
600 Main Street, Bar Harbor, ME USA
Telephone: (207) 288-1516
Kristen.Onos@jax.org
www.linkedin.com/in/kristenonos

Education

University of New Hampshire, Durham, NH 2010 – 2013
Ph.D. Brain, Behavior and Cognition
Response properties of prefrontal cortical neurons in rats performing a spatial delayed non-matching to position task

University of New Hampshire, Durham, NH 2008 – 2010
M.A., Psychology
Cholinergic modulation of the reuniens and rhomboid nuclei in the rat

University of Southern Maine, Portland, ME 2004 – 2008
B.A. major Psychology, minor Business Administration
summa cum laude

Wroxton College, Oxfordshire, England January 2007
Humanities Course

University of Hawaii, Hilo, HI Spring 2006
National Student Exchange Participant

Research Experience

Postdoctoral Associate, The Jackson Laboratory October 2016 – Present
Bar Harbor, ME
Dr. Stacey Sukoff Rizzo
MODEL-AD, Preclinical Testing Core

Postdoctoral Associate, The Jackson Laboratory March 2014 – Present
Bar Harbor, ME
Dr. Gareth Howell, Genetics and Genomics

Graduate Student Researcher, UNH August 2008 – December 2013
Dr. Robert Mair, Behavioral Neuroscience

Animal Care Technician, UNH August 2010 – December 2013
Dr. Dean Elder, Animal Resource Office

Student Field Assistant, USM January 2008 – May 2008
Dr. Christine Maher, Behavioral Ecology

Undergraduate Student Researcher, USM November 2006 – May 2008
Dr. Vincent Markowski, Toxicology and Behavior

Publications

Onos, K.D., Keezer, K.J., Jackson, H.M., Preuss, C., Acklin, C.J., O'Rourke, R., Cossette, T.L., Carter, G.W., Sukoff Rizzo, S.J., Soto, I. and Howell, G.R. CAST/EiJ and WSB/EiJ mice show modified myeloid cell responses compared to C57BL/6J and develop amyloid-induced neurodegeneration. *Under Review at eLife*.

Tagge, C.A., Fisher, A.M., Minaeva, O.V., Gandreau-Balderrama, A., Moncaster, J.A., Zhang, X.L., Wojnarowicz, M.W., Casey, N., Lu, H., Kokiko-Cochran, V., Saman, S., Ericsson, M., **Onos, K.D.**,...McKee, A.C and Goldstein, L.E. (2018). Concussion, Microvascular Injury, and Phosphorylated Tauopathy in Young Athletes after Impact Head Injury and an Impact Concussion Mouse Model. *Brain*, 0, 1-37.

Soto, I., Grabowska, W.A., **Onos, K.D.**, Graham, L.C., Jackson, H.M., Simeone, S.N., and Howell, G.R. (2016). *Meox2* haploinsufficiency increases neuronal cell loss in a mouse model of Alzheimer's disease. *Neurobiology of Aging*, 42, 50-60.

Onos, K.D.*, Francoeur, MJ*, Wormwood, BA, Miller, RLA, Gibson, BM, and Mair, RG. (2016). Prefrontal neurons encode actions and outcomes in conjunction with spatial location in rats performing a dynamic delayed non-match to position task. *PLoS One*, 11(2).

Onos, K.D., Sukoff Rizzo, S.J. Howell, G.R. and Sasner, M. (2015). Towards standardized and reproducible mouse models for Alzheimer's disease. *Brain Research Bulletin*, 122, 1-11.

Jackson, H.M., **Onos, K.D.**, Pepper, K.W., Graham, L.C., Akeson, E.C., Byers, C., Reinholdt, L.G., Frankel, W.N. and Howell, G.R. (2015). DBA/2J genetic background exacerbates spontaneous lethal seizures but lessens amyloid deposition in a mouse model of Alzheimer's disease. *PLoS One*, 10(5).

Mair, R.G., Miller, R.L., Wormwood, B.A., Francoeur, M.J., **Onos, K.D.**, and Gibson, B.M. (2015). The neurobiology of thalamic amnesia: Contributions of the medial thalamus and prefrontal cortex to delayed conditional discrimination. *Neuroscience Biobehavioral Reviews*, 54, 161-74.

