

CURRICULUM VITAE

DAVID ORTIZ-WEISSBERG, MScPO

I. BIOGRAPHICAL INFORMATION

UNIVERSITY ADDRESS:

Division of Biokinesiology and Physical Therapy
University of Southern California
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UNIVERSITY EDUCATION:

2018 –	PhD, Biokinesiology University of Southern California Los Angeles, CA
2013 – 2015	MSc, Prosthetics and Orthotics University of Pittsburgh Pittsburgh, PA
2010 – 2013	BSc, Rehabilitation Science University of Pittsburgh Pittsburgh, PA

PROFESSIONAL EXPERIENCE:

Jan. 2021 – May 2021	Virtual Classroom Instructor PT 574: Clinical Biomechanics (Movement Analysis II) Division of Biokinesiology and Physical Therapy University of Southern California Los Angeles, CA
2019 -	Teaching Assistant PT 574: Clinical Biomechanics (Movement Analysis II) Division of Biokinesiology and Physical Therapy University of Southern California Los Angeles, CA
2018 –	Teaching Assistant PT 514: Musculoskeletal Anatomy Division of Biokinesiology and Physical Therapy University of Southern California Los Angeles, CA
2015 – 2017	Orthotic Resident Diablo Prosthetics & Orthotics, Inc. Pleasanton, CA
2013 – 2015	Teaching Assistant REHSCI 1220: Kinesiology and Biomechanics School of Health and Rehabilitation Sciences University of Pittsburgh Pittsburgh, PA
2012 – 2014	Research Assistant Tissue Integrity Management Laboratory University of Pittsburgh Pittsburgh, PA

AWARDS:

2023 || American Society of Biomechanics Diversity Travel Award

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

2021 - | Orthopaedic Research Society
2021 - | Society of Integrative and Comparative Biology
2019 – | American Society of Biomechanics
2019 – | International Society of Biomechanics
2013 – 2015 | American Academy of Orthotists and Prosthetists

II. SERVICE ACTIVITIES

UNIVERSITY SERVICE

University of Southern California | Division of Biokinesiology and Physical Therapy

2021 - | Student Representative for Diversity, Anti-Racism, Inclusion, and Community Engagement (DARIC) Council
2021 | Biokinesiology Student Council, President
2020 | Biokinesiology Student Council, Biomechanics Representative

SCIENTIFIC REVIEW FOR JOURNALS

2020 || Brazilian Journal of Physical Therapy

III. SCHOLARLY ACTIVITIES

PUBLICATIONS

Bold denotes the author of this Curriculum Vitae.

Asterisk denotes primary author. Underline denotes senior author.

PEER-REVIEWED JOURNAL ARTICLES:

2024 | Yamaguchi, Amanda C.*, Trejo, Lindsey H., Shih, Hai-Jung Steffi, **Ortiz-Weissberg, David**, & Kulig, Kornelia. (2024). Lower-Extremity Energetic Distribution During Rate-Controlled Ballet Jumps (Sautés) in Healthy Dancers. *Journal of Applied Biomechanics*. Advance online publication. <https://doi.org/10.1123/jab.2023-0042>.
Journal Impact Factor (2023): 1.606

- 2023 Rowley M*, Kurihara T, **Ortiz-Weissberg D**, Kulig K. (2023). Contributions of Flexor Hallucis Longus and Brevis Muscles to Isometric Toe Flexor Force Production. *Acta Bioeng Biomech.* 25:1. doi:10.37190/ABB-02222-2023-02.
Journal Impact Factor (2022-2023): 1.238
- 2020 Kulig K*, Chang Y-J, **Ortiz-Weissberg D**. (2020). A Perspective on Reversibility of Tendinosis-Induced Multi-Level Adaptations. *Front. Physiol.* 11:651.
doi:10.3389/fphys.2020.00651.
Journal Impact Factor (2022): 4.0

ACCEPTED ABSTRACTS:

