August 28, 2005.
75. "Clinical Experience with Computer-Assisted Surgery," DePuy Sales Training Meeting. Orange County, CA, September 9, 2005.
76. "The War on Dislocation," DePuy Sales Training Meeting. Orange County, CA, September 9, 2005.
77. "Complex Biological Joint Reconstruction," UCSD Weekly Research Conference, Scripps Mercy Medical Center, September 14, 2005.

78. "Fresh Allografts for Osteochondral Repair," New Trends in Cartilage Repair Conference. Biotech Congressi. Hotel Excelsior, Napoli, Italy, September 22, 2005
79. "Implant Selections in THA: Cemented vs. Uncemented," DePuy's Residents Review Course, 4th & 5th Year Program. Presenter & Cochair, La Jolla, CA, September 29, 2005.
80. "How to do a Routine THA Symposium," DePuy's Residents Review Course, 4th & 5th Year Program. Panel Member & Cochair, La Jolla, CA, September 29, 2005.
81. "Biologic Resurfacing or Cartilage Restoration," DePuy's Residents Review Course, 4th & 5th Year Program. Presenter & Cochair, La Jolla, CA, October 1, 2005.
82. "Implant Selection for Primary TKA: PCL Save or Substitute (CR vs. PS)" DePuy's Residents Review Course, 4th & 5th Year Program. Presenter & Cochair, La Jolla, CA, October 1, 2005.
83. "Blood Management," DePuy's Residents Review Course, 4th & 5th Year Program. Presenter & Cochair, La Jolla, CA, October 1, 2005.
84. "Allograft Tissue Use and Safety," DePuy's Residents Review Course, 4th & 5th Year Program. Presenter & Cochair, La Jolla, CA, October 2, 2005.
85. "High Tibial Osteotomy," DePuy's Advances in Technique & Technology for Primary Total Joint Arthroplasty, Las Vegas, NV, October 7, 2005.
86. "Early Intervention Treatment for Knee Arthritis," Panel Member. DePuy's Advances in Technique & Technology for Primary Total joint Arthroplasty, Las Vegas, NV, October 8, 2005.
87. "New Technology Options for TKA." Moderator. DePuy's Advances in Technique & Technology for Primary Total joint Arthroplasty, Las Vegas, NV, October 8, 2005.
88. "Biological Arthroplasty/Bioarthroplasty," MIS meets CAOS Symposium & Instructional Academy – Less and Minimally Invasive Surgery for Joint Arthroplasty: Fact and Fiction, San Diego, CA, October 20, 2005.
89. "Navigation for TKR: Early Learning Experience," MIS meets CAOS Symposium & Instructional Academy – Less and Minimally Invasive Surgery for Joint Arthroplasty: Fact and Fiction, San Diego, CA, October 20, 2005.
90. "Biologic Solutions: Tissue Engineering Meets MIS and CAOS," Moderator. MIS meets CAOS Symposium & Instructional Academy – Less and Minimally Invasive Surgery for Joint Arthroplasty: Fact and Fiction, San Diego, CA, October 20, 2005.
91. "Navigation for HTO," MIS meets CAOS Symposium & Instructional Academy – Less and Minimally Invasive Surgery for Joint Arthroplasty: Fact and Faction, San Diego, CA, October 22, 2005.
92. "Procrit for Blood Management During Surgery," Providing Resources and Education for Optimizing the Patient (P.R.E.-O.P.), Del Mar, CA, October 27, 2005.
93. "Osteochondral Allografting," Advances in Orthopaedic Surgery Session. American College of Rheumatology/ARHP Annual Scientific Meeting, San Diego, CA, November 14, 2005.
94. "My Approach to Complex Defects: Osteochondral Allograft Resurfacing," Arthroscopy Association of North America Fall Course, Phoenix, AZ, December 2, 2005.

95. "Case Conferences" presented to UCSD and San Diego County Physicians at Adult Reconstruction Lecture Series. Scripps Mercy Medical Center, San Diego, CA, December 14, 2005.
96. "Fresh Osteochondral Allograft Update," National Sports Medicine Fellows Articular Cartilage Course, San Diego, CA, January 6–7, 2006.
97. "Whole Tissue Transplantation: Allograft," Articular Cartilage Repair Strategies, American Orthopedic Society for Sports Medicine (AAOSM) Think Tank Conf, La Jolla, CA, January 7–8, 2006.
98. "Fresh Osteochondral Allografting," International Cartilage Repair Society (ICRS) Meeting, San Diego, CA, January 9–11, 2006.
99. "Osteochondral Allograft Transplantation," Musculoskeletal Research Institute, Memphis, TN, February 21, 2006.
100. "Osteochondral Allograft Transplantation," University of Alabama Grand Rounds, Birmingham, AL, February 23, 2006.
101. "Computer Navigation for Total Knee Replacement," DePuy Midwest U.S. Consensus Panel, Scottsdale, AZ, February 25, 2006.
102. "Managing Chondral Injuries of the Knee: From Arthroscopy to Unicompartamental Arthroplasty," Symposia G, American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL, March 22, 2006.
103. "Fresh OAT for Cartilage Lesions in the Knee," Presentation #151, American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL, March 23, 2006.
104. "The Surgical Treatment of Articular Defects of the Knee," Course #263, American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL, March 23, 2006.
105. "Articular Cartilage Repair: Present & Future Management," Course #283, American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL, March 23, 2006.
106. "Use of Allografts in Articular Cartilage," American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL, March 23, 2006.
107. "Surgical Treatment of Knee Arthritis in the Young Adult," UCSD Sports Medicine Lecture, La Jolla, CA, March 28, 2006.
108. "Fresh Osteochondral Allograft Transplantation," The 21<sup>st</sup> Annual Combined Orthopaedic Spring Symposium, Honolulu, HI, April 21–22, 2006.
109. "Surgical Options in DJD of the Knee," The 21<sup>st</sup> Annual Combined Orthopaedic Spring Symposium, Honolulu, HI, April 21–22, 2006.
110. "Pre-Op Planning & Implant Choice/PCL Management in TKA," Advanced Surgical Symposium, DePuy Orthopaedics and Orthopaedic Specialty Institute, Invited Speaker/Faculty, Orange, CA, May 19, 2006.
111. "Allograft Reconstruction of Joint Injuries," American Association of Tissue Banks' 30<sup>th</sup> Annual Meeting, San Diego, CA, September 11, 2006.
112. "Fresh Osteochondral Allografting in the Treatment of Osteochondritis Dissecans of the Femoral Condyle," Lloyd Taylor Award Winner, Western Orthopaedic Association, 70<sup>th</sup> Annual Meeting, Santa Fe, NM, October 12–14, 2006.

