Ayland Cash Letsinger, Ph.D.
Curriculum Vitae

Dr. Ayland Letsinger is an Assistant Professor at UT Austin whose work bridges exercise physiology, neurobiology, and behavioral science. His mission is to uncover biological drivers of physical activity motivation to help people enjoy and sustain physically active lifestyles for lasting health benefits.
Website: [The Physical Activity Motivation Lab]

(last updated 07/2026)

CONTACT INFORMATION

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I. EDUCATION

School	Degree	Year of Degree
The National Institute of Environmental Health Sciences Research Triangle Park, NC	Neurobiology, Postdoctoral Fellowship Advisors: Drs. Jerrel Yakel & Guohong Cui	2025
Texas A&M University College Station, TX	Exercise Physiology, PhD Advisor: Dr. J Timothy Lightfoot	2019
Texas A&M University College Station, TX	Kinesiology/Motor Behavior, BS Psychology, Minor	2015
Brackett High School Brackettville, TX	Diploma	2011

II. PROFESSIONAL EXPERIENCE & QUALIFICATIONS

A. Positions

2025 – Present	**Assistant Professor**; The University of Texas at Austin, College of Education, Department of Kinesiology and Health Education, Exercise Physiology Group, Director of the Physical Activity Motivation Laboratory, Austin, TX
2019 – 2025	**Postdoctoral Fellow**; Neurobiology Laboratory, National Institute of Environmental Health Sciences, Durham, NC
2018 – 2019	**Exercise Physiologist**; Central Texas Sports Medicine and Orthopaedics, College Station, TX
2017 – 2019	**Graduate Teaching Assistant**; Exercise Biomechanics, Department of Health & Kinesiology, Texas A&M University, College Station, TX
2017	**Graduate Research Internship**; Department of Sports Science, Swansea University, Swansea, Wales
2015 – 2019	**Graduate Researcher**; Biology of Physical Activity Laboratory, Department of Health & Kinesiology, Texas A&M University, College Station, TX

2015 – 2018 **Graduate Teaching Assistant**; Physical Education Activity Program, Department of Health & Kinesiology, Texas A&M University, College Station, TX
2014 – 2015 **Fitness Specialist**; Gold's Gym Inc, College Station, TX
2013 – 2015 **Podcast & Radio Producer**; The Sydney and JL Huffines Institute for Sports Medicine & Human Performance, Texas A&M University, College Station, TX

B. Honors and Awards

2025 **Social Synapse Award**; Neurobiology Laboratory, NIEHS, Durham, NC
2023 **Postdoctoral Fellowship Award**; Center for Compulsive Behavior, National Institutes of Health, Bethesda, MD
2023 **NIEHS Paper of the Month**; "Nicotine exposure decreases likelihood of SARS-CoV-2 RNA expression and neuropathology in the hACE2 mouse brain but not moribundity", NIEHS, Durham, NC
2022 **Postdoctoral Fellowship Award**; Center for Compulsive Behavior, National Institutes of Health, Bethesda, MD
2022 **Best Presentation**, Big Picture, Small Talk; National Institutes of Health, Bethesda, MD
2021 **Postdoctoral Fellowship Award**; Center for Compulsive Behavior, National Institutes of Health, Bethesda, MD
2019 **Robert Armstrong Student Research Scholar of the Year**; Department of Health & Kinesiology, Texas A&M University, College Station, TX
2019 **Honor Graduate**; College of Education and Human Development, Texas A&M University, College Station, TX
2019 **Graduate Spotlight Award**; College of Education and Human Development, Texas A&M University, College Station, TX
2018 **Scientific Poster Award**; Integrative Physiology of Exercise Conference, American College of Sports Medicine
2016,17,18 **Telly National Award**; Excellence in Web Educational Programming for the 'Hilliard Discussion', camera operator, The Sydney and JL Huffines Institute for Sports Medicine & Human Performance, Texas A&M University, College Station, TX

C. Professional Society Memberships

2025 – Present National Strength and Conditioning Association
2018 – Present Genetics and Biology of Physical Activity Consortium (GenBioPAC)
2015 – Present American College of Sports Medicine
- 2021 – 2025 **Strategic Health Initiative on Aging: Chair**
- 2018 – 2021 **Strategic Health Initiative on Aging: Student Representative**

2015 – Present American College of Sports Medicine - Texas Chapter
2019 – 2025 Society for Neuroscience – Triangle Chapter
- 2019 – 2022 **Communications Chair**

2017 – 2025 American College of Sports Medicine – Southeastern Chapter

D. Professional Certifications

2014 – Present **Certified Corrective Exercise Specialist**; National Association of Sports Medicine
2014 – Present **Certified Senior Specialist**; National Association of Sports Medicine
2014 – Present **Certified Personal Trainer**; National Council of Certified Personal Trainers
2014 – 2019 **Certified Personal Trainer**; American College of Sports Medicine
2008 – 2020 **CPR, AED, & First Aid Certification**; American Heart Association