- 2023 **Ortiz-Weissberg D***, Kulig K. (2023). Triceps surae activation does not affect ankle mechanical energy expenditure during the propulsion phase of unipedal hopping in persons with Achilles tendinosis. *American Society of Biomechanics*. Knoxville, TN. Poster Presentation.
- 2023 Stromberg MC*, **Ortiz-Weissberg D**, Reischl SF, Foreline K, Kulig K. (2023). Management of a 63-year-old athlete with achilles tendon rupture: a case study report. *APTA Combined Sections Meeting*. San Diego, CA. Poster Presentation.
- 2022 **Ortiz-Weissberg D***, Kulig K. (2022). Muscle Fascicle Behavior in the Presence of Achilles Tendinosis. *North American Congress on Biomechanics*. Ottawa, ON, Canada. Poster Presentation.
- 2021 **Ortiz-Weissberg D***, Laine CM, Shih HJS, Yamaguchi AC, Kulig K. (2021). Feedforward Control: Effects of Prolonged Athletic Activity on Kinematics of Jumping. *American Physical Therapy Association Combined Sections Meeting*. Virtual Format. Platform Presentation.
- 2021 Mikkelsen P*, **Ortiz-Weissberg D**, Shih HJS, Yamaguchi AC, Kulig K. (2021). Dancers Alter Ground Reaction Force Profiles to Maintain Impulse with Perceived Exertion During Dance-Style Hopping. *American Physical Therapy Association Combined Sections Meeting*. Virtual Format. Poster Presentation.
- 2020 **Ortiz-Weissberg D***, Laine CM, Shih HJS, Yamaguchi AC, Kulig K. (2020). Influences of Continuous Physical Activity on Muscle Recruitment: Findings from Rate-Controlled Sauté Jumps in Dancers. *American Physical Therapy Association Combined Sections Meeting*. Denver, CO, USA. Poster Presentation.
- 2019 **Ortiz D***, Shih HJS, Yamaguchi AC, Kulig K. (2019). Exertion due to dance creates phase-specific alterations of interlimb force coordination. *XXVII Congress of the International Society of Biomechanics/43rd Annual Meeting of the American Society of Biomechanics*. Calgary, AB, Canada. Poster Presentation.
- 2019 Fietzer AL*, **Ortiz D**, Kulig K. (2019). Between-limb symmetry in movement variability structure in healthy individuals hopping. *XXVII Congress of the International Society of Biomechanics/43rd Annual Meeting of the American Society of Biomechanics*. Calgary, AB, Canada. Poster Presentation.

CURRENT GRANT SUPPORT:

EXTERNAL GRANTS:

Principal Investigator:

March 2022 –	International Society of Biomechanics (ISB) <i>Award:</i> Matching Dissertation Grant <i>Title:</i> Neuromuscular Effects of Achilles Tendinosis: Investigations into Muscle-Tendon Unit Structure and Function <i>Funding:</i> \$2,500 (matched by academic division in the amount of \$2,500) <i>Overall Aims:</i> The overall goals of this proposal are to characterize the relations between Achilles tendon physiology (i.e., length-tension and force-velocity relations) and (1) triceps surae muscle-tendon unit (MTU) structure, (2) MTU physiology (i.e., muscle length-tension and force-velocity relations relative to those of the tendon) and (3) neuromuscular control of the ankle during multi-joint movements.
May 2021 – June 2023	American Society of Biomechanics (ASB) <i>Award:</i> Graduate Student Grant-in-Aid <i>Title:</i> Neuromuscular Effects of Achilles Tendinosis: Investigations into Muscle-Tendon Unit Structure and Function <i>Funding:</i> \$2,000 <i>Overall Aims:</i> The overall goals of this proposal are to characterize the relation between Achilles tendon physiology and (1) triceps surae structure, (2) triceps surae muscle-tendon unit physiology during movement, and (3) the neuromuscular control of the ankle joint in the presence of health and degeneration.