113. "Computer Navigation in TKA," Symposium on MIS TKA, New Zimmer Techniques & Technologies in Total Hip & Knee Arthroplasty, Invited Speaker, Palm Springs, CA, December 1–2, 2006.
114. "Osteochondral Allograft: Update," 2006 International Articular Cartilage Repair Course for Sports Medicine Fellows: *Comprehensive Approaches to Articular Cartilage Repair and Management*, Invited Faculty, Carlsbad, CA, December 1–3, 2006.
115. "Articular Injuries in the Athlete," 2007 Baseball Team Medicine Conference, Invited Speaker, San Diego, CA, January 5–7, 2007.
116. "Allograft Resurfacing of the Knee," Orthopedic Surgery Seminars, Inc., Arthroscopic Surgery 2007, Robert W. Metcalf, MD, Memorial, Invited Speaker, Scottsdale, AZ, January 20–23, 2007.
117. Hwang J, Bae WC, Shieu W, Lewis CW, Bugbee WD, Sah RL, "Changes in Human Subchondral Bone Plate Hydraulic Conductance with Progression of Osteoarthritis." Paper #48. Orthopaedic Research Society 53rd Annual Meeting, San Diego, CA, February 2007.
118. Annuziato A, Cole BJ, Mandelbaum B, Bugbee W (Moderator): Educational Session, "The Surgical Management of Articular Defects in the Knee." American Academy of Orthopaedic Surgeons 74<sup>th</sup> Annual Meeting, San Diego, CA, February 2007.
119. Bugbee W, Gersoff WK, Gill TJ, Gobbi A, Mandelbaum B, (Moderator): Educational Session. "Articular Cartilage in the Athlete: Treatment Options in 2007." American Academy of Orthopaedic Surgeons 74<sup>th</sup> Annual Meeting, San Diego, CA, February 2007.
120. Bugbee W, Miniaci A, Warren RF, Williams RJ, Wood DJ, Jones DG (Moderator): Educational Session. "Articular Cartilage Repair: Present and Future Methodologies." American Academy of Orthopaedic Surgeons 74<sup>th</sup> Annual Meeting, San Diego, CA, February 2007.
121. Emmerson BC, Görtz S., Amir A, Jamali A, Chun C, Amiel D, Bugbee WD, "Fresh Osteochondral Allografting in the Treatment of Osteochondritis Dissecans of the Femoral Condyle." The American Orthopaedic Society for Sports Medicine (AOSSM) Annual Specialty Day, Podium 5977, San Diego, CA, February 17, 2007.
122. "Osteochondral Allografts," Meniscus Surgery Symposium, Arthroscopy Association of North America (AANA) Annual Specialty Day, San Diego, CA, February 17, 2007.
123. "Live Surgery with Ci," Invited Faculty: DePuy Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic, La Jolla, CA, April 20, 2007.
124. "Cruciate Management in TKA," Invited Faculty: DePuy Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic, April 20, 2007.
125. "Computer Navigation in Total Knee Replacement," *Invited Speaker*: 45<sup>th</sup> Annual Murray S. Danforth Oration, Rhode Island Hospital, Department of Orthopaedics, Brown University, Providence, RI, April 25, 2007.
126. "Osteochondral Allografts," Boston Cartilage Course: Innovations in Cartilage Repair and Joint Preservation of the Knee 2007, Boston, MA, April 27–28, 2007.
127. "Mechanical Axis Realignment: Distal Femoral and High Tibial Osteotomies," Boston Cartilage Course: Innovations in Cartilage Repair and Joint Preservation of the Knee 2007, Boston, MA, April 27–28, 2007.

128. "Blood Management in Orthopaedic Patients," Dinner Lecture, *Hosting Visiting Speaker*: University of California Los Angeles, Orthopaedic Hospital, Department of Orthopaedic Surgery, Los Angeles, CA, May 1, 2007.
129. "Cartilage Transplants in Orthopaedic Patients," Grand Rounds, *Hosting Visiting Speaker*, University of California Los Angeles, Orthopaedic Hospital, Department of Orthopaedic Surgery, Los Angeles, CA May 2, 2007.
130. "Fixed Bearing vs. Rotation Platforms," *Invited Faculty/Speaker*: Stryker Advanced total Hip & Knee Arthroplasty Surgical Symposium, Shiley Center for Orthopaedic Research and Education at Scripps Clinic, La Jolla, CA, May 4, 2007.
131. "What about the Patello-Femoral Replacement?" *Invited Faculty/Speaker*, Stryker Advanced total Hip & Knee Arthroplasty Surgical Symposium, Shiley Center for Orthopaedic Research and Education at Scripps Clinic, La Jolla, CA, May 4, 2007.
132. "Osteochondral Allograft Shell Transplantation," *Invited Faculty/Speaker*, American Academy of Orthopaedic Surgeons, Cartilage Restoration of the Knee, Rosemont, IL, June 8, 2007.
133. "Osteochondral Allografting – The First 100 Years," *Moderator/Speaker*, International Cartilage Repair Society 7<sup>th</sup> World Congress, Warsaw, Poland, October 1, 2007.
134. "Articular Cartilage Transplantation," *Invited Speaker*, Scripps Hospital Nursing Education Forum. La Jolla, CA, September 24 and October 8, 2007.
135. "Osteochondral Allografts," *Invited Speaker*, Third Annual Bonafide Orthopaedic Nursing Education (BONES) Symposium, University of California, San Diego, CA, October 30, 2007.
136. "Cartilage Repair: 100 Years of Osteochondral Allografting," Engh Society Hip and Knee Symposium, : Invited Speaker: Alexandria, Virginia, November 10, 2007.
137. "Rotating Platform TKA – Live Surgery," *Invited Faculty/Speaker*, Spanish Trauma Specialists Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic. La Jolla, CA, November 28–30, 2007.
138. "Osteochondral Allograft Transplantation," *Invited Faculty/Speaker*, Spanish Trauma Specialists Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic. La Jolla, CA, November 28–30, 2007.
139. "Rationale for Mobile Bearing Knee Replacement," *Invited Faculty/Speaker*, Spanish Trauma Specialists Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic. La Jolla, CA, November 28–30, 2007.
140. "Osteochondral Allograft: Updates," *Invited Faculty*, ICRS 2007, Eighth Annual Articular Cartilage Repair Course for Sports Medicine Fellows: Comprehensive Approach to Articular Cartilage Repair and Management. Carlsbad, CA, December 7–9, 2007.
141. "Biologic Arthroplasty: Is this the future?" *Invited Faculty*, North American Hip and Knee Symposium, Steamboat, CO, February 7–9, 2008.
142. "UKA vs TKA: Indications and Functional Outcomes." *Invited Faculty*, North American Hip and Knee Symposium, Steamboat, CO, February 7–9, 2008.
143. "The Arthroscopic and Minimally Invasive Treatment of Knee Unicompartmental Articular Cartilage Pathology in Active Individual: Strategies and Current Approaches," Panel, Educational Session 150, American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, March 5, 2008.