III. PROFESSIONAL SERVICE

A. Scientific

2019 – Present	**Reviewer**; Scientific Reports, Medicine & Science in Sports & Exercise, PLOS One, Experimental Gerontology, Nutrients, Healthcare, Int Journal of Environmental Research and Public Health, Frontiers in Evolutionary and Population Genetics, Behavioral Sciences, Lipids in Disease and Health, Journal of Big Data, Nutrition and Metabolism
2016 – Present	**Planning and Day of Volunteer**; National and Regional Meetings, American College of Sports Medicine (~60 hours) Triangle Chapter of the Society for Neuroscience (~30 hours)
2021 – 2025	**Chair**; Strategic Health Initiative on Aging, American College of Sports Medicine
2019 – 2022	**Communication Chair**; Triangle Chapter of the Society for Neuroscience
2018 – 2021	**Student Representative**; Strategic Health Initiative on Aging, American College of Sports Medicine

B. University & Institutes

2025 – Present	**Primary Investigator**; Interdisciplinary Neuroscience Program, UT Austin
2025 – Present	**Member;** McCraw Distinguished Lecture Series Planning Committee, UT Austin
2025 – Present	**Member**; Graduate Studies Committee, Kinesiology & Health Education, UT Austin
2026	**Graduate Grant Reviewer**; Health Communication Scholars Program, UT Austin
2021 – 2025	**Advisor**; 'Scholar's Connect Program', NIEHS *-Provided expertise and mentorship for this program designed to afford STEM undergraduate students training in biomedical research*
2021	**Instructor**; 'Fundamentals of Laboratory Mathematics Workshop', NIEHS *-Taught undergraduate researchers necessary chemical formulations*
2017	**High School Student Lab Mentor**; NIH Funded 'MENTORS Project', Texas A&M *-To boost under-represented minorities interest in STEM fields*
2016 – 2019	**Athlete ECG Screening**; Huffines Institute for Sports Medicine & Human Performance *-Screened Texas A&M's entire student athlete population each semester*
2016 – 2019	**New Graduate Teaching Assistant Mentor**; Physical Education Activity Program *-Assisted in the development of curriculum, lectures, & student interactions*
2016 – 2019	**Social Chair**; Graduate Student Association, Department of Health and Kinesiology *-In charge of familiarizing/integrating new graduate students into the program*
2016 – 2017	**Student Host**; Texas A&M's Distinguished Lecture Series *-Transported, entertained, and facilitated communication with guest professors*
2016 – 2017	**Instructor**; Youth Adventure Program *-Taught grade school students hands on exercise physiology concepts*
2016	**Volunteer**, The Summer Institute *-Supported workshops aimed toward improving teachers' ability to teach science*
2015 – 2016	**Athlete Fatigue Testing**; Huffines Institute for Sports Medicine & Human Performance *-Tested athlete's fatigue status using "power bike" method*
2013 – 2017	**Staff & Camera Operator**; The Huffines/Hilliard Discussion
2013 – 2015	**Radio & Podcast Producer**; Huffines Institute for Sports Medicine & Human
2011 – 2018	**Advisor, Director, Counselor, & Member**; Aggie Fish Club *-Served in all roles, including the highest-ranking member responsible for maintaining integrity standards set by Texas A&M of this leadership organization designed to ensure Freshman have a successful tenure at A&M and beyond*

C. Community

2020 – Present	**Community Service Volunteer**; NIEHS Fellow's Association (~30 hours) *-participated in various health-related service events*
2012 – 2015	**Volunteer**; Physical Therapy (~250 hours)

-Central Texas Sports Medicine and Orthopedics outpatient, Texas A&M University outpatient, Baylor Scott & White inpatient, Baylor Scott & White outpatient, & Hope Valley Community Homes

2012 – 2015 **Community Service Group Leader**; Big Event (~80 hours)

D. Mentorship

* Denotes primary mentor

PhD

2026 – ***Jinwon 'Daniel' Choung**, Phd Candidate in Exercise Physiology, UT Austin

2026 – ***Isaac Ramos**, PhD Candidate in Exercise Physiology, UT Austin

2025 – 2026 ***Cory Rebmann**, PhD in Exercise Physiology, UT Austin

2025 – 2026 **Natalie N McLaurin,** PhD in Exercise Physiology, UT Austin

MS

2025 – ***Nam Zhang**, MS Candidate in Exercise Physiology, UT Austin

2025 – 2026 ***Jinwon 'Daniel' Choung**, MS in Exercise Physiology, UT Austin
-Presentation Finalist, Center for Heath Interprofessional Practice and Education

2025 – 2026 ***Isaac Ramos**, MS in Exercise Physiology, UT Austin

Other

2024 – 2026 ***Bryan Ochoa**, Postbac Stride Program, National Institute of Environmental Health Sciences

