

Erica Tourula

Curriculum Vitae

Address: 3500 Camp Bowie Blvd., Fort Worth, TX, 76107
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Qualifications

Exercise Physiologist | Researcher | Associate Instructor

Data-driven and technically skilled researcher, exercise physiologist, health educator, and associate instructor with experience in thermal, renal, and cardiovascular physiology research. Passion for helping others while continuing to advance science through innovative study designs and the ability to master new lab techniques. Research interests include but are not limited to environmental physiology and the impacts on kidney function pertaining to workers in the heat, heat exposure and hemorrhagic insult, and sex differences in environmental physiology. Master's degrees in Exercise Science and Biology. Certified as an ACSM Clinical Exercise Physiologist (ACSM-CEP).

Current Position

Post Doctoral Research Associate at UNT-Health Foort Worth
(Summer 2025 - present)

Fort Worth, TX

School of Public Health – Department of Kinesiology

Concentration: Human Performance
Minor: Medical Physiology

Funded Project: Assessment of a Vascular Tone Monitoring System for the Measurement of Vascular Resistance in Humans

EDUCATION

PhD Candidate at Indiana University Bloomington
(Fall 2021- Summer 2025; Defense date: 7/16/2025)

Bloomington, IN

School of Public Health – Department of Kinesiology

Concentration: Human Performance
Minor: Medical Physiology

Dissertation: Protecting Kidney Health During Work-related Heat Stress: Effects of Hydration, Hyperthermia, and Hydration Beverage Type

MSc. University of Colorado
(2018-2020)

Colorado Springs, CO

Master of Sciences in Biology

Thesis Title: "Modest reductions in face skin temperature do not improve tolerance to a simulated hemorrhagic challenge in exercise heat-stressed individuals."

Mentor: Dr. James Pearson

M.S. Northeastern University

(2010-2012)

Boston, MA

Master of Science in Exercise Science

Concentration: Exercise Science

Specialization: Clinical Exercise Physiology

B.S. University of New England

(2005-2009)

Biddeford, ME

Bachelor of Science in Applied Exercise Science

CERTIFICATIONS

Red Cross – CPR and AED | 2024

ACSM Registered Clinical Exercise Physiologist (ACSM-RCEP) | 2012; Renewed 2022

PROFESSIONAL EXPERIENCE

Indiana University

(August 2021- August 2025)

Bloomington, IN

Associate Instructor

Department of Kinesiology, School of Public Health

ADInstruments

(July 2020- July 2021)

Colorado Springs, CO

Education Application Specialist – Northeast Region

University of Colorado-Colorado Springs

(August 2018 – Spring 2020)

Colorado Springs, CO

Primary Research Assistant – Pearson Laboratory

Graduate Teaching Assistant - Department of Human Physiology and Nutrition

Park University

(2016 –2020)

Parkville, MO

Adjunct Instructor in both traditional and remote classroom

Army Wellness Center
(October 2015 – July 2017)

Fort Irwin, CA

Health Educator – Research Fellowship

Lahey Hospital and Medical Center
(February 2012 – April 2015)

Burlington, MA

Senior Exercise Physiologist

Honors and Awards

2020 Outstanding Graduate Student Award, University of Colorado – Colorado Springs

2016 US ARMY Achievement Medal for Civilian Service, Fort Irwin, CA

PUBLICATIONS

In Press / Accepted for Publication

1. **Tourula E**, Specht JW, Hite MJ, Walker C, Garcia S, Khandpekar O, Yoder HA, Zoh RS, Johnson BD, Wegman DH, Glaser J, Amorim F, Schlader ZJ. Hyperthermia predicts cross-shift acute kidney injury risk in construction workers. *KI Reports*. 2025
2. Hess HW, Heikkinen ME, **Tourula E**, Hite MJ, Rivers K, Zoh RS, Hostler D, Schlader ZJ. Influence of work intensity on acute kidney injury risk during simulated occupational heat stress. *Journal of Applied Physiology*. 2024.
3. **Tourula E**, Lenzini M, Rhodes A, Hetz SE, Pearson J. Facial fanning reduces heart rate but not tolerance to a simulated hemorrhagic challenge following exercise heat stress in young healthy humans. *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology* 326:R210-R219, 2024.
4. Schlader ZJ, **Tourula E**, Lignier MJ. Protecting vulnerable populations in extreme heat – a growing and pervasive health challenge. *eBioMedicine*. 109: 105448, 2024.
5. Keeler JM, Listman JB, Hite MJ, Heeger DJ, **Tourula E**, Port N, Schlader ZJ. Arterial oxygen desaturation hinders gamified working memory performance. *Military Medicine* Aug 5: usae376, 2024.
6. Keeler JM, Listman JB, Hite MJ, Heeger DJ, **Tourula E**, Port NL, Schlader ZJ. Arterial oxygen desaturation during moderate hypoxia hinders sensorimotor performance. *PLOS One* 19: e0297486, 2024.