144. Surgical Management of Articular Cartilage Defects of the Knee,” *Moderator*, Educational Session 363, American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, March 7, 2008.
145. “The Arthroscopic and Minimally-Invasive Treatment of Knee Cartilage Pathology: Strategies and Current Approaches, Instructional Course #330, American Academy of Orthopaedic Surgeons 75th Annual Meeting, San Francisco, CA, March 2008.
146. “Osteochondral Allografts,” *Invited Faculty*, Cartilage Innovation Summit 2008, Cleveland Clinic, Cleveland, OH, May 7–10, 2008
147. “Osteochondral Allografts: State of the Art”, Symposium: Articular Cartilage Treatment in the Athlete: Current Perspective and Future Directions, California Orthopaedic Association, Newport Beach, CA, May 16, 2008.
148. “Fresh Osteochondral Allografting for Steroid-Associated Osteonecrosis of the Femoral Condyles”: ESSKA 2008 Congress, Porto, Portugal, May 21–24, 2008.
149. “Complex Osteochondral Allograft Transplantation”, *Invited Faculty*, Advance Concepts in Orthopaedics and Sports Medicine, Las Vegas, NV, September 27, 2008
150. “Osteochondral Allograft Transplantation for Bipolar Cartilage Lesions of the Knee”, Knee Society Interim Meeting, Denver, CO, October 2–4, 2008.
151. “Chondrosis – Assessment & Treatment,” *Invited Faculty*, ICRS Surgical Skills Course, Miami, FL, October 31–November 1, 2008.
152. “Allogenic Osteochondral Graft Transfer – Indications, Techniques and Results,” *Invited Faculty*, ICRS Surgical Skills Course, Miami, FL, October 31–November 1, 2008.
153. “Tibio-Femoral Malalignment with Early OA, Medical OA with Varus Malalignment,” *Invited Faculty*, ICRS Surgical Skills Course, Miami, FL, October 31–November 1, 2008.
154. “Tibial Valgus Osteotomy – Indications, Preoperative Planning and Results,” *Invited Faculty*, ICRS Surgical Skills Course, Miami, FL, October 31–November 1, 2008.
155. “Update on Tendon Allografts 2009”: *Invited Faculty*, Orthopedics Today – Hawaii 2009, Kohala Coast, Big Island, HI, January 11–14, 2009.
156. “Indications and My Experience with Osteochondral Allografts”, *Invited Faculty*, Orthopedics Today – Hawaii 2009, Kohala Coast, Big Island, HI, January 11–14, 2009.
157. “My Technique and Pearls I Have Learned”, *Invited Faculty*, Orthopedics Today – Hawaii 2009, Kohala Coast, Big Island, HI, January 11–14, 2009.
158. “My Experience and Suggestions with PFJ Lesions”, *Invited Faculty*, Orthopedics Today – Hawaii 2009, Kohala Coast, Big Island, HI, January 11–14, 2009.
159. “Osteochondral Allografts”, *Invited Faculty*, Malcolm B. Coutts Visiting Professorship, Western Orthopaedic Association, San Diego Chapter, San Diego, CA, January 23, 2009.
160. “Osteotomy – when and how in cartilage and ligament cases”, *Invited Faculty*, Metcalf Memorial and AANA Winter Meeting, Sun Valley, ID, January 31–February 3, 2009.
161. “Articular cartilage lesion management with osteochondral allograft”, *Invited Faculty*, Metcalf Memorial and AANA Winter Meeting, Sun Valley, ID, January 31–February 3, 2009.

162. "The Surgical Management of Articular Defects in the Knee", *Instructional Course Lecture*, American Academy of Orthopaedic Surgeons 76th Annual Meeting, Las Vegas, NV, February 2009.
163. "The Arthroscopic and Minimally-Invasive Treatment of Knee Cartilage Pathology: Strategies and Current Approaches", *Instructional Course #330*, American Academy of Orthopaedic Surgeons 76th Annual Meeting, Las Vegas, NV, February 2009.
164. "The Arthroscopic and Minimally Invasive Treatment of Knee Unicompartmental Articular Cartilage Pathology in Active Individual: Strategies and Current Approaches", *Instructional Course Lecture*, American Academy of Orthopaedic Surgeons Annual Meeting, Las Vegas, NV, February 2009.
165. "Management of Large and Complex Lesions", *Invited Faculty*, International Cartilage Repair Society, 8th World Congress, Miami, FL, May 23–26, 2009.
166. "Evaluation of the Patient with Cartilage Lesions", *Invited Faculty*, International Cartilage Repair Society, Contemporary Concepts in Articular Cartilage Repair and Knee Surgery, Beijing, China, September 18–19, 2009.
167. "Osteochondral Allografts in Cartilage Repair", *Invited Faculty*, International Cartilage Repair Society, Contemporary Concepts in Articular Cartilage Repair and Knee Surgery, Beijing, China, September 18–19, 2009.
168. "Osteochondral Allografts for Joint Reconstruction", *Presidential Guest Speaker*, Wisconsin Orthopaedic Society, Lake Geneva, WI, October 8, 2009.
169. "Osteotomies around the Knee", *Presidential Guest Speaker*, Wisconsin Orthopaedic Society, Lake Geneva, WI, October 8, 2009.
170. "Unicompartmental Arthroplasty", *Invited Faculty*, Smith & Nephew, High Demand Knee Course, Phoenix, AZ, October 16, 2009.
171. "Twenty-five Years' Experience with Osteochondral Allografts", *Invited Faculty*, Anderson Clinic Post-Graduate Medical Education Foundation, Follow the Future, Tissue Guided Surgery and Other Trends in Joint Arthroplasty, Alexandria, VA, October 22–23, 2009.
172. "Customized Patient Instrumentation for Total Knee Arthroplasty", *Invited Faculty*, Anderson Clinic Post-Graduate Medical Education Foundation, Follow the Future, Tissue Guided Surgery and Other Trends in Joint Arthroplasty, Alexandria, Virginia, October 22–23, 2009.
173. "Osteotomy Alternatives", *Invited Faculty*, Stryker Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic, La Jolla, CA, December 3, 2009.
174. "Biologic Alternatives", *Invited Faculty*, Stryker Learning Center, Shiley Center for Orthopaedic Research and Education at Scripps Clinic, La Jolla, CA, December 3, 2009.
175. "Outside the Box" – Orthopedics: Cartilage Repair and Biologic Joint Restoration", *Invited Faculty*, Rheumatology Winter Clinical Symposium, Maui, HI, January 13–16, 2010.
176. "Outside the Box" – Orthopedics: Cartilage Repair and Biologic Joint Restoration", *Invited Faculty*, Rheumatology Winter Clinical Symposium, Maui, HI, January 13–16, 2010.
177. "Outside the Box" – Orthopedics: Total Joint Replacement Surgery – Facts / Myths / Recent Progress / Future Trends", *Invited Faculty*, Rheumatology Winter Clinical Symposium, Maui, HI, January 13–16, 2010.