Markowski, V.P., Reeve, E.A., **Onos, K.D.**, Assadollahzadeh, M. and McKay, N. (2012). Effects of prenatal arsenic exposure on motor and food-motivated behaviors from birth to adulthood in C57BL6/J mice. *Neurotoxicology & Teratology*, 34(2), 221-231.

Hembrook, J.R., **Onos, K.D.** and Mair, R.G. (2012). Inactivation of ventral midline thalamus produces a selective impairment of spatial delayed conditional discrimination in the rat. *Hippocampus*, 22(3), 853-860.

Mair, R.G., **Onos, K.D.** and Hembrook, J.R. (2011). Cognitive activation by central thalamic stimulation: The Yerkes-Dodson Law Revisited. *Dose Response*, 9(3), 313-331.

Rice, D.C., Thompson, W.D., Reeve, E.A., **Onos, K.D.**, Assadollahzadeh, M. and Markowski, V.P. (2009). Behavioral Changes in Aging but not Young Mice Following Neonatal Exposure to the Polybrominated Flame Retardant Deca BDE. *Environmental Health Perspectives*, 117(12), 1903-1911.

Teaching Experience

Instructor, Principles and Techniques in Mouse Behavioral Phenotyping and Pharmacology
October 2017

Invited Presenter, Education Conference for the Maine Alzheimer's Association
November 2016

Co-organizer, Society for Neuroscience Maine Chapter Meeting
October 2016

Invited Presenter, JAX Visitor Program "Life and Science of a Postdoc at The Jackson Laboratory"
August 2016

Invited Presenter, Aging Course, MDI Biological Laboratory
June 2016

Instructor, Teaching the Genome Generation, The Maine School of Science and Mathematics
January 2016

Journal Club Mentor, JAX Summer Student Program
Summer 2015, 2016 & 2017

Primary Instructor of Record, Introduction to Psychology and Psychobiology, UNH
August 2010 – February 2014

Teaching Assistant, Psychobiology, Drugs and Behavior, Brain and Behavior, SPSS
August 2008 – May 2010

Mentees:

Bansri Patel, JAX Summer Student
Current Position: Undergraduate student at the University of Pittsburgh

Miranda Francoeur, UNH
Current Position: Graduate Student at the University of New Hampshire

Sharon Stevens, UNH
Current Position: Graduate Student, Baylor University

Elyssa Barrick, UNH
Current Position: Clinical Research Assistant, McLean Hospital

Fellowships and Awards

Maine Alford Leader, The Alford Foundation
July 2017

Best Postdoc Poster Presentation, JAX Scientific Symposium
May 2017

Travel Award, International Behavioural and Neural Genetics Society
May 2017

Nathan Shock Center of Excellence Project Pilot Award, NIA
*Investigating the complex interactions between APOE and TREM2,
the major genetic risk factors for Alzheimer's disease*
September 2016

T32 Developmental Genetics Award, NICHD
Understanding cell-specific role of Bin1 in development, aging and Alzheimer's disease
March 2014

Travel Award, Society for Neuroscience NH Chapter
November 2013

Outstanding Senior – Academic Achievement, USM
May 2008

Summer Undergraduate Research Fellowship, USM
*Ethanol metabolism in prenatal arsenic exposed adolescents as
evidenced using behavioral measures*
May 2007

Professional Memberships

American Association for the Advancement of Science Member
International Behavioural and Neural Genetics Society Member
JAX Postdoc Association Treasurer
National Postdoc Association
American Association of University Women
Association for Women in Science
Society for Neuroscience
PSI CHI International Honor Society in Psychology

Conferences

Onos, K.D., Keezer, K.J., Jackson, H.M., Preuss, C., Acklin, C.J., O'Rourke, Rita, Buchanan, R.,
Cossette, T.L., Carter, G., Sukoff Rizzo, S.J., Soto, I. and Howell, G.R. (2017). *Wild-derived genetic
context significantly modulates neuroinflammation and amyloid pathology*. Maine Chapter for Society for
Neuroscience Meeting.