2022 – 2024 **Jared Glorius**, Postbac, National Institute of Environmental Health Sciences
-1st author publication

2021 – 2023 ***Diane Youngstrom,** Postbac, National Institute of Environmental Health Sciences
-National Science Foundation Graduate Research Fellowship Awardee ($147,000), Best Presentation; Big Picture, Small Talk ($1,500),

2021 – 2022 ***Jessica Wu**, Scholar Connect, National Institute of Environmental Health Sciences
-Best Overall Scholar, Best Poster Presentation, Honorable Mention Elevator Pitch, Honorable Mention Final Presentation

2021 – 2021 ***Kayen Tang**, Summer Student, National Institute of Environmental Health Sciences
-3rd Place Poster Presentation

2019 – 2020 **Samir Nacer**, Postbac, National Institute of Environmental Health Sciences
-1st author publication, Best Poster Presentation

IV. TEACHING

A. Undergraduate Courses

2026 – Present The University of Texas at Austin – Austin, TX
KINE 348 (Instructor of Record): **Psychological Aspects of Exercise (**1 section**)**

2015 – 2018 Texas A&M University – College Station, TX
KINE 426 (Instructor of Record): **Exercise Biomechanics** (2 sections)

KINE 426 (Assistant Lab Instructor): **Exercise Biomechanics** (3 sections)
KINE 223 (Instructor of Record): **Introduction to the Science of Health and Fitness** (1 section)
KINE 120 (Instructor of Record): **Science of Basic Health & Fitness** (6 sections; virtual component)
KINE 199 (Instructor of Record): **Strength Training** (4 sections)
KINE 199 (Instructor of Record): **Racquetball** (4 sections)
KINE 198 (Activity Instructor): **Health & Fitness: Strength Training** (23 sections; virtual component))
KINE 198 (Activity Instructor): **Health & Fitness: Aerobic Running** (5 sections; virtual component))
KINE 198 (Activity Instructor): **Health & Fitness: Aerobic Walking** (4 sections; virtual component))
KINE 121 (Teaching Assistant): **Physical and Motor Fitness Assessment** (2 course)
Highest Review: 4.96/5.00 Average Review: 4.84/5.00 Lowest Review: 4.63/5.00

V. RESEARCH

A. Peer-Reviewed Articles

https://www.ncbi.nlm.nih.gov/myncbi/ayland.letsinger.1/bibliography/public/

1. **Letsinger AC**, Ochoa BN, Wu JJ, Tang KU, Youngstrom D, Wang S, Bridge M, Cui G, Yakel JL. Methods for measuring neural activity during voluntary wheel running. J Neurosci Methods. 2026
2. Glorius KJ, Wilson L, **Letsinger A**, Shirolkar P, Cushman J. Behavioral Training Procedures for Head-fixed Virtual Reality in Mice. Journal of Visual Experiments. 2024
3. Bridge MF, Wilson LR, Panda S, Stevanovic KD, **Letsinger AC**, McBride S, Cushman JD. FiPhA: an open-source platform for fiber photometry analysis. Neurophotonics. 2024
4. **Letsinger AC**, Nacer SA, Stevanovic KD, Larson GJ, Defilipp JS, Cushman JD, Yakel JL. Genetic deletion of the α7 nAChR reduces hippocampal granule and pyramidal cells in both sexes but impairs pattern separation in males only. Frontiers in Neuroscience. 2023
5. Little-Letsinger SL, **Letsinger AC**, Elizondo JP, Breidenbach BM, Hogan HA, Lightfoot JT, Bloomfield SA. Rapid Transition from a High-Fat, High-Fructose to a Low-Fat, Low-Fructose Diet Reverses Gains in Bone Mass and Strength. Med Sci Sports Exerc. 2023
6. **Letsinger AC**, Ward JM, Fannin RD, Mahapatra D, Bridge MF, Sills RC, Gerrish KE, Yakel JL. Nicotine exposure decreases likelihood of SARS-CoV-2 RNA expression and neuropathology in the hACE2 mouse brain but not moribundity. Sci Rep. 2023
7. **Letsinger AC**, Yang F, Menon R, Little-Letsinger SE, Granados JZ, Breidenbach B, Iyer AR, Padovani TC, Nagel EC, Jayaraman A, Lightfoot JT. Reduced Wheel Running via a High-Fat Diet Is Reversed by a Chow Diet with No Added Benefit from Fecal Microbial Transplants. Med Sci Sports Exerc. 2022
8. **Letsinger AC**, Gu Z, Yakel JL. α7 nicotinic acetylcholine receptors in the hippocampal circuit: taming complexity. Trends Neurosci. 2022
9. Nacer SA*, **Letsinger AC***, Otto S, DeFilipp JS, Nikolova VD, Riddick NV, Stevanovic KD, Cushman JD, Yakel JL. Loss of α7 nicotinic acetylcholine receptors in GABAergic neurons causes sex-dependent decreases in radial glia-like cell quantity and impairments in cognitive and social behavior. Brain Struct Funct. 2021***Co-first author**
10. **Letsinger AC**, Menon R, Iyer AR, Vellers HL, Granados JZ, Jayaraman A, Lightfoot JT. A High Fat/High Sugar Diet Alters the Gastrointestinal Metabolome in a Sex Dependent Manner. Metabolites. 2020
11. Granados JZ, Ten Have GAM, **Letsinger AC**, Thaden JJ, Engelen MPKJ, Lightfoot JT, Deutz NEP. Activated whole-body arginine pathway in high-active mice. PLoS One. 2020
12. Jones M, Defever E, **Letsinger A**, Steele J, Mackintosh KA. A mixed-studies systematic review and meta-analysis of school-based interventions to promote physical activity and/or reduce sedentary time in children. J Sport Health Sci. 2020
13. **Letsinger AC**, Granados JZ, Little SE, Lightfoot JT. Alleles associated with physical activity levels are estimated to be older than anatomically modern humans. PLoS One. 2019

