KARI VERNER

PhD, PE

303.906.5121
kverner@explico.com

BIOMECHANICS

EDUCATION

	PURDUE UNIVERSITY	
PhD	Biomedical Engineering	**2017**
	GONZAGA UNIVERSITY	
BS	Mechanical Engineering	**2013**

LICENSES & CERTIFICATIONS

Professional Engineer #141028	TX

AFFILIATIONS

SAE International
American Society of Mechanical Engineers
Tau Beta Pi - Engineering Honor Society

PROFESSIONAL PROFILE

Dr. Kari Verner is a Managing Engineer in the Biomechanics practice at Explico. She has experience conducting forensic investigations and accident reconstruction of incidents resulting in traumatic injury. Dr. Verner is a licensed Professional Engineer in the State of Texas and a training Crash Data Retrieval (CDR) technician.

Dr. Verner holds a B.S. in Mechanical Engineering from Gonzaga University and a Ph.D. from Purdue University in Biomedical Engineering, focusing on skeletal biomechanics and biology. Her research specifically involved extensive research and experimental testing of musculoskeletal tissues' response to mechanical loading.

AREAS OF EXPERTISE

Biomechanics
Injury Causation Analysis
Low-Speed Vehicle Collision Severity and Injury Analysis
Vehicle Accident Reconstruction
Passenger Vehicle EDR Downloads
Evidence Documentation
Computer Simulations

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EXPERIENCE

Explico

2026 - Present *Managing Engineer*
2022 - 2025 *Senior Engineer*

SEA, Ltd.

2021 *Mechanical Engineer / Biomechanics*
2018 - 2021 *Mechanical / Biomechanics Consultant*

Purdue University

2013 - 2017 *Research Assistant*
2012 *Undergraduate Research Fellow*

Oregon Biomedical Engineering Institute

2011 *Biomedical Engineering Intern*

AWARDS AND HONORS

National Science Foundation Graduate Research Fellow

PUBLICATIONS

“Skeletal Biomechanics and Response to Mechanical Load: A Comparative Approach in the Mouse and Chukar Partridge,” Ph.D. Dissertation, Purdue University, West Lafayette, Indiana, December 2017

Verner, K.A., Lehner, M., Lamas, L.P., Main, R.P., Experimental Tests of Planar Strain Theory for Predicting Bone Cross-sectional Longitudinal and Shear Strains, Journal of Experimental Biology 219(19), 3082-3090, 2016

McCargar, R., Jenson (Verner), K., Dayton, A., Murphy, K., Xie, H., & Prahl, S.A. (2012). Preparation of dissolvable albumin stents for vascular anastomosis with a 1.9 μm laser and in vitro mechanical strength assessments, Lasers in surgery and medicine, 44(4), 330-338

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PRESENTATIONS

Verner, K.A., Bersch, K.J., Neto, M.F., Grantz, J.M., Little, D., Figuerido, M.L., Main, R.P., "Comparison of Osteophyte formation caused by overuse loading or joint instability in three non-invasive murine models of osteoarthritis," Orthopaedic Research Society Annual Meeting, poster presentation, February 2019

Verner, K., Nauman, E., Main, R., "Taxonomic Variation in Adaptive Skeletal Plasticity to Mechanical Load: Preliminary Hypotheses," Society for Integrative and Comparative Biology Annual Meeting, poster presentation, January 2018

Verner, K., Nauman, E., Main, R., "In Vivo Bone Strain and Response to Mechanical Loading in the Chukar Partridge Tibiatarsus," Society for Integrative and Comparative Biology Annual Meeting, poster presentation, January 2018

Verner, K., Yang, H., Main, R., "In Vivo Strain and Response to Mechanical Load in the Mouse Tibia," Summer Biomechanics, Bioengineering, and Biotransport Conference, selected podium talk, June 2017

Verner, K., Townsend, J., Yang, H., Main, R., "In Vivo Bone Strain and Response to Mechanical Loading in Mouse Tibia," Biomedical Engineering Society: Midwest Annual Meeting, poster presentation, November 2016

Jenson, K., Main, R., "Tibiatarsus Bone Strains and Hind Limb Kinematics Relative to Speed in the Guinea Fowl," Society for Integrative and Comparative Biology Annual Meeting, poster presentation, January 2016

Jenson, K., Main, R.P., "Experimental Validation of Planar Strain Theory for Predicting Bone Crosssectional Longitudinal and Shear Strains," Purdue Biomedical Engineering Summer Seminar Series, oral presentation, June 2015

Hohu, Kyle K., Jenson, Kari, Gallant, Maxime, A., Lescun, Timothy B., Main, Russell P., "Determining Diagnostic Parameters for Fractures in Equine Metacarpal Bones," Merial-NIH Veterinary Scholars Symposium, poster presentation, July 2014

Jenson, K., Lescun, T.B., Main, R.P., "Validating Raman Spectroscopy and Bone Micro-Indentation Tests for In-Vivo Assessments of Bone Quality," Spokane Intercollegiate Research Conference, poster presentation, April 2013

Jenson, K., Main, R.P., "Validating Raman Spectroscopy and Bone Micro-Indentation Tests for In-Vivo Assessments of Bone Quality," Purdue University Summer Undergraduate Research Symposium, oral presentation, August 2012

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PROFESSIONAL DEVELOPMENT

Engineering Dynamics Company, LLC

HVE Forum — 2020

Crash Academy

How to Use the Bosch CDR Tool — 2018

Northwestern University

Traffic Crash Reconstruction I — 2018