

STEPHEN DECKER

MS, CEP



ACADEMIC TRAINING

2022
|
2018

Ph.D. in Kinesiology

University of Massachusetts Amherst

Amherst, Massachusetts

- Mentor: Gwenael Layec, Ph.D. [PubMed](#)
- Dissertation: The Role of Sirtuins and BH₄ in Cigarette Smoke-Induced Skeletal Muscle Dysfunction
- Mastered High-Resolution Respirometry, and Doppler Ultrasound by conducting dozens of independent experiments. Proficient in ³¹P-MRS and immunohistochemistry. I have also performed pilot experiments assing H₂O₂ and mitochondrial membrane potential in permeabilized skeletal muscle.

2018
|
2017

PhD. in Nutrition & Integrative Physiology

University of Utah

Salt Lake City, Utah

- Mentor: Gwenael Layec, Ph.D.
- Transferred to the University of Massachusetts Amherst

2017
|
2016

Clinical Exercise Physiologist

Baylor College of Medicine

Houston, Texas

- Supervisor: Dennis T Villareal, MD [PubMed](#)
- Responsible for all clinical research exercise testing, prescription, and supervision over exercise sessions with high-risk clinical populations. All work was part of several clinical trials where I also analyzed and prepared the data for reporting.
- Mastered V_{O₂max} tests with EKG, phlebotomy, muscle performance tests, and DXA scans by performing hundreds of successful tests on high-risk clinical populations, including elderly individuals with diagnosed heart diseases, PAD, hypertension, diabetes, arthritis, osteoporosis, and hypogonadism.

2016
|
2014

M.S. in Kinesiology

Stephen F. Austin State University

Nacogdoches, Texas

- Mentor: Dr. James Rowe
- Thesis: Effects of High-Intensity Interval Training on Postprandial Lipemia and Glycemia

2014
|
2010

B.S. in Kinesiology

Stephen F. Austin State University

Nacogdoches, Texas

- Graduated with honors, Cum Laude

CONNECT WITH ME

stdecker@umass.edu

(713) 452-9516

[@decker_st](#)

LINKS & RESOURCES

[PubMed](#)
[LinkedIn](#)
[ResearchGate](#)
[Github](#)
[Medium](#)

SKILLS

High-Resolution Respirometry

Doppler Ultrasound

Exercise Testing

Phlebotomy

Undergraduate Mentoring

In Vivo MR Spectroscopy

R

NIRS

Microdialysis

ONGOING PROJECTS

A Guide for the Analysis of High-Resolution Respirometry Data Using R: Version 2 Available on my [GitHub](#)

respirometR a package for analyzing Oxygraph O2K data using R (under development)

Last updated on 2021-04-19 using R version 4.0.5 and [pagedown](#).



PUBLICATIONS

2021



Skeletal muscle Mitochondrial Adaptations Induced by Long-term Cigarette Smoke Exposure

Decker, ST, Kwon, OS, Zhao, J, Hoidal, JR, Hueckstadt, T, Richardosn, RS, Sanders, KA, Layec, G

American Journal of Physiology-Endocrinology & Metabolism

2019



Sampling Arterial Input Function (AIF) from Peripheral Arteries: Comparison of a Temporospacial-feature Based Method Against Conventional Manual Method [\[PubMed\]](#)

Li, X, Conlin, CC, **Decker, ST**, Hu, N, Mueller, M, Khor, L, Hanrahan, C, Layec, G, Lee, VS, Zhang, JL

Magnetic Resonance Imaging

In
Preparation



The Receptor for Advanced Glycation End Products (RAGE) Mediates Cigarette Smoke-Induced Skeletal Muscle Adaptations in C57BL/6 Mice

Decker, ST, Kwon, OS, Zhao, J, Hoidal, JR, Hueckstadt, T, Sanders, KA, Layec, G

In
Preparation



³¹P-MRS of Alkaline Inorganic Phosphate in Young, Sedentary Adults: A Reproducibility Study

Matias, AA, **Decker, ST**, Nagarajan, R, Le Fur, Y, Layec, G

In
Preparation



Central and Peripheral Cardiovascular Responses to Submaximal Plantar Flexion Exercise in Patients with COPD

Matias, AA, Thurston, T, **Decker, ST**, Hart, CH, Zhao, J, Le Fur, Y, Jeong, EK, Trinity, JD, Kwon, OS, Layec, G



ORAL PRESENTATIONS

2019



The Physiological Role of Sirtuins: A Target for Aging or More Hype?

University of Amherst Department of Kinesiology

📍 Amherst, Massachusetts

2019



Effects of Tetrahydrobiopterin on Limb Blood Flow and Muscle Metabolism in Patients with COPD

ISMARM Annual Meeting

📍 Montreal, Quebec



SELECTED POSTERS & ABSTRACTS

2020



Oxidative Stress Induced By Long-Term Cigarette Smoke Exposure Does Not Alter Mitochondrial Respiration in Skeletal Muscle of C57BL/6 Mice

New Insights into the Biology of Exercise


📍 Keystone, Colorado


- 2019 ● **Knockout of the Receptor for Advanced Glycation End Products (RAGE) Increases Skeletal Muscle Mitochondria Content and Alters Mitochondrial Function**
Muscle Biology Conference  Gainesville, Florida
- 2018 ● **Effects of Tetrahydrobiopterin on Limb Blood Flow and Muscle Metabolism in Patients with COPD**
ACSM Annual Meeting  Minneapolis, Minnesota
- 2017 ● **Effects of Acute Exercise on Postprandial Lipemia and Postprandial Glycemia**
Texas ACSM Regional Conference  Waco, Texas