178. “What’s New in Articular Cartilage Repair”, *Invited Faculty*, Twenty-Seventh Annual Malcolm B. Coutts San Diego Western Orthopaedic Association Visiting Professorship, San Diego, CA, January 29, 2010.
179. “Osteochondral Allografts: Basic Science and Clinical Applications”, *Visiting Professor*, Steadman-Hawkins Clinic, Vail, CO, March 29, 2010.
180. “The Arthroscopic and Minimally-Invasive Treatment of Knee Cartilage Pathology: Strategies and Current Approaches”, *Instructional Course #330*, American Academy of Orthopaedic Surgeons 77<sup>th</sup> Annual Meeting, New Orleans, LA, March 2010.
181. “Customized Patient Instrumentation for Total Knee Arthroplasty”, *Invited Speaker*, California Orthopaedic Association, April 16, 2010.
182. “Update on Joint Replacement”, *Invited Speaker*, American College of Rheumatology, Chicago, IL, April 24, 2010.
183. “Partial Knee Replacement vs. TKA”, *Invited Faculty*, Knee Surgical Techniques for the Continuum of Care, Las Vegas, NV, May 1, 2010.
184. “Clinical Reality of Cartilage Repair”, *Invited Speaker – Spotlight Session*, Orthopaedic Research Society, Long Beach, CA, January 13–16, 2011.
185. “Osteochondral Allograft: Basic Science”, *Invited Speaker*, 11<sup>th</sup> International Sports Medicine Fellows Conference – Comprehensive Approached to Articular Cartilage Repair and Hip Arthroscopy, Carlsbad, California, January 14–16, 2011.
186. “Accuracy of Customized Patient Instruments for TKR”, *Invited Speaker*, Relevant Topics in the Tropics, Eng Society Meeting, St. Thomas, US Virgin Islands, January 21, 2011.
187. “Current Status of Articular Cartilage Repair”, *Invited Speaker*, John S. Smith Memorial Symposium, Queens Medical Center, Honolulu, HI, March 31, 2011.
188. “Biologic Joint Reconstruction”, *Invited Speaker*, 26<sup>th</sup> Annual Hawaii Orthopaedic Association, Honolulu, HI, April 1–2, 2011.
189. “Osteotomies around the Knee”, *Invited Speaker*, 26<sup>th</sup> Annual Hawaii Orthopaedic Association, Honolulu, HI, April 1–2, 2011.
190. “Perioperative Blood Management in Orthopaedic Surgery”: *Invited Speaker*; 26<sup>th</sup> Annual Hawaii Orthopaedic Association, Honolulu, HI, April 1–2, 2011.
191. “Tibial Osteotomy”, *Invited Speaker*, Congresso do instituto de ortopedia e traumatologia, Sao Paulo, Brazil, April 7–9, 2011.
192. “Allografts in the Treatment of Steroid-induced Osteonecrosis”, *Invited Speaker*, Congresso do instituto de ortopedia e traumatologia, Sao Paulo, Brazil, April 7–9, 2011.
193. “Allografts for Osteochondral Lesion of the Talus”, *Invited Speaker*, Congresso do instituto de ortopedia e traumatologia, Sao Paulo, Brazil, April 7–9, 2011.
194. “Clinical Indications for Osteochondral Allografting”, *Invited Speaker*, Congresso do instituto de ortopedia e traumatologia, Sao Paulo, Brazil, April 7–9, 2011.
195. “What’s New in Cartilage Repair”, *Invited Speaker*, Congresso do instituto de ortopedia e traumatologia, Congresso do Instituto de Ortopedia e traumatologia, Sao Paulo, Brazil, April 7–9, 2011.

196. “25-Year Experience with Osteochondral Allografting”, *Invited Speaker*, Congresso do instituto de ortopedia e traumatologia, Sao Paulo, Brazil, April 7–9, 2011.
197. “25-Year Experience with Osteochondral Allografting in the Knee”, *Invited Speaker*, Wilson-Bost Interurban Orthopaedic Club, La Jolla, CA, April 29, 2011.
198. “Osteochondral Allografts: Basic Science and Clinical Experience”: *Invited Speaker*; Grand Rounds, Oregon Health & Science University, Department of Orthopaedics & Rehabilitation, Portland, OR, May 16, 2011.
199. “Complex reconstruction as an alternative to arthroplasty”, *Invited Speaker*, Instructional Course 103, Case Based Treatment of Knee Cartilage Defects, American Orthopaedic Society for Sports Medicine, 2011 Annual Meeting, San Diego, CA, July 7–10, 2011.
200. “CT-based customized patient instrumentation for total knee arthroplasty”, *Invited Speaker*, International Society of Technology in Arthroplasty (ISTA), Bruges, Belgium, September 20–23, 2011.
201. “Cartilage Restoration in the Knee: Clinical Evaluation and Surgical Technique”, *Invited Speaker*, The 5<sup>th</sup> Annual Edward T Smith Orthopaedic Lectureship, “Hip and Knee: Joint Preservation and Arthroplasty Hot Topics and Controversies”, Houston, Texas, November 3, 2011.
202. “Surgical Management of Articular Cartilage Defects of the Knee”, *Invited Speaker*, Session 322, American Academy of Orthopaedic Surgeons (AAOS) annual meeting, San Francisco, CA, February 9, 2012.
203. “Osteoarticular Allograft Indications and Techniques”, *Invited Faculty*, Metcalf Meeting: Arthroscopic Surgery 2012, Scottsdale, AZ, January 14–17, 2012.
204. “Best Management of ODC”, *Invited Faculty*, Metcalf Meeting: Arthroscopic Surgery 2012, Scottsdale, AZ, January 14–17, 2012.
205. “How and When Does Uni Fit In”, *Invited Faculty*, Metcalf Meeting: Arthroscopic Surgery 2012, Scottsdale, AZ, January 14–17, 2012.
206. “Osteochondral Allograft: Basic Science”, *Invited Faculty*, 12<sup>th</sup> International Sports Medicine Fellows Conference, Carlsbad, CA, January, 27–29, 2012.
207. “Osteochondral Allograft Transplantation of the Talus”, *Invited Faculty*, International Congress on Cartilage Repair of the Ankle, Dublin, Ireland, March 9–10, 2012.
208. “Patient evaluation for cartilage repair”, *Invited Faculty*, 14<sup>th</sup> Congresso Brasileiro de Cirurgia do Joelho, Praia do Forte, Brazil, March 29–31, 2012.
209. “Complex biological knee reconstruction”, *Invited Faculty*, 14<sup>th</sup> Congresso Brasileiro de Cirurgia do Joelho, Praia do Forte, Brazil, March 29–31, 2012.
210. “Osteotomies around the knee”, *Invited Faculty*, 14<sup>th</sup> Congresso Brasileiro de Cirurgia do Joelho, Praia do Forte, Brazil, March 29–31, 2012.
211. “Osteochondral allograft transplantation in the knee”, *Invited Faculty*, 14<sup>th</sup> Congresso Brasileiro de Cirurgia do Joelho, Praia do Forte, Brazil, March 29–31, 2012.
212. “Customized patient instrumentation for TKA”, *Invited Faculty*, 14<sup>th</sup> Congresso Brasileiro de Cirurgia do Joelho, Praia do Forte, Brazil, March 29–31, 2012.

