Stephen Decker, Ph.D. ACSM-CEP

Postdoctoral Research Associate

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Curriculum Vitae
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Academic & Research Training

March 2023-Present — **Postoctoral Research Associate** — Salt Lake City, Utah
University of Utah
- Primary Mentor: Katsu Funai, Ph.D. [PubMed]

Nov 2022-March 2023 — **Research Project Manager** — Amherst, Massachusetts
Institute for Applied Life Sciences - University of Massachusetts Amherst
- Primary Supervisor: Mike Busa, Ph.D.
- Oversaw insdustry-funded projects involving wearable biosensors
- Assisted in other collaborative projects for the Center for Human Health and Performance

Aug 2018-Nov 2022 — **Doctor of Philosophy, Kinesiology (Physiology)** — Amherst, Massachusetts
University of Massachusetts Amherst
- Primary Mentor: Gwenael Layec, Ph.D. [PubMed]
- Dissertation Project: Mechanisms of Cigarette Smoke-Induced Mitochondrial Dysfunction in Striated Muscle and Aorta

Jul 2017-Aug 2018 — **Doctor of Philosophy, Nutrition and Integrative Physiology** — Salt Lake City, Utah
University of Utah
- Primary Mentor: Gwenael Layec, Ph.D.
- Transferred to University of Massachusetts Amherst

May 2016-Jul 2017 — **Research Clinical Exercise Physiologist** — Houston, Texas
Baylor College of Medicine
- Primary Supervisor: Dennis T Villareal, MD [PubMed]
- Prepared and administered exercise testing and prescription for high-risk older adults involved in various clinical research trials

Aug 2016 — **Master of Science, Kinesiology** — Nacogdoches, Texas
Stephen F. Austin State University
- Primary Mentor: James Rowe, Ph.D.
- Thesis Project: Effects of High-Intensity Interval Training on Postprandial Lipemia and Glycemia

May 2014 — **Bachelor of Science, Kinesiology** — Nacogdoches, Texas
Stephen F. Austin State University
- Graduated with Honors, Cum Laude

Publications

In Press

As First Author

1. **Decker, ST**, Alexandrou-Majaj, N, Layec, G (2023), Effects of Acute Cigarette Smoke Exposure on Mitochondrial Energy Transfer in Fast and Slow Twitch Skeletal Muscle, *Biochimica et Biophysica Acta - Bioenergetics* [PubMed]
2. **Decker, ST**, Matias, AA, Bannon, ST, Madden, JP, Alexandrou-Majaj, N, Layec, G (2023), Effects of Cigarette Smoke on *In Situ* Mitochondrial Substrate Oxidation of Slow- and Fast-Twitch Skeletal Muscles, *Life Sciences* [PubMed]
3. Kwon, OS, **Decker, ST**, Zhao, J, Hoidal, JR, Hueckstadt, T, Sanders KA, Richardson, RS, Layec, G (2022), The Receptor for Advanced Glycation End Products (RAGE) is involved in Mitochondrial Function and Cigarette Smoke-Induced Oxidative Stress, *Free Radical Biology & Medicine* [PubMed]
4. **Decker, ST**, Kwon, OS, Zhao, J, Hoidal, JR, Hueckstadt, T, Sanders, KA, Richardson, RS, Layec, G (2021), Skeletal muscle Mitochondrial Adaptations Induced by Long-term Cigarette Smoke Exposure, *American Journal of Physiology Endocrinology & Metabolism* [PubMed]

As Co-author

5. Serviente, C, **Decker, ST**, Layec, G (2022), From heart to muscle: pathophysiological mechanisms underlying long-term physical sequelae from SARS-CoV-2 infection, *Journal of Applied Physiology*, [PubMed]
6. Li, X, Conlin, CC, **Decker, ST**, Hu, N, Mueller, M, Khor, L, Hanrahan, C, Layec, G, Lee, VS, Zhang, JL (2019), Sampling Arterial Input Function (AIF) from Peripheral Arteries: Comparison of a Temporospatial-feature Based Method Against Conventional Manual Method, *Magnetic Resonance Imaging* [PubMed]

