

David Stewart Mandeville, Ph.D.

Email: dmandeville@tamusa.edu | Phone: 210.784.2582 | Specialization: Biomechanics & Human Physiology

EDUCATION

Ph.D. in Human Physiology – University of Oregon, Eugene, OR (2006)

Dissertation: The Effect of Total Knee Replacement on Measures of Walking and Stair Ascent

M.S. in Exercise Science – University of Oregon, Eugene, OR (2002)

B.A. in Exercise Science, Athletic Training – Fort Lewis College, Durango, CO (1999)

ACADEMIC & TEACHING EXPERIENCE

Texas A&M University, San Antonio | 2026 – Present

Advanced Anatomy, Health and Aging.

Texas A&M International University | 2025 – 2026

Principles of Health Promotion, Test and Measurement, Biomechanics, Research Design, Clinical Biomechanics (QM Certified online & face-to-face active learning).

Columbia Basin College & Western Washington University | 2018 – 2025

Stress Management, Tests & Measurement, Research Design, small-group laboratory pilot studies.

Merrimack College | 2016 – 2018

Anatomy & Physiology I & II, Exercise Prescription, Exercise Physiology, 3D multimedia anatomy & metabolic cart labs.

University at Buffalo & California State University, Sacramento | 2007 – 2015

Biomechanics, Kinesiology, Introduction to Exercise Science, motion capture laboratories.

RESEARCH HIGHLIGHTS & SPONSORED GRANTS

- **NIH Extramural Associates Research Development Award (EARDA):** Principal Investigator (2010–2015) for 'The effect of hormonal and mechanical factors on knee osteoarthritis for perimenopausal women.' Led interdisciplinary clinical/gait protocols and biomarker analysis.
- **Wearable Fall-Risk Prediction Algorithm:** Lead Investigator developing fuzzy inference and machine learning algorithms using wearable IMU sensor features for community-dwelling elderly populations (2026).
- **Gait Biomechanics & Knee Arthroplasty:** Extensive 3D motion capture investigations assessing the impact of knee OA, bony deformities, and total knee replacement on joint moments and dynamic stability.

SELECTED PEER-REVIEWED PUBLICATIONS

- Mandeville, D., Perks, L., Benes, S., & Poloskey, L. (2018). The Mindset and Intellectual Development Scale (MINDS): Metacognitive Assessment for Undergraduate Students. *International Journal of Teaching and Learning in Higher Education*, 30(3), 497-505.
- Mandeville, D., & Stoner, M. (2015). Assessing the effect of problem based learning on undergraduate student learning in biomechanics. *Journal of College Science Teaching*, 45(1), 66-76.
- Mandeville, D., Casazza, G., Alvarez, A., Sheremet, J., Waite, B., & Davis, B. (2013). Associations between Hormonal and Mechanical Factors of Knee Osteoarthritis in Women - A Preliminary Study. *Open Journal of Rheumatology and Autoimmune Diseases*, 3(2).
- Krackow, K., Mandeville, D., Rachala, S., & Bayers-Thering, M. (2011). Torsion deformity and joint loading for medial knee osteoarthritis. *Gait & Posture*, 33(4), 625-629.
- Mandeville, D., Osternig, L., & Chou, L. S. (2008). The effect of total knee replacement surgery on gait stability. *Gait & Posture*, 27(1), 103-109.
- Mandeville, D., Osternig, L., & Chou, L. S. (2007). The effect of total knee replacement on dynamic support of the body during walking and stair ascent. *Clinical Biomechanics*, 22(7), 787-794.

PROFESSIONAL SERVICE & AFFILIATIONS

- **Peer Reviewer (2010–Present):** *Gait & Posture*, *Clinical Biomechanics*, *American College of Rheumatology*, *Journal of Applied Biomechanics*, *Physical Medicine and Rehabilitation*, *Knee Surgery*, *Sports Traumatology*.
- **Institutional Leadership & Mentorship:** Graduate Thesis Chair and Mentor (CSU Sacramento); Curriculum, Graduate Program, DEI, and General Education Committee member.
- **Professional Memberships:** American Society of Biomechanics (ASB), International Society of Biomechanics (ISB), National Science Teaching Association (NSTA).