Joe Ricotta

Doctor of Physical Therapy || *ricotta@psu.edu* || *joericotta.github.io*

EDUCATION

Doctor of Philosophy — Present
The Pennsylvania State University, Department of Kinesiology — *University Park, PA*
The Pennsylvania State University, Clinical and Translational Science Institute — *Hershey, PA*

Orthopedic Residency — 2018
Cayuga Medical Center, Department of Physical Therapy — *Ithaca, NY*

Doctor of Physical Therapy — 2017
Ithaca College, School of Health Science and Human Performance, Department of Physical Therapy — *Ithaca, NY*

B.S. in Clinical Health Studies — 2015
Ithaca College, School of Health Science and Human Performance — *Ithaca, NY*

RESEARCH

- Latash M. L., Madarshahian S., **Ricotta J.M.** (2022). Intra-muscle synergies: Their place in the neural control hierarchy. In press.
- Madarshahian S., **Ricotta J.M.,** Latash M. L. (2022). Intra-muscle synergies stabilizing reflex-mediated force changes. In press.
- **Ricotta J,** Latash M. L. (2021). Stability of Action and Kinesthetic Perception in Parkinson's Disease. *Journal of human kinetics*, 10.2478/hukin-2021-0006. https://doi.org/10.2478/hukin-2021-0006
- **Ricotta, J**., Cuadra, C., Evans, J. S., & Latash, M. L. (2021). Perturbation-induced fast drifts in finger enslaving. *Experimental brain research*, 10.1007/s00221-020-06027-y. Advance online publication. https://doi.org/10.1007/s00221-020-06027-y
- Abolins, V., Cuadra, C., **Ricotta, J.**, & Latash, M. L. (2020). What do people match when they try to match force? Analysis at the level of hypothetical control variables. *Experimental brain research*, *238*(9), 1885–1901. https://doi.org/10.1007/s00221-020-05850-7

GRANTS

TL1 Fellowship, National Institutes of Health — 2021-2022
Changes in motor and perceptual control variables elicited in the Parkinsonian nervous system

LRP Awardee, National Institutes of Health — 2021-2023
Stability of movement as a biomarker in Parkinson's disease

PRESENTATIONS

Motor unit synergies stabilizing involuntary muscle action are of spinal origin — 2022
Poster, Gordon Conference on the Basal Ganglia — *Ventura, CA*

Stability of action and kinesthetic perception in Parkinson's disease — 2021
Presentation, Penn State Graduate Exhibition — *State College, PA*

ASSOCIATIONS

President, Motor Control Association — 2022 – Present
Graduate organization at PSU for the study of neuromotor control.

Board-Certified Orthopedic Clinical Specialist — 2019 – Present
American Academy of Orthopedic Physical Therapy.

TEACHING

Course Instructor, Biophysical Foundations of Kinesiology 2022
The Pennsylvania State University *University Park, PA*

Graduate Teaching Assistant, Functional Anatomy 2020
The Pennsylvania State University *University Park, PA*

Lab Instructor, Musculoskeletal Examination and Evaluation 2018
Ithaca College, School of Health Science and Human Performance, Department of Physical Therapy *Ithaca, NY*

Clinical Instructor, Outpatient Orthopedics 2018
Cayuga Medical Center *Ithaca, NY*

Lab Assistant, Clinical Neuroanatomy 2016
Ithaca College, School of Health Science and Human Performance, Department of Physical Therapy *Ithaca, NY*

Lab Assistant, Gross Human Anatomy 2016
Ithaca College, School of Health Science and Human Performance, Department of Physical Therapy *Ithaca, NY*

TECHNICAL SKILLS

Open-source scientific software development
Development of data API for Jiku (spm1d) in Python

Scientific project design/development
Experimental control flow and data recording in LabVIEW, Arduino (C/C++)/Processing, Signal

Neuromodulation and neural recording
Transcranial magnetic stimulation, neural navigation, electromyography

Neurophysiological modeling
Analysis and decomposition of action potential data and electromyographical data

Statistical programming
Statistical analysis in R, MATLAB. Bayesian modeling in Stan.

CLINICAL EXPERIENCE

Orthopedic Physical Therapist 2019 – Present

Orthopedic Physical Therapy Resident 2018
Cayuga Medical Center

AWARDS

Best Research Pitch 2022
2022 Penn State College of HHD Rapid Research Contest *State College, PA*

Best Research Project 2017
20th Annual James J. Whalen Academic Symposium *Ithaca, NY*
- *Top research project, The Effects of Age and Running Speed on Angular Displacements of the Spine During Treadmill Running.*