Curriculum Vitae

Marcell D. Cadney, Ph.D.
(562) 241 – 2357
marcellcadney.com
mcadney@gmail.com

CURRENT POSITION

University of California, Santa Barbara (UCSB) — Santa Barbara, CA
UC President's Postdoctoral Fellow (PPFP)
Mentor: Dr. Soojin Yi
Neuroscience Research Institute — Feb. 2022 – Present

EDUCATION

University of California, Riverside (UCR) — Riverside, CA
Ph.D. in Evolution, Ecology, and Organismal Biology — 2015 – 2021
Los Angeles Natural History Museum — Los Angeles, CA
Herpetology Phylogenetics Internship — 2014
California State University, Long Beach (CSULB) — Long Beach, CA
B.Sc. in General Biology (minor in Chemistry) — 2008 – 2013

GRANTS AND AWARDS

Graduate Research Fellowship Program (GRFP) — 2016 – 2021
National Science Foundation
Eugene Cota Robles Award (ECRA) — 2015 – 2016
UCR Fellowship

SKILLS / RESEARCH EXPERIENCE

University of California, Santa Barbara — Feb. 2022 – Present
Postdoctoral Researcher
Exploration of the epigenetics of the high-runner mouse model:

- High-throughput (Linux cluster) analysis of RRBS and WGBS epigenetic data
- DNA and RNA extraction
- Single-cell isolation
- Gel electrophoresis, spectrophotometry, and fluorometry QC

University of California, Riverside — 2015 – 2021
Graduate Researcher; Advisor: Theodore Garland Jr
Selection experiment and whole-body performance of house mouse bred for voluntary wheel-running:

- Statistical modeling (R, Python, SAS, SPSS)
- Measured maximal aerobic capacity (VO_2max) via open-system respirometry
- Ran ELISA kits for various hormones, such as corticosterone and leptin
- Measured body fat composition (via MRI) and blood lipid profile
- Conducted various experiments involving animal behavior
- Misc.: Drupal, Office 365 Suite, 3D Modeling (Blender), Courses for Online Instruction

California State University, Long Beach — 2010 – 2013

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Undergraduate Research Project with Dr. Ashley J. Carter
"A Comparative Analysis of Brain Size in Relation to Local Temperatures"

TEACHING EXPERIENCE

University of California, Riverside 2017 – 2021
Teaching Assistant, Honors 3rd Year (Remote)
HNPG 150 Winter 2021
Teaching Assistant, Evolution (Remote)
BIOL 105 Summer 2020
Teaching Assistant, Introduction to Organismal Biology
BIOL 005B Spring 2018
Teaching Assistant, Introductory Evolution & Ecology
BIOL 005C Winter 2018
Teaching Assistant, Evolution
BIOL 105 Fall 2017

CONFERENCE PRESENTATIONS

Long-lasting effects of early fructose diet on adult activity — Phoenix, AZ
Society of Integrative and Comparative Biology — January 2022

Symposium: Evolutionary physiology of locomotor behavior — Remote Meeting
Invited speaker at Experimental Biology — April 2021

Early post-natal maternal effects on voluntary physical activity — Remote Meeting
Society of Integrative and Comparative Biology — February 2021

Early-life effects of a high-fructose diet on adult physical activity — San Francisco, CA
Society of Integrative and Comparative Biology — January 2018

Early-life effects of diet and exercise on adult physical activity — Phoenix, AZ
Exercise: American Physiological Society — November 2016

PUBLICATIONS

In review:

Latchney, S. E., **M. D. Cadney**, A. Hopkins, and T. Garland Jr. 2022. Next-generation bisulfite sequencing analysis of imprinted genes in the cortex and hippocampus of cross-fostered mice selectively bred for increased voluntary wheel running. *Behavior Genetics*. In Review

Cadney, M. D., R. L. de Albuquerque, N. E. Schwartz, M. P. McNamara, M. P. Schmill, A. A. Castro, D. A. Hillis, and T. Garland Jr. 2022. Effects of early-life exposure to fructose and voluntary exercise on adult activity levels, body composition, exercise physiology, and associated traits in mice. Journal of Developmental Origins of Health and Disease.

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Published:

McNamara, M. P., **M. D. Cadney**, A. A. Castro, D. A. Hillis, K. M. Kallini, J. C. Macbeth, M. P. Schmill, N. E. Schwartz, A. Hsiao, and T. Garland Jr. 2022. Oral antibiotics reduce voluntary exercise behavior in athletic mice. Behavioural Processes 199:104650. PDF

Cadney, M. D., L. Hiramatsu, Z. Thompson, M. Zhao, J. C. Kay, J. M. Singleton, R. L. de Albuquerque, M. P. Schmill, W. Saltzman, and T. Garland Jr. 2021. Effects of early-life exposure to Western diet and voluntary exercise on adult activity levels, exercise physiology, and associated traits in selectively bred High Runner mice. Physiology & Behavior 234:113389. PDF

Cadney, M. D., N. E. Schwartz, M. P. McNamara, M. P. Schmill, A. A. Castro, D. A. Hillis, and T. Garland Jr. 2021. Cross-fostering selectively bred high runner mice affects adult body mass but not voluntary exercise. Physiology & Behavior 241:113569. PDF

McNamara, M. P., J. M. Singleton, **M. D. Cadney**, P. M. Ruegger, J. Borneman, and T. Garland, Jr. 2021. Early-life effects of juvenile Western diet and exercise on adult gut microbiome composition in mice. Journal of Experimental Biology 224:jeb239699. PDF

Schmill, M. P., **M. D. Cadney**, Z. Thompson, L. Hiramatsu, R. L. Albuquerque, M. P. McNamara, A. A. Castro, J. C. Kay, D. G. Buenaventura, J. L. Ramirez, J. S. Rhodes, and T. Garland, Jr. 2021. Conditioned place preference for cocaine and methylphenidate in female mice from lines selectively bred for high voluntary wheel-running behavior. Genes, Brain and Behavior 20(2):e12700. PDF

Garland, Jr., T., **M. D. Cadney**, and R. A. Waterland. 2017. Early-life effects on adult physical activity: concepts, relevance, and experimental approaches. Physiological and Biochemical Zoology 90:1–14. PDF