14. Vellers HL, **Letsinger AC**, Walker NR, Granados JZ, Lightfoot JT. High Fat High Sugar Diet Reduces Voluntary Wheel Running in Mice Independent of Sex Hormone Involvement. Front Physiol. 2017

B. Abstract & Poster Presentations

1. Ramos IR, Patil P, & **Letsinger AC**. What are Active People Made of? Identifying Key Biological Correlates of Physical Activity in Nationally Representative Databases. Texas American College of Sports Medicine. 2026.
2. Choung J & **Letsinger AC**. How Physically Active Are U.S. Adults?: Comparing National Estimates of Physical Activity Levels of U.S. Adults Across Multiple National Datasets. Texas American College of Sports Medicine 2026.
3. **Letsinger AC**, Wu JJ, Youngstrom DE, Tang KU, & Yakel JL. Acetylcholine Within the Nucleus Accumbens Core Is Elevated During the Acquisition Phase of Wheel Running but Not the Maintenance Phase. Society for Neuroscience. 2024.
4. Stevanovic KD, Wilson LR, **Letsinger AC**, Cushman JD. Systematic Comparison of Three In Vivo Fiber Photometry Recording Methods. Pavlov Society. 2023
5. Larson G, Allen K, Shockley K, Cunny H, **Letsinger A**, Cushman. A comparison of dynamic versus static regression coefficients in a generalized linear model for longitudinal rodent neurobehavioral data. Data Science and Statistics. 2023
6. **Letsinger AC**, Youngstrom DE, Yakel JL. Why Do We Exercise? A Diverse Mouse Model to Examine the Interaction of Genetics and Environment. American College of Sports Medicine. Thematic Poster. 2023
7. Glorius J, Wilson LR, **Letsinger AC**, Kendrick D, Cushman J. Piloting Virtual Reality with Brain Waves and Neural Engineering. National Institutes of Health Postbac Poster Day. 2023 ***Mentored**
8. Stevanovic KD, Wilson LR, **Letsinger AC**, Cushman JD. Systematic Comparison of Three In Vivo Fiber Photometry Recording Methods. Triangle Chapter of the Society for Neuroscience. 2023
9. **Letsinger AC**, Wu JJ, Youngstrom DE, Tang KU, Yakel JL. A hippocampal circuit for physical activity regulation. Society for Neuroscience. 2022
10. Youngstrom DE, **Letsinger AC**, Bernstein BJ, Cushman JA, Yakel JL. Automated home-cage assessment of discrimination and reversal learning in 5xFAD mice. Society for Neuroscience. 2022 ***Mentored**
11. Stevanovic KD, Wilson LR, **Letsinger AC,** Cushman JA. Systematic comparison of three in vivo fiber photometry recording methods. Society for Neuroscience. 2022
12. Youngstrom DE, **Letsinger AC**, Bernstein BJ, Cushman JA, Yakel JL. Automated home-cage assessment of discrimination and reversal learning in 5xFAD mice. Triangle Chapter of the Society for Neuroscience. 2022 ***Mentored**
13. Youngstrom DE, **Letsinger AC**, Bernstein BJ, Cushman JA, Yakel JL. Automated home-cage assessment of discrimination and reversal learning in 5xFAD mice. National Institutes of Health Postbac Seminar Series. 2022 ***Mentored**
14. Youngstrom DE, **Letsinger AC**, Yakel JL. Why Do We Exercise: Genetics or Environment? Postbaccalaureate Poster Day. 2022 ***Mentored**
15. Wu JJ, Letsinger AC, Yakel JL. Dopamine and Acetylcholine Activity Levels in the Mouse Limbic System Before, During, and After Wheel Running. The National Institute of Environmental Health Science's Scholar Connect Program. 2021 ***Award Winning *Mentored**
16. Tang KU, **Letsinger AC**, Yakel JL. Investigating the Role of Drd2 Expressing Hippocampal Neurons in Wheel Running Regulation. The National Institute of Environmental Health Summer Student Program. 2021 ***Award Winning *Mentored**
17. Breidenbach BM, **Letsinger AC,** Granados JZ, Padovani TNC, Nagel EC, Lightfoot JT. Expression of Tyrosine Hydroxylase in The Nucleus Accumbens Are Not Altered by Diet or Fecal Transplantation in Male C57bl/6j Mice. American College of Sports Medicine. 2020
18. Little SE, **Letsinger AC,** Elizondo JP, Hogan HA, Lightfoot JT, Bloomfield SA. Effects of Diet Alterations with or Without Fecal Microbial Transplants on Bone Integrity. American College of Sports Medicine. 2020
19. **Letsinger AC,** Nacer SA, Stevanovic KD, Cushman JD, Yakel JL. Global Knockout of α7 Nicotinic Acetylcholine Receptors Cause a Sexually Dimorphic Deficit in Hippocampal-Dependent Pattern Separation. Neurobiology Laboratory Annual Retreat. 2020