\$ FUNDING

- 2020 ● **Research Travel Award Recipient**
University of Amherst Department of Kinesiology
Awarded \$500
- 2019 ● **Predoctoral Fellowship**
American Heart Association
Not Funded
- 2019 ● **Trainee Stipend Award**
International Society for Magnetic Resonance in Medicine
Awarded \$200 and Conference Registration
- 2016 ● **Student Research Development Award**
Texas American College of Sports Medicine
Awarded \$500

TEACHING EXPERIENCE

- 2021 ● **KIN 272 - Anatomy and Physiology II (Instructor of Record)**
University of Massachusetts Amherst  Amherst, Massachusetts

Instructed 1 section of A&P II to over 20 undergraduate students with the goal of understanding human anatomy and physiology and applying that understanding to career goals and real-life case studies.
- 2021 ● **Kin 470 - Exercise Physiology Lab (TA)**
University of Massachusetts Amherst  Amherst, Massachusetts

Led 2 sections of Exercise Physiology Lab to over 20 upper-level undergraduate students with the goal of advancing student understanding of physiology and applying that understanding to career goals and real-life case studies.



Teaching Philosophy

I am very enthusiastic about sharing knowledge and teaching. I believe it is important to acknowledge the numerous ways in which students learn, and how past personal experiences shape each student's worldview and the learning process. Therefore, learning must be a journey that is tailored to students' needs. I aim to bring an open mind and high expectations to the classroom, where I aspire to create an inclusive and welcoming environment that also encourages students to achieve higher learning outcomes.

- 2020 ● **KIN 270 - Anatomy and Physiology I Lab (TA)**
University of Massachusetts Amherst  Amherst, Massachusetts
- Led 5 sections of A&P I Lab to over 30 undergraduate students with the goal of understanding human anatomy and physiology and applying that understanding to career goals and real-life case studies.
- 2019 ● **Kin 570 - Advanced Exercise Physiology (TA)**
University of Massachusetts Amherst  Amherst, Massachusetts
- Aided in teaching 15 graduate students (M.S.- & Ph.D.-level) with the goal of advancing students' understanding of advanced topics in human physiology.
- 2019
|
2018 ● **Kin 110 - Human Performance and Nutrition (TA)**
University of Massachusetts Amherst  Amherst, Massachusetts
- Led 7 discussion sections to over 200 undergraduate students over the course of 2 semesters with the goal of teaching students about healthy lifestyles.
- 2016
|
2015 ● **Kin 100 - Physical Fitness Concepts and Activities (Instructor of Record)**
Stephen F. Austin State University  Nacogdoches, Texas
- Instructed 1 section of over 30 students with the goal of providing students insights to a healthy lifestyle.
- 2015 ● **KIN 120 - Foundations of Kinesiology (Instructor of Record)**
Stephen F. Austin State University  Nacogdoches, Texas
- Instructed 1 section of over 30 students with the goal of introducing students to the field of kinesiology.
- 2014 ● **KIN 200 - Fitness Activities for Life (Instructor of Record)**
Stephen F. Austin State University  Nacogdoches, Texas
- Instructed 1 section of over 30 students with the goal of developing student-centered fitness plans and goals which can be used throughout life.
- 2016
|
2012 ● **American Red Cross CPR and Lifeguarding Instructor**
Various  Texas
- Led dozens of independent Lifeguard and CPR/AED + First Aid courses to hundreds of lifeguards.



PROFESSIONAL DEVELOPMENT & TRAINING

- Current ● **Certified Clinical Exercise Physiologist**
American College of Sports Medicine  Indianapolis, Indiana
- Current ● **Certified Exercise Physiologist**
American College of Sports Medicine  Indianapolis, Indiana

- 2019 ● **Oroboros O2k-Workshop on High-Resolution Respirometry (HRR)**
Oroboros Instruments  Schröcken, Austria



HONORS AND AWARDS

- 2017 ● **Student Research Poster Finalist - Masters Category**
Texas American College of Sports Medicine  Waco, Texas
- 2014 ● **Undergraduate Research Conference Top Scholar**
Stephen F. Austin State University School of Honors  Nacogdoches, Texas



TRAINEES

- Present
|
2019 ● **Alexs Matias (Graduate)**
Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K and the assessment of vascular function using Doppler Ultrasound.
- Present
|
2020 ● **M. Enes Erol (Graduate)**
Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K and the assessment of vascular function using Doppler Ultrasound.
- Present
|
2020 ● **Mia Calderone (Undergraduate)**
Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K and the assessment of vascular function using Doppler Ultrasound.
- Present
|
2020 ● **Jack Madden (Undergraduate)**
Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K.
- 2018
|
2021 ● **Jyotika Vallurupalli (Undergraduate)**
Trained the assessment of vascular function using Doppler Ultrasound and continuous non-invasive arterial pressure.
- 2020
|
2018 ● **Sebastien Rauch (Undergraduate)**
Honors Thesis: Validity and Specificity of Tetramethylrhodamine, Methyl Ester (TMRM) Dye in Mice Gastrocnemius Muscle Fiber Bundles for Assessing Mitochondrial Membrane Potential.