7. Keeler JM, Hess HW, **Tourula E**, Chapman RF, Johnson BD, Schlader ZJ. Relation between resting spleen volume and apnea-induced increases in hemoglobin mass. *Undersea and Hyperbaric Medicine Journal* 51: 59-69, 2024.
8. Keeler JM, **Tourula E**, Hite MJ, Listman JB, Heeger DJ, Port NL, Schlader ZJ. Gamified assessment of cognitive performance during moderate hypoxia. *PLOS One* 18: e0288201
9. Keeler JM, Hess HW, **Tourula E**, Baker TB, Kerr PM, Greenshields JT, Chapman RF, Johnson BD, Schlader ZJ. Increased spleen volume provoked by temperate head out water immersion. *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology* 323:R776-R786, 2022.
10. Trotter, CE, **Tourula, E**, Pizzey, FK, Batterson, PM, Jacobs, RA, Pearson, J. High-intensity interval exercise reduces tolerance to a simulated haemorrhagic challenge in heat-stressed individuals. *Experimental Physiology*. 106: 212– 221, 2021.
11. Pizzey FK, **Tourula E** and Pearson J. Tolerance to Central Hypovolemia Is Greater Following Caffeinated Coffee Consumption in Habituated Users. *Frontiers in Physiology* 11: 50, 2020.

In Review/Preparation

1. **Tourula E**, Hite MJ, Heikkinen ME, Hess HW, Amorim F, Mickleborough TD, Johnson BD, Hostler D, Schlader ZJ. Ad Libitum Drinking Does Not Mitigate Acute Kidney Injury Risk nor Elevations in Markers of Oxidative Stress and Inflammation during a Two-Hour Occupational Heat Stress Simulation. (In Revision; Am J Physiol Renal)
2. **Tourula E**, Heikkinen ME, Regester A, Owen MG, Hess HW, Spence L, Mickleborough TD, Johnson BD, Gletsu-Miller N, Schlader ZJ. Hydrating with a high fructose corn syrup-like sports drink does not worsen AKI risk during prolonged simulated occupational heat stress. (Submitted; J Nutri Physiol)

Peer-Reviewed Abstracts / Conference Proceedings

1. **Tourula E**, Specht J, Hite MJ, Walker C, Garcia S, Zoh RS, Yoder H, Johnson BD, Wegman D, Glaser J, Amorim F, Schlader ZJ. Cross-shift acute kidney injury risk in US construction workers in the summer. American College of Sports Medicine Annual Meeting, Boston, MA, USA, 2024.
2. Schlader ZJ, Keeler JM, Hite MJ, Hess HW, **Tourula E**, Chapman RF, Ilardo M, Johnson BD, Thom SR. No correlation between increases in spleen volume and change in circulating pro-inflammatory microparticles following fourteen days of apneas and

hypoxia exposures. Undersea and Hyperbaric Medicine Annual Scientific Meeting, New Orleans, LA, USA, 2024.

3. Bobbitt G, Keeler JM, Hite MJ, Hess HW, **Tourula E**, Thom S, Ilardo M, Chapman RF, Johnson BD, Schlader ZJ. No effect of water immersion on training-induced improvements in apnea duration. American College of Sports Medicine Annual Meeting, Boston, MA, USA, 2024.
4. Hess HW, Hite MJ, **Tourula E**, Heikkinen ME, Tarr ML, Hostler D, Johnson BD, Zoh RS, Schlader ZJ. Examining if the occupational heat stress recommendations prevent core temperature from exceeding 38.0°C. American College of Sports Medicine Annual Meeting, Boston, MA, USA, 2024.
5. Keeler JM, Hite MJ, Hess HW, **Tourula E**, Chapman RF, Johnson BD, Ilardo M, Thom SR, Schlader ZJ. Hypoxia and apnea training during water immersion (but not air) increases spleen volume. American College of Sports Medicine Annual Meeting, Boston, MA, USA, 2024.
6. Hite MJ, Keeler JM, Listman JB, Heeger DJ, **Tourula E**, Port NL, Schlader ZJ. Arterial oxygen desaturation during moderate hypoxia hinders sensorimotor performance. American College of Sports Medicine Annual Meeting, Boston, MA, USA, 2024.
7. Lignier MJ, **Tourula E**, Keeler JM, Hite MJ, Regester A, Carter SJ, Johnson BD, Chapman RF, Schlader ZJ. Determination of total hemoglobin mass by pulse CO-oximetry in health men and women. American College of Sports Medicine Annual Meeting, Boston, MA, USA, 2024.
8. Schlader ZJ, Khandpekar O, Hess HW, Freemas J, **Tourula E**, Glaser J, Wegman DH, Lucas RAI, Hostler D, Zoh R, La Isla Network International Research Team. Fourth International Workshop on Chronic Kidney Diseases of Uncertain / non-traditional Etiology in Mesoamerica and Other Regions, Antigua Guatemala, Guatemala, 2024
9. Keeler JM, Hite MJ, Hess HW, **Tourula E**, Chapman RF, Johnson BD, Ilardo M, Thom SR, Schlader ZJ. No relation between increases of spleen volume and reductions in circulating pro-inflammatory microparticles following fourteen days of apnea and hypoxia exposures. American Physiology Summit. Long Beach, CA, USA, 2024
10. Skutnik BC, Keeler JM, Hite MJ, Hess HW, **Tourula E**, Walker C, Chapman RF, Johnson BD, Schlader ZJ. Fourteen days of cool water immersion does not modify an indirect index of brown adipose tissue activation. American Physiology Summit. Long Beach, CA, USA, 2024
11. Hess HW, Heikkinen ME, Hite MJ, **Tourula E**, Zoh RS, Johnson BD, Hostler D, Schlader ZJ. Violation of allowable work intensity does not augment acute kidney injury risk during simulated occupational heat stress. American Physiology Summit. Long Beach, CA, USA, 2024