20. Granados JZ, Ten Have GA, **Letsinger AC**, Thaden JJ, Lightfoot JT, Deutz NE. High-active Mice Have Elevated Clearance Rate of BCAAs Compared to Low-active Mice. American College of Sports Medicine. 2019
21. Breidenbach BM, **Letsinger AC**, Granados JZ, Padavoni TNC, Vellers HL, Lightfoot JT. Dopaminergic Receptor and Transporter Densities in Nucleus Accumbens Are Not Altered by a Western Diet. American College of Sports Medicine. 2019
22. Little SE, **Letsinger AC**, Elizondo JP, Allaway HCM, Hogan HA, Lightfoot JT, Bloomfield SA. Effects of diet alterations with or without gut microbial transplants on bone strength and density. Orthopaedic Research Society Musculoskeletal Biology Workshop. 2019
23. **Letsinger AC**, Menon R, Iyer AR, Vellers HL, Granados JZ, Jayaraman JT, Lightfoot JT. A High Fat/High Sugar Diet Alters the Gastrointestinal Metabolome in a Sex Dependent Manner. Integrative Physiology of Exercise. 2018 ***Award winning**
24. Granados JZ, Ten Have GAM, **Letsinger AC**, Thaden JJ, Deutz EP, Lightfoot JT. Elevated Whole-Body Production of Citrulline & Arginine in High Active Mice: A NO-vel Finding. Integrative Physiology of Exercise. 2018
25. **Letsinger AC,** Thompson AR, Lightfoot JT. Alleles Associated with Voluntary Physical Activity are Predicted to be Older Than Anatomically Modern Humans. American College of Sports Medicine. 2018
26. Granados JZ, **Letsinger AC**, Vellers HL, Garcia VA, Velasco JD, Nagle CN, Perez LC, Spier M, Lambertz I, Fuchs-Young R, Lightfoot JT. Calorie Restriction Promotes Constant Physical Activity Levels Throughout Total Lifetime of Female Mice. American College of Sports Medicine. 2018
27. Stiegel KA, **Letsinger AC**, Grandos JZ, Cerda C, Lightfoot JT. Acute Exposure to a High-fat High-sugar Diet Alters Wheel Running Activity. American College of Sports Medicine. 2018
28. **Letsinger AC**, Granados JZ, Nagel C, Garcia VA, Velasco JD, Stiegel K, Nevares B, Lightfoot JT. Endogenous IGG In Western Blotting: Trash to Treasure?. Southeast Chapter of the American College of Sports Medicine. 2018
29. Granados JZ, Ten Have GA, **Letsinger AC**, Deutz NE, Lightfoot JT. Metabolic Differences in Amino Acid Plasma Concentrations in High- and Low-Active Mice. Southeast Chapter of the American College of Sports Medicine. 2018
30. Stiegel KA, **Letsinger AC,** Grandos JZ, Cerda C, Lightfoot JT. Acute Exposure to a High-fat High-sugar Diet Alters Wheel Running Activity. Southeast Chapter of the American College of Sports Medicine. 2018
31. **Letsinger AC,** Granados JZ, Vellers HL, Garcia VA, Velasco JD, Walker NR, Spier M, Lambertz I, Fuchs-Young R, Lightfoot JT. The Importance of Accurate Measurements in Voluntary Wheel Running in Mice. American College of Sports Medicine. 2017
32. Granados JZ, **Letsinger AC,** Vellers HL, Garcia VA, Velasco JD, Walker NR, Spier M, Lambertz I, Fuchs-Young R, Lightfoot JT. 712 dimethylbenz(a)anthracene DMBA & High Fat High Sugar Diet Decreased Physical Activity in Female Mice. American College of Sports Medicine. 2017
33. **Letsinger AC**, Granados JZ, Ten Have GAM, Deutz NEP, Lightfoot JT. Metabolic Differences in Essential Amino Acid Plasma Concentrations in High- and Low-Active Mice. Experimental Biology. 2017
34. Granados JZ, Ten Have GAM, **Letsinger AC**, Deutz NEP, Lightfoot JT. Metabolic Differences in Non-Essential Amino Acid Plasma Concentrations in High- and Low-Active Mice. Experimental Biology. 2017
35. Lambertz I, Spier M, **Letsinger AC**, Granados JZ, Lightfoot JT, Fuchs-Young R. Both Voluntary Wheel Running and Diet Affect Mammary Tumorigenesis. Endocrine Society. 2017
36. **Letsinger AC,** Vellers HL, Granados JZ, Walker NR, Spier ME, Lambertz I, Fuchs-Young R, Lightfoot JT. The Effect of a High Fat/high Sugar Diet And Physical Activity On Body Fat Percentage And Bone Mineral Density. American College of Sports Medicine. 2016
37. Vellers HL, Granados JZ, **Letzinger AC,** Walker NR, Spier ME, Lambertz I, Fuchs-Young R, Lightfoot JT. The Effect of a High Fat/High Sugar Diet on Physical Activity in Female Mice. American College of Sports Medicine. 2016
38. Granados JZ, Vellers HL, **Letsinger AC,** Walker NR, Spier ME, Lambertz I, Fuchs-Young R, Lightfoot JT. Effect of High Fat/High Sugar Diet & Physical Activity on Sex Hormone Concentrations. American College of Sports Medicine. 2016

