

Ryan A. Milstead

Education

University of Colorado, Boulder **Dates attended: Aug. 2015 – July 2021**
 PhD student and teaching assistant majoring in Integrative Physiology. Graduate research in molecular and physiological neuroscience. Additional training in demography and genetics.

University of Tennessee, Knoxville **Dates attended: Aug. 2011 – Dec. 2014**
 Chancellor's Honors Scholar majoring in Biochemistry & Cellular and Molecular Biology. Undergraduate research in genetics and neuroscience.

Lab & Teaching Experience

Linda Crnic Institute for Down Syndrome **March 2023 – Present**
 Postdoctoral associate working with Drs. Mary Allen, Charles Hoeffler, and Christopher Link on Down Syndrome, Alzheimer's, sleep, and inflammation.

Neurodegenerative Diseases Lab **Jan. 2022 – March 2023**
 Postdoctoral researcher working with Dr. Christopher Link on dsRNA expression and neuroinflammation using mouse models and human brain tissue.

Demography and Genetics NIA T32 Trainee **Aug. 2018 – Aug. 2021**
 Predoctoral trainee working on the intersection of demography and traditional statistical genetics research using large human samples.

Molecular Signaling of Neurological Disorders Lab **Aug. 2015 – July 2021**
 Graduate student for Dr. Charles Hoeffler – Molecular regulation of neuronal and astrocytic function during neurodegeneration using mice.

Physiology Lab **Aug. 2015 – May 2018**
 Graduate instructor responsible for leading undergraduates in designing and carrying out experiments using themselves as subjects.

Neuroscience Lab **Jan. 2014 – Dec. 2014**
 Undergraduate Research Assistant for Dr. Jim Hall – Live animal auditory processing research using fiddler crabs and hamsters.

Plant Pathology and Entomology Lab **Aug. 2011 – Dec. 2013**
 Undergraduate Research Assistant for Dr. Robert Trigiano – Genetic and molecular biology research with federally endangered species.

Publications

Milstead R, Link C., Zuoshang X, Hoeffler C. "TDP-43 Knockdown in Mouse Model of ALS leads to dsRNA deposition, gliosis, and neurodegeneration in the spinal cord." (2022) *Cerebral Cortex*, accepted for publication

Wong H, Buck J, Borski C, Pafford J, Keller B, **Milstead R**, Hanson J, Stitzel J, Hoeffler C. "RCAN1 knockout and overexpression recapitulate an ensemble of rest-activity and circadian disruptions characteristic of Down syndrome, Alzheimer's disease, and normative aging." (2022) *Journal of Neurodevelopmental Disorder*, 14, Article number: 33

Levenga J, Wong H, **Milstead R**, LaPlante L, Hoeffler C. "Immunohistological examination of AKT isoforms in the brain: cell-type specificity that may underlie AKT's role in complex brain disorders and neurological disease." (2021) *Cerebral Cortex Communications*, Vol 2, Issue 2, 2021, tgab036

Wong H, Levenga J, LaPlante L, Keller B, Cooper-Sansone A, Borski C, **Milstead R**, Ehringer M, Hoeffler C. "Isoform-specific roles for AKT in affective behavior,

spatial memory, and extinction related to psychiatric disorders.” (2020) *eLife* 2020;9:e56630

Levenga J, Wong H, **Milstead R**, Keller B, and Laplante L. “AKT isoforms have distinct hippocampal expression and roles in synaptic plasticity.” (2017) *eLife* 2017;6:e30640

Wadl PA, Rinehart TA, Dattilo AJ, Pistrang M, Vito LM, **Milstead R**, Trigliano RN. “Propagation for the Conservation of *Pityopsis ruthii*, an Endangered Species from the Southeastern United States.” (2014) *HortScience* 49(2): 194-200

Presentations And Conferences

Milstead R, Hanson J, Cain P, Wong H, Borski C, Cooper-Sansone A, LaPlante L, Levenga J, Kastengren K, Opp M, Hoeffler C. “Sleep Abnormalities in Down Syndrome and Alzheimer’s Disease.” Crnic Institute Down Syndrome Research Symposium, 09/05/23, Aurora, Colorado. Poster presentation.

Milstead R (2023). “Exploring mechanisms underlying sleep disruption in Down Syndrome.” Crnic Institute Down Syndrome Research Symposium, 09/05/2023, Aurora, Colorado. Research talk with slides.

Attended 2023 Short Read Sequencing Workshop, 07/24-08/04 2023 Boulder, Colorado

Milstead R, Link C, Xu Z, Hoeffler C. “TDP-43 Knockdown in Mouse model of ALS leads to dsRNA deposition, gliosis, and neurodegeneration in the spinal cord.” Society for Neuroscience, 11/12-11/16 2022, San Diego, California. Poster Presentation

Attended 2020 Integrating Genetics and Social Sciences Conference, 09/24/2020, Boulder Colorado (virtual)

Milstead R, Hoeffler C, Link C (2020). “TDP-43 Genetic Knockdown Leads to Signs of ALS and FTD Pathology and Accumulation of Double-Stranded RNA.” IBG Poster Day, 08/28/2020, Boulder Colorado. Poster Presentation (virtual)

Attended 2020 IBG International Statistical Genetics Workshop, 03/02-03/06 2020, Boulder Colorado

Milstead R, Wong H, Levenga J, Hoeffler C (2019). “Immunohistological examination of AKT isoforms in the brain.” Society for Neuroscience, 10/19-10/23 2019, Chicago Illinois. Poster Presentation.

Attended 2019 Integrating Genetics and Social Sciences Conference, 10/03-10/04 2019, Boulder Colorado.

Selected to attend Genomics for Social Scientists Training Workshop, 06/17-06/21 2019, Ann Arbor Michigan.

Milstead R, Vinneau J, Huibregtse B, Laidley T, Boardman J. “Diabetes and Cognition in Late Adulthood.” IBG Mini Conference, 05/28 2019, Boulder Colorado. Research talk with slides.

Attended 2019 Population Association of America Conference, 04/10-04/13 2019, Austin Texas.

Attended 2019 IBG International Statistical Genetics Workshop, 03/04-03/08 2019, Boulder Colorado.

Attended 2018 Integrating Genetics and Social Sciences Conference, 10/11-10/12 2018, Boulder Colorado.

Milstead R, Levenga J, Wong H, Hoeffler C (2018). "Role of AKT Isoforms in Reactive Astroglia." Society for Neuroscience, 09/23-09/27 2018, San Diego California. Poster Presentation.

Milstead R, Peterson D, Hoeffler C (2018). "Nicotine Consumption in Drinking Water Promotes Reactive Astroglia in the Mouse Hippocampus." IBG Poster Day, 08/24/2018, Boulder Colorado. Poster Presentation.

Funding

NIA T32 AG052371 – Specialized Training at the Intersection of Demography and Genetics, 09/01/18-08/31/21