213. “Osteochondral transplantation for joint restoration”, *Invited Speaker*, Grand Rounds, University of Missouri, St Louis, MO, April 3–4, 2012.
214. “Fresh Osteochondral Allografting in the Knee”, *Invited Speaker*, Session 15-3: Subchondral Bone & Cartilage Repair, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
215. “The Immunology of Osteochondral Grafting”, *Invited Speaker*, Session 21-3: Special ICRS/Stryker Clinical Scientist Programme, International Cartilage Repair Society (ICRS), Montreal, Canada, May 12–15, 2012.
216. “Joint reconstruction with allografts”, Module 8: Osteoarthritis, *Invited Faculty*, ICRS Focus Meeting 2012 – Foot and Ankle, Zurich/Switzerland August 30–September 1, 2012.
- 217.** “Fusion – the stable solution”, Module 8: Osteoarthritis, *Invited Faculty*, ICRS Focus Meeting 2012 – Foot and Ankle, Zurich/Switzerland August 30–September 1, 2012.
218. “Level of Constraint from CR to Hinge: When is it Appropriate?” *Invited Faculty*, AAOS/AAHKS Advanced Surgical Techniques for Partial, Total and Revision Knee, Orthopaedic Learning Center, Rosemont, IL, October 12–13, 2012.
219. “Preventing and Managing Complications after TKA: “Instability””, *Invited Faculty*, AAOS/AAHKS Advanced Surgical Techniques for Partial, Total and Revision Knee, Orthopaedic Learning Center, Rosemont, IL, October 12–13, 2012.
220. “Femoral Osteotomy for Lateral Knee Arthritis”, *Invited Faculty*, 4<sup>th</sup> Annual Modern Trends in Joint Replacement, International Congress for Joint Reconstruction (ICJR), Indian Wells, CA, November 15–17, 2012.
221. “Custom Cutting Guides in TKA”, *Invited Faculty*, 4<sup>th</sup> Annual Modern Trends in Joint Replacement, International Congress for Joint Reconstruction (ICJR), Indian Wells, CA, November, 15–17, 2012.
222. “Top 5 Challenges for an Academic TJA Surgeon”, *Invited Faculty*, 4<sup>th</sup> Annual Modern Trends in Joint Replacement, International Congress for Joint Reconstruction (ICJR), Indian Wells, CA, November, 15–17, 2012.
223. “MRI imaging of cartilage in sports medicine”, *Invited Faculty*, International Cartilage Repair Society "ICRS Focus Meeting 2012 – Cartilage Imaging”, Vienna, Austria from December 6–8, 2012.
224. “Microfracture and MR Imaging”, *Invited Faculty*, International Cartilage Repair Society "ICRS Focus Meeting 2012 – Cartilage Imaging”, Vienna, Austria from December 6–8, 2012.
225. “Imaging of Osteochondral Allografts”, *Invited Faculty*, International Cartilage Repair Society "ICRS Focus Meeting 2012 – Cartilage Imaging”, Vienna, Austria from December 6–8, 2012.
226. “Osteochondral Allograft: Basic Science”, *Invited Faculty*, 13<sup>th</sup> International Sports Medicine Fellows Conference: Comprehensive Approaches to Articular Cartilage Repair and Hip Arthroscopy, Carlsbad, CA, January 18–20, 2013.
227. “The right patient & the role of cartilage repair”, *Invited Faculty*, Joint Replacement Fellows Course, Vail, CO, January 25–27, 2013.
228. “Instability in TKA”, *Invited Faculty*, Joint Replacement Fellows Course, Vail, CO, January 25–27, 2013.
229. “Accuracy of a Handheld Navigation Device in TKA”, *Invited Faculty*, Current Controversies in Total Joint Replacement, Engh Society Meeting, St. Thomas, US Virgin Islands, February 7–9, 2013.

230. “Revision Osteochondral Allografting in the Knee”, *Invited Faculty*, Current Controversies in Total Joint Replacement, Engh Society Meeting, St. Thomas, US Virgin Islands, February 7–9, 2013.
231. “Osteochondral Transplantation for Biological Reconstruction of Joints”, *Invited speaker*, Donald P. Shiley Lectureship, Timken Amphitheater, Scripps Green Hospital, La Jolla, CA, February 20, 2013.
232. “Novel Cartilage Solutions: Biological Joint Reconstruction”, *Invited Speaker*, Scripps Foundation, 2013 Distinguished Speaker Series, Joint Ventures: Advancements in Orthopaedic Care, La Jolla, CA, March 7, 2013.
233. “Osteochondral Autografts and Allografts”, *Instructional Course 302*, Surgical Management of Articular Cartilage Defects of the Knee, American Academy of Orthopaedics Surgeons (AAOS), Chicago, IL, March 19–23, 2013.
234. “Osteochondral Allografts for Joint Reconstruction and Cartilage Repair”, *Invited Faculty*, Grand Rounds, Andrews Institute for Orthopaedics and Sports Medicine, Gulf Breeze, FL, May 14, 2013.
235. “Osteochondral Allografts for Joint Reconstruction and Cartilage Repair”, *Invited Faculty*, Grand Rounds, Forth Worth Affiliated Orthopaedic Residency Program, John Peter Smith Hospital, Fort Worth, TX, May 15, 2013.
236. “Osteochondral Allografting for Joint Reconstruction”, *Invited Faculty*, Grand Rounds, Andrews Institute, Pensacola, FL, May 13, 2013.
237. “Osteochondral Allografting for Joint Reconstruction”, *Invited Faculty*, Grand Rounds, Fort Worth Affiliated Orthopaedic Residency Program, John Peter Smith Hospital, Fort Worth, TX, May 15, 2013.
238. “Osteotomy – A New Look at an Old Procedure”, Peking University Osteoarthritis International Forum 2013, Beijing, P.R. China, September 7–8, 2013.
239. “Osteochondral Transplantation for OA Patients”, Peking University Osteoarthritis International Forum 2013, Beijing, P.R. China, September 7–8, 2013.
240. “Cartilage Injury and Treatment: Human Perspective”, *Invited Talk*, 2013 ACVS Veterinary Symposium, The Surgical Summit, San Antonio, TX, October 24–26, 2013.
241. “Juvenile OCD How I Treat It”, Pediatric Corner Update, 3<sup>rd</sup> Annual Emerging Techniques in Orthopedics (ETO), Sports Medicine & Arthroscopic Surgery, Las Vegas, NV, December 5–7, 2013.
242. “Fresh Allografts”, Solving the Articular Cartilage Problem Femoral Side, 3<sup>rd</sup> Annual Emerging Techniques in Orthopedics (ETO), Sports Medicine & Arthroscopic Surgery, Las Vegas, NV, December 5–7, 2013.
243. “Surgical Exposures for Cartilage Repair”, *Invited Faculty*, 14<sup>th</sup> International Sports Medicine Fellows Conference: Comprehensive Approaches to Articular Cartilage Repair and Hip Arthroscopy, Carlsbad, CA, January 17–19, 2014.
244. “Unicompartmental Knee Arthritis in the Young Patient: Biologic Reconstruction or Arthroplasty”, *Invited Keynote Speaker*, Western Orthopaedic Association, Los Angeles Chapter, Beverly Hills, CA, February 4, 2014.
240. “ACL Deficiency Is Not a Contraindication to Medial Unicompartmental Knee Arthroplasty”, *Symposium: Partial Knee Arthroplasty: State of the Art 2014*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, New Orleans, LA, March 11–15, 2014