C. Grants, Funding, & Awards

Ongoing Research Support - $1,770,654

2025 **$770,654 Funded**; Co-Principal Investigator (10%) – R01.
"Efficacy and mechanisms of exercise-enhanced fear extinction".
National Institute of Mental Health. National Institutes of Health, Bethesda, MD.
https://reporter.nih.gov/search/UfJ5ODrVdk6T1oqPIG2j8Q/project-details/11129421

2024 **$1,000,000 Funded (IS of 18)**; Principal Investigator – K99/R00 Transition to Independence Award.
"Endocannabinoid Reinforcement of Physical Activity".
National Institute of Drug Abuse. National Institutes of Health, Bethesda, MD.
https://reporter.nih.gov/search/X5dhfGJL3k6XtnTryrRUrw/project-details/11329260

Completed Research Support - $305,750+

2023 **$30,000 funded**; Principal Investigator – Center for Compulsive Behaviors Fellowship:
"Defining the Role of Dopamine and Acetylcholine in Physical Activity Reinforcement",
National Institutes of Health, Bethesda, MD
2023 **$200,000 funded**; Primary Mentor – NSF Graduate Research Fellowship Program:
"Glia-Related Protein Expression During Sleep", National Science Foundation, Alexandria, VA
2022 **$12,000 funded**; Principal Investigator – "Diet-Induced Reductions in Wheel Running of
Diversity Outbred Mice", The Jackson Laboratory, Bar Harbor, ME
2022 **$30,000 funded**; Principal Investigator – Center for Compulsive Behaviors Fellowship:
"Defining the Role of Dopamine in Physical Activity Reinforcement",
National Institutes of Health, Bethesda, MD
2021 **$30,000 funded**; Principal Investigator – Center for Compulsive Behaviors Fellowship:
"Defining the Role of Dopamine in Physical Activity Reinforcement", National
Institutes of Health, Bethesda, MD
2020 **Undisclosed amount funded**; Principal Investigator – "SARS-CoV-2 and Nicotine Interaction",
The Division of the National Toxicology Program, National Institutes of Health, Bethesda, MD
2019 **Undisclosed amount funded**; Fellow – The National Institute of
Environmental Health Science, Durham, NC
2018 **$500 Funded**; Principal Investigator – CEHD Graduate Scholar Award: "Microbiota as a
Modulator of Physical Activity Drive", Department of Health & Kinesiology, Texas A&M
University, College Station, TX
2018 **$250 Funded**; Principal Investigator – Student Abstract Award: "A High Fat/High Sugar Diet
Alters the Gastrointestinal Metabolome in a Sex Dependent Manner", Integrative Physiology of
Exercise Conference, American College of Sports Medicine
2017 **$500 Funded**; Principal Investigator – HLKN Research Support Grant: "AhR Regulation of
Physical Activity in Mice", Department of Health & Kinesiology, Texas A&M University,
College Station, TX
2017 **$500 Funded**; Principal Investigator – CEHD Research Scholar Award "AhR Regulation of
Physical Activity in Mice", College of Education & Human Development,
Texas A&M University, TX
2016 **$1,500 Funded**; Principal Investigator – HLKN Research Support Grant: "Adequacy of Squat
Resistance Training in C57 Mice", Department of Health & Kinesiology, Texas A&M
University, College Station, TX
2016 **$500 Funded**; Principal Investigator – Research Scholar Award: "Adequacy of Squat
Resistance Training in Mice", College of Education & Human Development,
Texas A&M University, TX