Under Review

1. **Decker, ST**, Matias, AA, Cuadra, AE, Erol, ME, Serviente, C, Fenelon, K, Layec, G
Tissue-specific mitochondrial toxicity of cigarette smoke concentrate: consequence to oxidative phosphorylation, Under Review in *American Journal of Physiology - Heart and Circulatory Physiology*

In Preparation

1. **Decker, ST**, Bannon, ST, Huang, T, Erol, ME, Layec, G
Effects of Acute Cigarette Smoke Exposure on Simultaneous Measurements of Mitochondrial Oxygen Consumption and ROS Production *In Situ*
2. **Decker, ST**, Matias, AA, Bannon, ST, Madden, JP, Erol, ME, Chipkin, S, Kent, JA, Miller, M, Layec, G
Effects of Sedentary Time on *In Situ* Mitochondrial Substrate Oxidation Across the Human Lifespan
3. Matias, AA, Serviente, C, **Decker, ST**, Erol, ME, Giuriato, G, Nagarajan, R, Le Fur, Y, Layec, G,
^{31}P-MRS of Alkaline Inorganic Phosphate in Young, Sedentary Adults: A Reproducibility Study
4. Matias, AA, Thurston, T, **Decker, ST**, Hart, CH, Zhao, J, Le Fur, Y, Jeong, EK, Trinity, JD, Kwon, OS, Layec, G,
Central and Peripheral Cardiovascular Responses to Submaximal Plantar Flexion Exercise in Patients with COPD

Selected Posters & Abstracts

1. **Decker, ST**, et al. (2022), Effects of Cigarette Smoke on *In Situ* Mitochondrial Substrate Oxidation on Slow- and Fast-Twitch Skeletal Muscles, *Institute of Applied Life Sciences Core Showcase (Amherst, MA)*
2. **Decker, ST**, et al. (2020), Oxidative Stress Induced By Long-Term Cigarette Smoke Exposure Does Not Alter Mitochondrial Respiration in Skeletal Muscle of C57BL6 Mice, *Keystone Symposium: New Insights into the Biology of Exercise (Keystone, CO)*
3. **Decker, ST**, et al. (2019), Knockout of the Receptor for Advanced Glycation End Products (RAGE) Increases Skeletal Muscle Mitochondria Content and Alters Mitochondrial Function, *Muscle Biology Conference (Gainesville, FL)*
4. Layec, G, Conlin, C, Dong, J, **Decker, ST**, et al. (2018), Assessment of Perfusion-metabolism matching in exercising muscle from dynamic contrast-enhanced MRI and T2 mapping, *International Society for Magnetic Resonance in Medicine (Paris, FR)*
5. Conlin, C, Dong, J, **Decker ST**, et al, 2018, Reproducibility of calf-muscle perfusion measurements from dynamic contrast-enhanced MRI, *International Society for Magnetic Resonance in Medicine (Paris, FR)*
6. **Decker, ST**, et al. 2018, Effects of Tetrahydrobiopterin on Limb Blood Flow and Muscle Metabolism in Patients with COPD, *American College of Sports Medicine Annual Meeting (Minneapolis, MN)*
7. **Decker, ST**, Rowe, J, 2017 Effects of Acute Exercise on Postprandial Lipemia and Postprandial Glycemia, *Texas American College of Sports Medicine Regional Conference (Waco, TX)*

Oral Presentations

Nov 2021	**Connecting the Dots of the Power Grid: Assessing mitochondrial membrane potential and ADP/ATP translocase activity in permeabilized skeletal muscle fiber bundles** University of Massachusetts Amherst Department of Kinesiology
Nov 2019	**The Physiological Role of Sirtuins: A Target for Aging or More Hype?** University of Massachusetts Amherst Department of Kinesiology
May 2019	**Effects of Tetrahydrobiopterin on Limb Blood Flow and Muscle Metabolism in Patients with COPD** International Society for Magnetic Resonance in Medicine - Montreal, Quebec

Funding

Dec 2022	**T32 Fellowship** University of Utah Diabetes and Metabolism Research Center	Not Funded
Mar 2020	**Research Travel Award Recipient** UMass Amherst Department of Kinesiology	Awarded $500

