# KRISTEN E. LIPSCOMB, PH.D.

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### Education

B.S., Mechanical Engineering with Honors, University of Delaware, Newark, DE	2002-2006
Focus: Biomedical Engineering	
Minor: Mathematics	
M.S. Biomedical Engineering, University of Minnesota, Twin-Cities, Minneapolis, MN Focus: Gait analysis and modeling of the human foot	2006-2008
Ph.D. Biomedical Engineering, University of California, Davis, Davis, CA	2008-2014
Focus: Computational modeling and spine mechanics	
Experience	
University of Delaware, Newark, DE	2002-2006
Undergraduate Researcher Digitized CT & MRI images of the knee	
University of Minnesota, Gillette Children's Hospital, Minneapolis, MN	2006-2008
Research Assistant	
Conducted gait and clinical motion analysis	
University of California, Davis DynaaTECC Lab, Davis, CA	2008-2014
Research Assistant	
Created computational models of the human spine	
Riemashanical Engineer Haves & Associates Inc. Cornellie OP	2014
Consultant in accident reconstruction and injury biomechanics	2014-
Specialized Training	
Institute of Police Technology and Management (IPTM), Portland, OR Advanced Traffic Crash Investigation	October 2014
FARO Technologies Laser Scanning Training	July 2015
Excel Tribometers CXLT Certification Program (Slip Resistance Training)	Oct 2016
Professional Affiliations	
American Society for Testing Materials (ASTM)	
Committee F13 on Pedestrian/Walkway Safety and Footwear International Society of Biomechanics (ISB)	
Certifications	
Certified Accident Reconstructionist. Accreditation Commission for Traffic Accident Reconstruction (ACTAR #2896)	

CXLT Certification, Excel Tribometers

### FARO Focus 3D Scanner Certification Program Road Runners Club of America (RRCA) Level I Certified Coach

## **Positions Held and Services**

Vice President, Biomedical Engineering Student Association. Davis, CA President, Biomedical Engineering Student Association. Davis, CA BME Alumni Seminar Series Committee Member. Davis, CA Volunteer, Perry Initiative. Sacramento, CA, San Francisco, CA, Beaverton, OR Coach, Girls on the Run Willamette Valley, Corvallis, OR	2010-2011 2011-2013 2011-2013 2013-2014 2015
Honors and Awards	
W. Francis Lindell Award to the Distinguished Junior	2005
Tau Beta Pi, Engineering Honor Society	
Woman of Promise	2005
W. Francis Lindell Award to the Distinguished Senior	2006
Outstanding Teaching Assistant Award for Outstanding Service	2008
TATRC Grand Challenge Finalist, UC Bioengineering Symposium	2010
Outstanding Teaching by a Graduate Student	2011
Floyd and Mary Schwall Dissertation Year Fellowship	2012-2013

# Publications

1.	Lipscomb, KE, Sarigul-Klijn N, Klineberg E, Mohan V. Biomechanical Effects of Huma	
	Lumbar Discography: In-vitro experiments and their finite element validation. JSDT 2014.	

 Characterization of Lumbar-Level Spinal Fusion on the Whole Spine Under Vibrations. ASME. ASME International Mechanical Engineering Congress and Exposition, Volume 3: Biomedical and Biotechnology Engineering:V003T04A084.

### Patents

1. Roberto, R., Lipscomb, K., Leung, E., Barragan, R. "Method and device for restabilization with axial rotation of the atlantoaxial junction" 2017, US Patent No. 9662142

# **Invited Presentations**

Reliability of a multi-segment foot model. 13 <sup>th</sup> Annual meeting of the Gait and Clinical Motion Analysis Society (poster) Richmond, VA	April 2008
Reliability of the Subtalar Joint Neutral Position. 13 <sup>th</sup> Annual meeting of the Gait and Clinical Motion Analysis Society (poster) Richmond, VA	April 2008
Effects of excessive loading conditions on human spine instability and disc damage University of California Systemwide Bioengineering Symposium. Davis, CA	June 2010
Experimentally Validated Computational Simulation of Lumbar Spine Intervertebral Disc Puncture Annual International Mechanical Engineering Congress and Exposition Denver, CO	Nov 2011
<ul> <li>Experimentally Validated Computational Simulation of Lumbar Spine Intervertebral Disc</li> <li>Puncture</li> <li>1<sup>st</sup> Annual Biomedical Engineering Graduate Student Conference</li> <li>Davis, CA</li> </ul>	May 2012
Simulation of the Whole Human Spine using Finite Elements: p & h Version Convergence American Society of Mechanical Engineers Summer Bioengineering Conference Sunriver, OR	June 2013

Characterization of lumbar-level spinal fusion on the whole human spine under vibrations Annual International Mechanical Engineering Congress and Exposition Phoenix, AZ

Revised 12/13/17