12. **Tourula E**, Hite MJ, Hess HW, Heikkinen ME, Zoh RS, Johnson BD, Schlader ZJ. Ad libitum drinking does not modify renal oxidative stress or inflammation during simulated occupational heat stress. American Physiology Summit. Long Beach, CA, USA, 2024
13. Specht J, **Tourula E**, Hite MJ, Garcia S, Walker C, Yoder H, Schlader Z, Amorim F. Environmental heat stress and physiological heat strain in construction workers during work in the summer. Southwest American College of Sports Medicine Annual Meeting, Costa Mesa, CA, USA, 2023
14. Keeler JM, Listman JB, Heeger DJ, Hite MJ, **Tourula E**, Port NL, Schlader ZJ. Differences in arterial oxyhemoglobin desaturation during moderate hypoxia explains performance differences in working memory tasks during gamified cognitive assessment. Military Health System Research Symposium, Kissimmee, FL, USA, 2023
15. Schlader ZJ, Keeler JM, Hite MJ, Hess HW, **Tourula E**, Chapman RF, Johnson BD, Thom SR. Preliminary evidence that fourteen days of apnea and hypoxia exposures reduces circulating pro-inflammatory microparticles. Undersea and Hyperbaric Medicine Annual Scientific Meeting, San Diego, CA, USA, 2023
16. **Tourula E**, Freemas JA, Hess HW, Goss CS, Martin B, Carter SJ, Chapman RF, Johnson BD, Mundel T, Schlader ZJ. Kidney injury risk does not differ between men and women during work in the heat. American College of Sports Medicine Annual Meeting, Denver, CO, USA, 2023
17. Keeler JM, Hite MJ, Hess HW, **Tourula E**, Chapman RF, Johnson BD, Schlader ZJ. The effects of hypoxia and apnea training on hypoxemic and hypercapnic tolerance. American College of Sports Medicine Annual Meeting, Denver, CO, USA, 2023
18. Walker C, Keeler JM, **Tourula E**, Hite MJ, Chapman RF, Johnson BD, Schlader ZJ. Fourteen days of hypoxia and apnea training does not modify pulmonary gas exchange efficiency. American College of Sports Medicine Annual Meeting, Denver, CO, USA, 2023
19. **Tourula E**, Hess HW, Hite MJ, Hostler D, Johnson BD, Schlader ZJ. Hydration as a modulator of renal vascular control during physical work in the heat. American Physiology Summit, Long Beach, CA, USA, 2023
20. Keeler JM, Hess HW, **Tourula E**, Hite MJ, Chapman RF, Johnson BD, Schlader ZJ. The combined effect of 14 days of hypoxia and apnea training on hemoglobin mass and reticulocyte counts. American Physiology Summit, Long Beach, CA, USA, 2023
21. Keeler JM, Hess HW, **Tourula E**, Baker TB, Kerr PM, Greenshields JT, Chapman RF, Johnson BD, Schlader ZJ. Is there a relation between spleen volume and increases in hemoglobin mass following apneas in people without breath-hold diving experience?

International Conference on Environmental Ergonomics, Niagara Falls, ON, Canada, 2022.