Jun 2019 **Predoctoral Fellowship** Not Funded
American Heart Association

May 2019 **Trainee Stipend Award Recipient** Awarded $200 & Conference Registration
International Society for Magnetic Resonance in Medicine

Mar 2016 **Student Research Development Award Recipient** Awarded $500
Texas American College of Sports Medicine

Honors & Awards

Feb 2017 **Student Research Poster Finalist - Masters Category**
Texas American College of Sports Medicine

Feb 2014 **SFASU Undergraduate Research Conference Top Scholar**
Stephen F. Austin State University School of Honors

Professional Development and Training

Current **American College of Sports Medicine** Indianapolis, Indiana
Member
- ➤ Certified Clinical Exercise Physiologist
- ➤ Certified Exercise Physiologist
- ➤ Exercise is Medicine Credential Level 3

Current **American Physiological Society** Rockville, Maryland
Member

Current **International Society for Magnetic Resonance in Medicine** Concord, California
Member

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

Mentoring

Graduate

2020-2023 **M Enes Erol**
Currently pursuing a PhD at the University of Massachusetts Amherst
- ➤ Trained on mitochondrial respiration, Doppler ultrasound, phlebotomy, spectrophotometry, MR spectroscopy, and other lab techniques
- ➤ Mentored in statistical and data analysis, principles of human pysiology, and scientific writing

2019-2022 **Alexs Matias**
Currently pursuing a PhD at the University of Delaware
- ➤ Trained on mitochondrial respiration, Doppler ultrasound, phlebotomy, and MR spectroscopy
- ➤ Mentored in statistical and data analysis and principles of human pysiology

Undergraduate

* Denotes students who worked on undergraduate honors thesis projects

2022-Present **Tiana Huang**
Undergraduate Honors Thesis: TBD
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K

2021-Present ***Sean Bannon**
Undergraduate Honors Thesis: MitoTEMPO Restores Mitochondrial Function Following Acute Cigarette Smoke Exposure
- ➤ Currently serving on honors thesis committee
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K

2021-Present **William Callahan**
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K

2020-2022 ***Mia Calderone**
Undergraduate Honors Thesis: Effects of Heat Therapy on Cardiovascular and Muscular Health in Long-Haul COVID-19 Patients
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K

2019-2022 **John Madden**
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K

2018-2020 ***Jyotika Vallurupalli**
Undergraduate Honors Thesis: Investigating the Roles of COVID-19 on Vascular Funciton
- ➤ Trained the assessment of vascular function using Doppler Ultrasound and continuous non-invasive arterial pressure

2018-2020 ***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
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K & assessment of vascular function using Doppler Ultrasound

2018-2020 **Todd Maniscalchi**
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K & assessment of vascular function using Doppler Ultrasound

2018-2020 **Joseph Howard**
- ➤ Trained how to collect skeletal muscle mitochondrial respiration data using the Oxygraph O2K

Teaching Experience

* Denotes Graduate-level Class

Instructor of Record

Summer 2021 **KIN 272 - Anatomy & Physiology II**
University of Massachusetts Amherst

Fall 2015 & Spring 2016 **KIN 100 - Physical Fitness Concepts and Activities**
Stephen F. Austin State University

Spring 2015 **KIN 120 - Foundations of Kinesiology**
Stephen F. Austin State University

Fall 2014 **KIN 200 - Fitness Activites for Life**
Stephen F. Austin State University

Teaching Assistant

Spring 2021 & 2022 **KIN 470 - Exercise Physiology**
University of Massachusetts Amherst

Fall 2020 **KIN 270 - Anatomy & Physiology I**
University of Massachusetts Amherst

Fall 2019 ***KIN 570 - Advanced Exercise Physiology**
University of Massachusetts Amherst

Fall 2018 & Spring 2019 **KIN 110 - Human Performance and Nutrition**
University of Massachusetts Amherst

Fall 2015 & Spring 2016 **KIN 417 - Analysis of Movement Lab**
Stephen F. Austin State University