IV. MENTORING ACTIVITIES

VISITING SCHOLARS MENTORED

Jul. 2019	Agnieszka Szapala, PhD	Project: Analysis of motion capture data on the biomechanics of mothers carrying infants
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GRADUATE STUDENTS MENTORED

DOCTOR OF PHYSICAL THERAPY STUDENTS MENTORED:

Dec. 2023 -	Jerry Nguyen	Projects: Participant recruitment for author's Dissertation Assists in data collection of unipedal vertical hopping in persons with Achilles tendinosis and healthy controls, using surface electromyography, motion capture, and force plates.
Dec. 2023 -	Eleanor Stein	Project: Participant recruitment for author's Dissertation
Nov. 2023 -	Gevorkan Arzumanyan	Project: Participant recruitment for author's Dissertation
Jan. 2023 – Aug. 2023	Sarah Tam	Projects: Assisted in data collection of unipedal vertical hopping in persons with Achilles tendinosis and healthy

		controls, using surface electromyography, motion capture, and force plates. Analyzed between-group differences in ankle and knee joint quasi-torsional stiffness using MATLAB.
Aug. 2022 -	Elijah Huang	Projects: Assists in data collection of unipedal vertical hopping in persons with Achilles tendinosis and healthy controls, using surface electromyography, motion capture, and force plates. Labels the motion capture marker data. Trained in segmenting plantar flexor muscles from MRI data.
Aug. 2022 -	Amanda Hua	Project: Participant recruitment for author's Dissertation
Aug. 2022 -	Tobi Ibraheem	Project: Participant recruitment for author's Dissertation
May 2021 – May 2023	Noah Siegal	Projects: Tracked ultrasound video clips of Achilles tendon and medial gastrocnemius length behavior from testing of degenerated Achilles tendon velocity-sensitivity. Trained in segmenting plantar flexor muscles from MRI data.
Sep. – Dec. 2021	Carly Post	Project: Measurement of Achilles subtendon and triceps surae muscle belly lengths on cadavers
Jan. 2021 - May 2023	Madia Campagna	Projects: Assisted in data collection for testing of degenerated Achilles tendon velocity-sensitivity and muscle-tendon unit function using isokinetic dynamometry and unipedal hopping. Led the analysis and write-up of an Achilles tendon rupture case study. Presented the case study as a poster at the 2023 APTA meeting.
May – Sep. 2020	Christine Boktor	Project: Read scientific articles to inform methodology for ultrasound analysis of Achilles tendon and medial gastrocnemius length behavior during testing of degenerated Achilles tendon velocity-sensitivity
May 2019 – May 2020	Judy Zhou	Project: Kinematic analysis of lower extremity joints for a study on continuous physical activity in dancers

MASTER OF SCIENCE STUDENTS MENTORED:

Dec. 2023 –	Ya-Hsin (Sarah) Chang	Projects: Participant recruitment for author's Dissertation Assists in data collection of unipedal vertical hopping in persons with Achilles tendinosis and healthy controls, using surface electromyography, motion capture, and force plates.
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POST-BACCALAUREATE RESEARCH ASSISTANTS MENTORED

Aug. 2021 – Jul. 2022	Clark Morin	Project: Assisted in refining methodology and in data collections for testing of degenerated Achilles tendon velocity-sensitivity and muscle-tendon unit function using isokinetic dynamometry and unipedal hopping
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UNDERGRADUATE STUDENTS MENTORED

Oct. 2023 -	Sophia Hameed	Project: Exporting Achilles tendon ultrasound data.
Sep. 2021 – Sep. 2023	Elizabeth Finley	<p>Projects: Assisted in data collection of unipedal vertical hopping in persons with Achilles tendinosis and healthy controls, using surface electromyography, motion capture, and force plates. Labels the motion capture marker data.</p> <p>Assisted in testing of degenerated Achilles tendon velocity-sensitivity and muscle-tendon unit function using isokinetic dynamometry and unipedal hopping.</p>
May 2020 – May 2022	Elijah Huang	<p>Projects: Assisted in refining methodology and in data collections for testing of degenerated Achilles tendon velocity-sensitivity using isokinetic dynamometry</p> <p>Read scientific articles to inform methodology for ultrasound analysis of Achilles tendon and medial gastrocnemius length behavior during testing of Achilles tendon velocity sensitivity</p>

HIGH SCHOOL STUDENTS MENTORED

Feb. 2022 -	Shaya Schwarz	<p>Project: Assisted in data collection of unipedal vertical hopping in persons with Achilles tendinosis and healthy controls, using surface electromyography, motion capture, and force plates.</p> <p>Assisted in data collections for testing of degenerated Achilles tendon velocity sensitivity using isokinetic dynamometry</p>
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