241. “Surgical Management of Articular Cartilage Defects of the Knee”, *Educational Program 230*, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, New Orleans, LA, March 11–15, 2014
245. “Post-Traumatic Osteoarthritis”, *Basic Science Course*, Orthopaedic Research Society (ORS) Annual Meeting, New Orleans, LA, March 15–18, 2014.
246. “Clinical and Scientific Basis of Fresh Osteochondral Allografts”, *Invited Speaker*, 2014 Symposium on Cartilage Regeneration: State of the Art and Future Direction, LifeNet Health® Institute of Regenerative Medicine, Virginia Beach, VA, September 18–20, 2014.
247. “Current Concepts in Sports Medicine: Cartilage and Joint Preservation”, *Invited Speaker*, American Osteopathic Academy of Orthopedics, (AOAO), 2014 Annual Meeting, Rancho Palos Verdes, CA, October 24, 2014.
248. “Pediatric Osteochondral Transplantation: Update and It’s Role in 2014”, *Invited Faculty*, Orthopaedic Summit 2014: Evolving Techniques, Las Vegas, NV, December 4–6, 2014.
249. “Fresh Osteochondral Allograft: Should We Be Afraid”, *Invited Faculty*, Orthopaedic Summit 2014: Evolving Techniques, Las Vegas, NV, December 4–6, 2014.
250. “A Bipolar Allograft in Young Patients” (Panel discussion), *Invited Faculty*, Orthopaedic Summit 2014: Evolving Techniques, Las Vegas, NV, December 4–6, 2014.
251. “Surgical Exposures for Cartilage Repair”, *Invited Faculty*, 15<sup>th</sup> Sports Medicine Fellows Conference, Carlsbad, CA, January 23–15, 2015.
252. “Nasal Swab screening for total joint replacement”, Current Concepts in Total Joint Arthroplasty, Cancun, Mexico, January 28–31, 2015.
253. “UKA & ACL Deficiency”, Current Concepts in Total Joint Arthroplasty, Cancun, Mexico, January 28–31, 2015.
254. “New Developments in Orthopedics: Joint Replacement Update”, *Invited Faculty*, Rheumatology Winder Clinical Symposium, Maui, Hawaii, February 11–14, 2015.
255. “New Developments in Orthopedics: Cartilage Regeneration”, *Invited Faculty*, Rheumatology Winder Clinical Symposium, Maui, Hawaii, February 11–14, 2015.
256. “What I have learned in 15 years of cartilage restoration”, *Invited Faculty*, METCALF/AANA Arthroscopic 2015 Surgery Seminar, Snowbird, UT, March 4–7, 2015.
257. “Management of OCD”, *Invited Faculty*, METCALF/AANA Arthroscopic 2015 Surgery Seminar, Snowbird, UT, March 4–7, 2015.
258. “Should you consider uni-compartmental replacement in 30 to 50 y/o”, *Invited Faculty*, METCALF/AANA Arthroscopic 2015 Surgery Seminar, Snowbird, UT, March 4–7, 2015.
259. “Consequences of meniscus, cartilage, and ACL injury and the arthritis cascade”, *Invited Faculty*, METCALF/AANA Arthroscopic 2015 Surgery Seminar, Snowbird, UT, March 4–7, 2015.
260. “Articular Cartilage Disease and Meniscal Deficiency”, *Faculty*, Session 150, Case Presentation, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Las Vegas, NV, March 24–28, 2015.

261. “Surgical Management of Articular Cartilage Defects of the Knee”, *Faculty*, Session 133, Instructional Course, American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, Las Vegas, NV, March 24–28, 2015.
262. “Outcome Following Isolated Osteochondral Allograft Transplantation of the Femoral Trochlea”, *Faculty*, Scientific Session II: Knee Meniscus/Cartilag, American Orthopaedic Society for Sports Medicine (AOSSM) Specialty Day, March 28, 2015.
263. “Post-Traumatic Arthritis”, *Invited Faculty*, 2015 ORS/OREF *Basic Science Course*, Part II, Orthopaedic Research Society (ORS) 2015 Annual Meeting, March 29, 2015.
264. “Osteochondral Allograft Transplantation in Cartilage Repair: Graft Storage Paradigm, Translational Models and Clinical Applications”, *Invited Speaker*, Orthopedic Grand Rounds, Hoag Hospital, Irvine, CA, September 11, 2015.
265. “Osteochondral Allograft: Surgical Technique”, *Invited Faculty*, Innovative Techniques: the Knee Course 2015, Las Vegas, NV, September 17–19, 2015.
266. “Disposable Portable Navigated Total Knee Arthroplasty”, *Invited Faculty*, Innovative Techniques: the Knee Course 2015, Las Vegas, NV, September 17–19, 2015.
267. “Osteochondral allografting for Ankle Arthritis”, Foot and Ankle Session, *Invited Faculty/Moderator*, Orthopaedic Summit 2015, Las Vegas, NV, December 2–5, 2015
268. “Osteochondral allografting in the knee can restore function”, Cartilage and Orthobiologics, Knee Session, *Invited Faculty*, Orthopaedic Summit 2015, Las Vegas, NV, December 2–5, 2015
269. “Allograft Storage, Translational Models Clinical Algorithm”, *Invited Faculty*, JRF Ortho Cartilage Restoration Forum, Denver, CO, October 9, 2015.
270. “Bone Cartilage Substitution Technologies: Osteochondral Autologous Transplantation (OAT) and Osteochondral Allograft (OCA)”, *Invited Faculty*, AAOS-Federación Mexicana de Colegios de Ortopedia y Traumatología, AC. (FEMECOT) Education Program, Cancun, Mexico, October 27–31, 2015.
271. “Basic Science of the regenerative triad: cells, growth factors and scaffolds”, *Invited Faculty*, AAOS-Federación Mexicana de Colegios de Ortopedia y Traumatología, AC. (FEMECOT) Education Program, Cancun, Mexico, October 27–31, 2015.
272. “Periprosthetic Fracture 2B, or Not 2B is the Femoral Component Loose”, *Invited Faculty*, 16th Annual San Diego Orthopedic Society Meeting, Visiting Professor: Dr Robert Winquist, San Diego, CA, January 15, 2016.
273. “Surgical Exposure for Cartilage Repair”, *Invited Faculty*, 16th International Sports Medicine Fellows Conference, Comprehensive Approaches to Articular Cartilage Repair and Hip Arthroscopy, Carlsbad, CA, January 22–24, 2016.
274. “History of Allograft Use”, *Invited Faculty*, International Cartilage Repair Society (ICRS) Focus Meeting, Allografts; Brussels, Belgium, January 29–30, 2016.
275. “Osteochondral Allografts”, *Invited Faculty*, International Cartilage Repair Society (ICRS) Focus Meeting, Allografts; Brussels, Belgium, January 29–30, 2016.
276. “Management of Osteochondritis Dissecans”, “Evaluation and Management of Limb Mal-Alignment”, “When Cartilage Repair Is No Longer an Option”, The 37<sup>th</sup> Robert W. Metcalf, MD, Memorial Arthroplasty Meeting and the 8<sup>th</sup> Combined Metcalf/AANA Meeting, February 4-5, 2016