22. Keeler JM, **Tourula E**, Baker TB, Logan R, Hess HW, Kerr PM, Greenshields JT, Chapman RF, Johnson BD, Schlader ZJ. Spleen volume is increased during thermoneutral head-out water immersion. American College of Sports Medicine Annual Meeting, San Diego, CA, USA, 2022.
23. **Tourula E**, Keeler JM, Baker TB, Logan R, Hess HW, Carter SJ, Johnson BJ, Chapman RF, Schlader ZJ. Pulse oximetry carboxyhemoglobin saturation overestimates carbon monoxide rebreathing derived measures of total hemoglobin mass in health adults. American College of Sports Medicine Annual Meeting, San Diego, CA, USA, 2022.
24. Schlader ZJ, Hess HW, Baker TB, Logan R, Kerr P, **Tourula E**, Greenshields JT, Chapman RF, Johnson BD, Keeler JM. Preliminary evidence that resting spleen volume is related to the magnitude of apnea-induced increases in total hemoglobin mass in humans without a history of breath-hold diving. Undersea and Hyperbaric Medicine Annual Scientific Meeting, Reno, NV, USA, 2022.
25. Hite J, Keeler JM, **Tourula E**, Kerr PM, Baker TB, Port NL, Schlader ZJ. Moderate hypoxia decreases selective attention performance as assessed via a domain-specific gamified assessment. Experimental Biology, Philadelphia PA, USA 2022.
26. Kerr PM, Keeler JM, **Tourula E**, Hite J, Baker TB, Port NL, Schlader ZJ. A gamified assessment does not identify alterations in cross-domain cognitive performance with acute moderate hypoxia. Experimental Biology, Philadelphia PA, USA 2022.
27. Keeler JM, **Tourula E**, Baker TB, Logan R, Hess HW, Kerr PM, Greenshields JT, Chapman RF, Johnson BD, Schlader ZJ. Acute elevations in apnea-induced spleen contraction provoked by thermoneutral head out water immersion. Experimental Biology, Philadelphia PA, USA 2022.
28. **Tourula E**, Freemas JA, Worley ML, Gabler MC, Hess HW, McDeavitt J, Johnson BJ, Chapman CL, Schlader ZJ. Renal vascular control differs between healthy young men and women. Experimental Biology, Philadelphia PA, USA 2022.

PROFESSIONAL POSTER PRESENTATIONS

2025 **Determinants of acute kidney injury risk during simulated occupational heat stress.** American College of Sports Medicine: Atlanta, GA (Thematic)

2025 **Rehydrating with a high fructose corn syrup-like sports drink does not worsen AKI risk during prolonged simulated occupational heat stress.** American Physiological Society Summit: Baltimore, MD

2024 **Renal vascular control after consuming sports drinks sweetened with high fructose corn syrup vs. sucrose, a double-blind crossover study.** Integrative Physiology of Exercise: State College, PA

2024 **Cross-shift acute kidney injury risk in U.S. construction workers in the summer.** American College of Sports Medicine: Boston, MA

2024 **Ad libitum drinking does not modify renal oxidative stress or inflammation during simulated occupational heat stress.** American Physiological Society Summit: Long Beach, CA

2023 **Kidney injury risk does not differ between men and women during work in the heat.** American College of Sports Medicine: Denver, CO

2023 **Hydration as a modulator of renal vascular control during physical work in the heat.** American Physiological Society Summit: Long Beach, CA

2022 **Pulse oximetry carboxyhemoglobin saturation overestimates carbon monoxide rebreathing derived measures of total hemoglobin mass in healthy adults.** American College of Sports Medicine: San Diego, CA

2022 **Renal vascular control differs between healthy young men and women.** Experimental Biology: Philadelphia, PA

RESEARCH SUPPORT / SCHOLARSHIPS

Funded Research/Scholarship Support

2025 GSSI-ACSM Young Investigator in sports nutrition award (1st place) \$3000

2024/2025 Hal Morris Research Fellowship \$3000

2024/2025 Dr. Anita Aldrich Research Fellowship \$3000

2023/2024 Hinton, Stager, and Tanner Women's Health Research Fellowship \$1250

2023/2024 Updyke/President's Challenge Fellowship \$2000

2019/2020 Donald Van Horn Endowed Scholarship \$1000

2018/2019 Letters, Arts, and Sciences - Graduate Summer Research Fellowship \$1600

2010/2011 Northeastern University, Graduate Student of the Year Scholarship \$4400

Unfunded Research/Scholarship Support

2022 Nominated for PEO Women Scholar Award \$20,000

INSTRUCTIONAL SUMMARY

Indiana University (Taught 2 courses/semester)

Basic Physiology of Exercise Lab

Walking for Physical Activity

Fitness Testing and Prescription

University of Colorado-Colorado Springs (Taught 2 Labs/Semester)

Human Physiology Lab

Human (Cadaver) Gross Anatomy Lab

Park University (Taught one accelerated course every 2-3 months)

Biological Life Science for non-science majors

Personal and Community Health

PROFESSIONAL MEMBERSHIPS

2012 - Present Member of the American College of Sports Medicine (ACSM)

2021 – Present Member of the American Physiological Society (APS)