Unfunded Grants Applications

2026 $100,000 in equipment loan not funded; Principle Investigator – Brain Body Connect Seed Grant:
"Using fNIRS to Examine the Relationship of Motivation and Prefrontal Cortex Oxygenation
During Graded Exercise"

2025 $200,000 not funded; Principal Investigator – Brain Research Foundation Seed Grant; "
"Circulating Factors in Exercise-Induced Pleasure"

2023 $1,000,000 not funded; Principal Investigator – K99/R00 Transition to Independence Award;
"Endocannabinoids as a Regulator of Physical Activity"

2021 Conference Travel not funded; Principal Investigator – Fellows Award for Research Excellence Award: "A Global Knockout of alpha7 Nicotinic Acetylcholine Receptors in Mice Affect Neurogenesis and Episodic Memory in an Age and Sex Dependent Manner", National Institutes of Health, Bethesda, MD

2020 $200,000 not funded; Principal Investigator – Intramural Targeted Anti-COVID-19 Awards:
"SARS-CoV-2 and Nicotine Interaction", National Institutes of Health, Bethesda, MD

2020 $30,000 not funded; Principal Investigator – Center for Compulsive Behaviors Fellowship:
"Using Physical Activity to Redirect Nicotine Addiction", National Institutes of Health, Bethesda, MD

2020 Conference Travel not funded; Principal Investigator – Fellows Award for Research Excellence Award: "Knockout of alpha7 Nicotinic Acetylcholine Receptors Impairs Neurogenesis Within the Dentate Gyrus and Relevant Memory of Male but Not Females Mice", National Institutes of Health, Bethesda, MD

D. Miscellaneous Publications

2022 **Letsinger AC**. "Spring Triangle Transmitter". Triangle Chapter of the Society for Neuroscience

2021 **Letsinger AC** & Bernstein B. "Fall Triangle Transmitter". Triangle Chapter of the Society for Neuroscience

2019 Lightfoot JT, **Letsinger AC**, Granados JZ. "Chapter 8: The Evolution of Genetic Mechanisms Controlling Physical Activity". The Routledge Handbook of Exercise & Sports Systems Genetics Routledge Publishing Cambridge, UK

2019 SHI-Aging Committee. "Science Spotlight: Strategic Health Initiative–Aging Completes Content Inventory". American College of Sports Medicine Website

2018 **Letsinger AC**. "Metabolic Flexibility in Health & Disease: A Symposium Summary". American College of Sports Medicine Website

E. Media Coverage

2023 Anindita Ray. "Postdoc Profile: Going the Extra Mile". NIH's I Am Intramural Blog. https://irp.nih.gov/blog/post/2023/01/postdoc-profile-going-the-extra-mile

2019 College of Health & Education. "The Drive to Be Physically Active Can be a Gut Decision" https://www.youtube.com/watch?v=_Brtm4GsTrY&t=57s

2019 Gretchen Reynolds. "To Move Is to Thrive It's in Our Genes". The New York Times. https://www.nytimes.com/2019/05/15/well/move/to-move-is-to-thrive-its-in-our-genes.html

F. Invited Talks

2026 **"Why We Move: Neurobiological Insights into Exercise Motivation"**, Invited Scientific Talk, Texas Chapter of the American College of Sports Medicine, Waco, TX, In Person

2026 **"Physical Activity Motivation"**, Invited Lecture for Biomechanics and Neural Rehabilitation Graduate Student Seminar, The University of Texas at Austin, In Person

2026 **"Time Management for Graduate Students"**, Invited Lecture for Exercise Science Graduate Student Seminar, The University of Texas at Austin, In Person.

2025 "**Exercise Reward & Motivation",** Guest Lecture for PSY332M Neuroscience of Motivation and Reward, The University of Texas at Austin, In Person.

2024 **"Chasing the Runner's High: The Neurobiology of Physical Activity Motivation"**, McCraw Lecture Series, College of Education, The University of Texas, Austin, TX, In Person

2023 "**The Neurobiology of Physical Activity Motivation**", American College of Sports Medicine Around the Field Seminar Series

2023 "**Why We Move: Unraveling Physical Activity Motivation with a Diverse Mouse Model**", NIEHS Comparative Medicine Branch – a lay seminar for the NIEHS' licensed veterinarian and animal husbandry technologists, Hybrid

2023 "**Physical Activity & Nutritional Status: Can Diversity Outbred Mice Help Disentangle the Relationship?** GenBioPAC - An international scientific consortium dedicated to understanding the Genetic and Biological factors regulating Physical Activity, Virtual

2023 "**ChatGPT & Me: Large Language Models in Modern Research**", Center for Compulsory Behavior, National Institutes of Health, Bethesda, MD, Virtual