277. “Articular Cartilage Disease and Meniscal Deficiency” *Invited Faculty*, Educational Session 488, AAOS 2016 Annual Meeting, Orlando, FL, March 1–5, 2016.
278. “Post-Traumatic Osteoarthritis”, *Invited faculty*, 2016 ORS/OREF *Basic Science Course*, Musculoskeletal Pathophysiology, ORS 2016 Annual Meeting, Orlando, FL, March 5–8, 2016.
279. “Articular Cartilage Disease and Meniscal Deficiency” *Invited Faculty*, Educational Session 488, AAOS 2016 Annual Meeting, Orlando, FL, March 1–5, 2016.
280. “Post-Traumatic Osteoarthritis”, *Invited faculty*, 2016 ORS/OREF *Basic Science Course*, Musculoskeletal Pathophysiology, ORS 2016 Annual Meeting, Orlando, FL, March 5–8, 2016.
281. “Osteochondral Allografts: Fresh Allografts Are the Way to Go”, AAOS Course Articular Cartilage Restoration: The Modern Frontier, OLC Learning Center, Rosemont, IL, March 31-April 2, 2016
282. “Scientific Program Chairman”, ICRS, Sorrento, Italy, September 24-27 2016
283. “Latest Treatment in Arthritis: Regenerative Medicine to Joint Replacement”, “Osteochondral Allograft”, *Frontiers in Medicine*, Scripps Health Foundation, La Jolla, CA, October 18, 2016.
284. “Osteochondral Defects: My Algorithm for Treatment”, *Innovative Techniques- The Knee Course*, Las Vegas, NV, October 21, 2016
285. “Cartilage Repair Using Allografts”, “Osteotomy of the Knee: When and How?”, “Bioarthroplasty for Complex Cases of Knee Reconstruction”, 27<sup>th</sup> Mexican Congress of Orthopaedics and Traumatology (FEMECOT), Baja California, Mexico, October 25-29, 2016
286. “Osteochondral Allografts”, *Invited lecturer*, Diagnostic Medical Center, Colorado State University, Fort Collins, CO, December 20, 2016.
287. “Fresh Osteochondral Allograft Restores Function”, *Orthopaedic Surgery Emerging Technologies Summit*, Las Vegas, NV, December 7, 2016
288. “Surgical Exposures for Joint Preservation”, *Articular Cartilage, Restoration & Repair Lab (Workshop)*, *Invited Faculty*, 17<sup>th</sup> International Sports Medicine Conference, *Comprehensive Approaches to Articular Cartilage Repair and Hip Arthroscopy*, Carlsbad, CA, January 20–22, 2017.
289. “Osteochondral Allografts”, *Articular Cartilage, Restoration & Repair Lab (Workshop)*, *Invited Faculty*, 17<sup>th</sup> International Sports Medicine Conference, *Comprehensive Approaches to Articular Cartilage Repair and Hip Arthroscopy*, Carlsbad, CA, January 20–22, 2017.
290. “Regulatory issues: What does the FDA Say?” *President and Faculty*, Thirty-Fourth Annual Malcolm B. Coutts San Diego Western Orthopaedic Association Visiting Professorship, San Diego, CA, January 27, 2017
291. “Metal Allergy in TKA”, *Invited Faculty*, *Current Controversies in Joint Replacement*, Cancun, Mexico, February 23–24, 2017.
292. “Is It Really Reasonable to do Complex ‘Knee Preservation Work and Suggest that the Patient Return to the Same Hospital Environment?” *Invited Faculty*, The 38<sup>th</sup> Robert W. Metcalf, MD, Memorial Arthroplasty Meeting and the 8<sup>th</sup> Combined Metcalf/AANA Meeting, Snowbird, Utah, February 25, 2017.

293. “Cartilage Repair Without Cartilage”, *Invited Faculty*, The 38<sup>th</sup> Robert W. Metcalf, MD, Memorial Arthroplasty Meeting and the 8<sup>th</sup> Combined Metcalf/AANA Meeting, Snowbird, Utah, February 25, 2017.
294. “Subchondral Bone Injuries – What They Mean and How Should They be Treated?” *Invited Faculty*, The 38<sup>th</sup> Robert W. Metcalf, MD, Memorial Arthroplasty Meeting and the 8<sup>th</sup> Combined Metcalf/AANA Meeting, Snowbird, Utah, February 25, 2017.
295. “Lessons Learned in Two Decades of Cartilage Restoration”, Scientific Basis and Clinical Experience With Osteochondral Transplantation”, NYU School of Medicine, Department of Orthopaedic Surgery 8<sup>th</sup> Annual Cartilage Repair Course, New York, May 6, 2017
296. “Osteochondral Transplantation”, Ranawat Guest Lecturer, Department of Orthopaedic Surgery, Lennox Hill Hospital-Northwell Health, June 2, 2017
297. “Clinical Long Term Follow-up & Technical Enhancements of OA “, ICRS Heritage Summit, Gothenberg, Sweden, June 29-July 1, 2017
298. “Is it Time for Joint Preservation and Cartilage Repair Surgery to Have a Place in Traditional OA Treatment Algorithms?”, ICRS Heritage Summit, Gothenberg, Sweden, June 29-July 1, 2017
299. “Managing the Failed Femoral Condyle Defect”, Chicago Sports Medicine Symposium, Chicago, IL, August 3, 2017
300. “OsteoChondral Defects: My Algorithm for Treatment”, *Invited Faculty*, Innovative Techniques Knee, Hip, and Shoulder course 2017, Las Vegas, NV, October 19–21, 2017.
301. “New Concepts in Osteoarthritis and Joint Preservation”, *Invited Faculty*, 13<sup>th</sup> Annual Bonafide Orthopedic Nursing Education Symposium, San Diego, CA, October 20, 2017.
302. “Osteoch0ndral Allografting: Scientific Principles”, “Clinical Application of OCA”, “Unicompartmental Knee Replacement”, 49<sup>th</sup> Congress Brazilian Society of Orthopaedics and Traumatology”, Goiania, Brazil, November 2017
303. “Biomarkers”, “Regulatory Issues in Regenerative Medicine”, “Osteochondral Repair”, Osteochondral Allograft Surgical Technique”, AAOS/ AAOT Biomaterials Program, Buenos Aires, Argentina, December 5-7 2017
304. “Surgical Exposures for Cartilage Repair”, “Management of Bipolar Lesions”, “Osteochondral Allografts”, 20<sup>th</sup> International Sports Medicine Fellows Cartilage Course, Carlsbad, CA, January 27, 2018
305. “Osteochondral Allograft Transplantation: Clinical and Scientific Basis”, *Invited Faculty*, Orthopaedic Grand Rounds, Mount Sinai Medical Center, Icahn School of Medicine, New York, NY, February 7, 2018.
306. “Knee Preservation Surgery in the Young Adult: A Case-Based Approach with US and International Perspectives”, *Educational Program 184*, American Academy of Orthopaedic Surgeons (AAOS) 2018 Annual Meeting, New Orleans, LA, March 6–10, 2018.
307. “Post-Traumatic Osteoarthritis”, Orthopaedic Research Society (ORS)/Orthopaedic Research and Education Foundation (OREF), *Basic Science Course*, New Orleans, LA, March 10, 2018
308. “The Case for Total Knee Arthroplasty in Early OA”, ICRS World Congress, Macao, April 9-12, 2018