2023 "**The Molecules That Move Us**", Neurobiology Seminar Series, National Institutes of Environmental Health Science, Durham, NC, Hybrid

2022 "**Measuring Neurotransmitters in the Running Mouse**", Best Presentation, Small Talk Big Impact Competition, National Institutes of Environmental Health Science, National Institutes of Health, Durham, NC, Virtual

2022 "**A Hippocampal Circuit for Physical Activity**", Neurobiology Seminar Series, National Institutes of Environmental Health Science, Durham, NC, Virtual

2021 "**Moving in the Right Way**", Scholar Connect Program, National Institutes of Environmental Health Science, National Institutes of Health, Durham, NC, Virtual

2021 **"Belief in the Law of Small Numbers"**, Center for Compulsory Behavior, National Institutes of Health, Bethesda, MD, Virtual

2021 "**Defining limbic dopamine transmission during wheel running**", 5 Min Presentation, Center for Compulsory Behavior, National Institutes of Health, Bethesda, MD, Virtual

2021 "**Shedding Light on Exercise Hedonics**", Neurobiology Seminar Series, National Institutes of Environmental Health Science, National Institutes of Health, Durham, NC, Virtual

2019 "**The Evolution & Regulation of Physical Activity Levels**", Dissertation Defense, Texas A&M University, TX

2019 "**Is Voluntary Physical Activity Really Voluntary?**", Job Talk, Laboratory of Neurogenetics National Institute on Aging, National Institutes of Health, Bethesda, MD

2019 "**Is Voluntary Physical Activity Really Voluntary?**", Job Talk, Laboratory of Neurobiology, National Institute of Environmental Health Sciences, National Institutes of Health, Durham, NC

2019 "**Is Voluntary Physical Activity Really Voluntary?**", HLKN Graduate Seminar, Texas A&M University, TX

2019 "**The Microbiome as a Regulator of Physical Activity Drive**", Kinesiology Student Association Seminar, Texas A&M University, TX

2018 "**The Gut Metabolome as a Regulator of Physical Activity Drive**", Kinesiology Student Association Seminar, Texas A&M University, TX

2017 "**Planning for an Unknowable Future**", Aggie Fish Club, a Freshmen Leadership Organization, Texas A&M University, TX

2016 "**Planning for an Unknowable Future**", Aggie Gateway Project, Aggie Fish Club, a Freshmen Leadership Organization, Texas A&M University, TX
- a motivational talk for high school students deciding on career options

2016 "**Planning for an Unknowable Future**", Aggie Fish Club, a Freshmen Leadership Organization, Texas A&M University, TX

2015 "**Planning for an Unknowable Future**", Aggie Fish Club, a Freshmen Leadership Organization, Texas A&M University, TX

G. Academic Workshops Attended

2024 "**Translational Science Training Program**" – Office of Intramural Training and Education, National Institutes of Health, Durham, NC
-Selected through a competitive application process
-2 day workshop

2023 "**Psychological Safety in the Workplace**" – National Institute of Environmental Health Sciences, Durham, NC

-1 day workshop

2023 "**Grant Writing**" – North Carolina State University, NC
-Shadowed 3 credit academic graduate course including a mock grant review process

2022 "**The Business of Science for Scientists: Core Professional Skills that Make you Competitive for a Professional Career**" – SciPhD Online Certificate Program
-3 day long workshop

2021 "**Fellows' Scientist Grant Peer Review Board**" – National Institute of Environmental Health Sciences, Durham, NC
-5 month long, weekly workshop among postdocs to help write K99 awards

2021 "**Mastering the 5 minute presentation**" – National Institutes of Health, Bethesda, MD
-One on one help across 5 practice talks

2021 "**Perspectives on Writing Successful K99 Grants**" – National Institute of Environmental Health Sciences, Durham, NC
-1 day workshop

2021 "**Mentorship Workshop**" – National Institute of Environmental Health Sciences, Durham, NC
-8 session course built on becoming a better academic mentor with an emphasis on diversity

2021 "**Teaching in Academia Workshop**" – National Institute of Environmental Health Sciences, Durham, NC
-20 session course built on creating a better academic learning environment with an emphasis on diversity

2021 "**Write Winning NIH Grant Proposals**" – National Institute of Environmental Health Sciences, Durham, NC
-2 session course

2020 "**Nuts and Bolts of Applying for a K99/R00**" – National Institute of Environmental Health Sciences, Durham, NC
-1 day workshop

2019 "**External Research Fund Development**" – Texas A&M University, TX
-3 credit academic graduate course including a mock grant review process

2018 "**Isotope Tracer Course**" – Texas A&M University, TX
-3 day workshop to learn non-radioactive isotope tracer methodology

2018 "**Professional and Career Development in Health and Kinesiology**" – Texas A&M University, TX
-3 credit academic course including job application creation and job talk practice