309. “Where Does Cartilage Repair Fit in the Management of Early Osteoarthritis?”, ICRS World Congress, Macao, April 9-12, 2018
310. “Tranexamic Acid in Total Joint Arthroplasty”, Engle Society Meeting: The Future of Joint Replacement”, Alexandria, Virginia, June 2018
311. “Osteochondral Allografts”, *Invited Faculty*, 26<sup>th</sup> Annual Update in Orthopaedic Surgery Conference, Maui, Hawaii, July 23–26, 2018
312. “Complex Joint Preservation”, *Invited Faculty*, 26<sup>th</sup> Annual Update in Orthopaedic Surgery Conference, Maui, Hawaii, July 23–26, 2018
313. “Limb Alignment and Osteotomies”, *Invited Faculty*, 26<sup>th</sup> Annual Update in Orthopaedic Surgery Conference, Maui, Hawaii, July 23–26, 2018
314. “Subchondral Bone Lesions”, *Invited Faculty*, 26<sup>th</sup> Annual Update in Orthopaedic Surgery Conference, Maui, Hawaii, July 23–26, 2018
315. “Stop All the Gibberish, Fresh Osteochondral Allografts – Why Even Think Twice”, *Invited Faculty*, Orthopaedic Summit 2018: Evolving Technologies, Las Vegas, NV, December 5–8, 2018
316. “The Failed Cartilage Procedure: My Algorithm for Success, Eight Minutes, Eight Tips”, *Invited Faculty*, Orthopaedic Summit 2018: Evolving Technologies, Las Vegas, NV, December 5–8, 2018
317. “Varus Femoral Osteotomy – Surgical Techniques: Tips and Pearls”, *Invited Faculty*, International Cartilage Repair Society (ICRS), San Diego, CA, January 17–18, 2019
318. “Fresh Osteochondral Allograft – Surgical Technique: Tips & Pearls”, *Invited Faculty*, International Cartilage Repair Society (ICRS), San Diego, CA, January 17–18, 2019
319. “Osteochondral Allografts”, “Distal Femoral Osteotomy”, ICRS World Series, Sao Paulo, Brazil, February 5-7, 2019
320. “Knee Preservation Surgery in the Young Adult: A Case-Based Approach with United States and International Perspectives”, *Invited Faculty*, Educational Program 187, American Academy of Orthopaedic Surgeons (AAOS) 2019 Annual Meeting, Las Vegas, NV, March 12–16, 2019
321. “The Challenge of TKA After Ligament Reconstruction (ACL) and Cartilage Salvage Procedures”, *Invited Faculty*, Educational Program: Practical Solutions for Challenging Problems in Total Knee Arthroplasty, American Academy of Orthopaedic Surgeons (AAOS) 2019 Annual Meeting, Las Vegas, NV, March 12–16, 2019
322. “Osteochondral Allografts: Indications and Scientific Principles, Treatment Algorithms, Return to Sport”, Knee Surgery Conference, Santiago, Chile, June 27-28 2019
323. Grand Rounds Lecture: 1) OCA Science and Clinical Experience and 2) Subchondral Bone Lesions, Loyola University Department of Orthopaedic Surgery Grand Rounds, September 5, 2019
324. “Patellofemoral Joint Preservation: OCA”, AANA/AAOS Course 910 Patellofemoral Joint Preservation, AAOS Learning Center, Rosemont IL, September 9, 2019
325. “Best and Worst Experiences in Joint Preservation”, ICRS World Congress, Vancouver Canada, October 2019
326. “OCA Science Update: What We Know in 2019”, ICRS World Congress, Vancouver Canada, October 2019

327. "OCA: My Journey and its Current Role in Cartilage Repair", Warwick Orthopaedics Sports Knee Conference, St George's Park, Burton on Trent, England, November 26, 2019
328. "Osteochondral Allograft Surgery: Live Surgical Presentation", OSET- Orthopaedic Surgery Evolving Technologies, Las Vegas, December 13, 2019
329. "Does THA Approach Affect Return to Sport and Recreational Activity?", Current Concepts in Joint Replacement- Eng Society Meeting, Grand Cayman, January 25, 2020
330. "Surgical Exposures for Cartilage Repair", "Management of Bipolar Lesions", "Osteochondral Allografts", 20<sup>th</sup> International Sports Medicine Fellows Cartilage Course, Carlsbad, CA, February 8, 2020
331. "Recent Concepts in Orthopaedics", "Total Joint Replacement", Rheumatology Winter Clinical Symposium, Wailea, Maui, February 12-15, 2020
332. "Allografts for Cartilage Repair", ICRS Virtual Convention, October 15 and 29, 2020
333. "Fresh Osteochondral Allografts: Don't Waste Your Time with Anything Else", Orthopaedic Summit Evolving Technologies Digital Summit, December 10-12, 2020
334. "Ankle Cartilage Repair: Bulk Allografts: How to Deal with the Really Big Defects & Get Results, Orthopaedic Summit Evolving Technologies Digital Summit, December 10-12, 2020
335. "Cartilage Repair: State of the Art", Clinical Presentation: Problems of the Knee. California Orthopaedic Association 2021 Annual Meeting, Virtual, May 22, 2021.
336. "Patella Reconstructive Techniques", *Invited Speaker*, Sports Knee Surgery. Video Presentation. University of Warwick, England. November 5, 2021.
337. "Osteochondral Allograft Transplantation: Scientific Principles and Clinical Applications", *Invited Speaker*, Orthopaedics Grand Rounds, Yale School of Medicine, New Haven, CT, November 12, 2021.
338. "Fresh Osteochondral Allograft: Hold the Phone, Stop With All the Silly Other Procedures" (Panel discussion), *Invited Faculty*, Orthopaedic Summit 2021: Knee Sports, Cartilage, & Biologics, Las Vegas, NV, December 11-14, 2021.