Territo, P.R., Sukoff Rizzo, S.J., **Onos, K.D.**, Meyer, J.A., Peters, J., Persohn, S., Mccarthy, B., Riley, A.,
Quinney, S., Jones, D., Sasner, M., Howell, G.R., Williams, H., Oblak, A. and Lamb, B.T. (2017).
*Preclinical drug screening in new generation Alzheimer's disease mouse models: The MODEL-AD
Consortium Strategy*. Society for Neuroscience, 47th annual meeting.

Oblak, A., Carter, G., Howell, G.R., Logsdon, B., Mangravite, L., Nho, K., Omberg, L., **Onos, K.D.**, Philip, V., Preuss, C., Sukoff Rizzo, S.J., Sasner, M., Shen, L., Saykin, J., Territo, P., Uyar, A., Williams, H. and Lamb, B.T. (2017). *MODEL-AD: Genetic models of late-onset Alzheimer's disease*. Society for Neuroscience, 47th annual meeting.

Sukoff Rizzo, S.J. and **Onos, K.D.** (2017). *Lack of generalization of strain and sex across behaviors – Data from the founder strains of the collaborative cross and diversity outbred mouse populations*. International Behavioral Neuroscience Society, 26th annual meeting.

Onos, K.D., Keezer, K.J., Acklin, C.A., Jackson, H.M., Cossette, T.L., O'Rourke, R., Sukoff Rizzo, S.J., and Howell, G.R. (2017). *Genetic background is a significant driver of Alzheimer's disease associated phenotypes*. International Behavioral Neuroscience Society, 26th annual meeting.

Onos, K.D., Keezer, K.J., Acklin, C.A., Jackson, H.M., Cossette, T.L., O'Rourke, R., Sukoff Rizzo, S.J., and Howell, G.R. (2017). *Connecting genes to behavior in Alzheimer's disease – utilizing mouse genetic diversity*. International Behavioural and Neural Genetics Society, 19th annual meeting.

Onos, K.D., Keezer, K.J., Acklin, C.A., Jackson, H.M., Sukoff Rizzo, S.J., Sasner, M., Chesler, E.J., Lamb, B.T., Carter, G.W. and Howell, G.R. (2016). *Identifying genetic modifiers of Alzheimer's disease-relevant phenotypes*. Society for Neuroscience 46th annual meeting.

Onos, K.D., Graham, L.C., Acklin, C.J., Wang, X., Carter, G.W. and Howell, G.R. (2015) *Haploinsufficiency of bridging integrator 1 (Bin1) causes abnormalities in the developing mouse brain*. Society for Neuroscience, 45th annual meeting.

Howell, G.R. **Onos, K.**, Graham, L., Simeone, S. and Soto, I. (2014). *Lifestyle choices to protect the aging brain- preserving Apoe expression and reversing neurovascular decline*. Society for Neuroscience, 44th annual meeting.

Francoeur, M.J., **Onos, K.D.**, Wormwood, B.A., Miller, R.L.A., Ellis, C.R., Chase, D.C., Cole, H.A., Gibson, B.M. and Mair, R.G. (2014). *Complex encoding of information about actions and context in rat prefrontal cortex*. Society for Neuroscience, 44th annual meeting.

Miller, R.L. **Onos, K.D.**, Francoeur, M.J., Wormwood, B.A., Smedley, E.B., Theriault, C.J., Ryder, E.E., Gibson, B.M., and Mair, R.G. (2014). *Encoding of information about action and context by medial thalamus in the rat: Comparisons to prefrontal cortex*. Society for Neuroscience, 44th Annual Meeting.

Wormwood, B.A., Francoeur, M.J., **Onos, K.D.**, Miller, R.L.A., Lehet, C.R., Brasley, E.K., Manzo, L.E., Gibson, B.M. and Mair, R.G. (2014). *Encoding information about actions and context in the rat prefrontal cortex: Effects of thalamic inactivation*. Society for Neuroscience, 44th Annual Meeting.

Graham, L.C., Jackson, H.M., **Onos, K.D.**, John, S.W. and Howell, G.R. (2014). *The impact of western diet on glial response in obesity-induced cognitive decline and Alzheimer's disease*. Glial in Health & Disease, CSHL 5th Annual Meeting.

Onos, K.D., Wormwood, B.A., Miller, R.L.A, Francoeur, M.J., Hebert, E.F., Blake, A.W., Gibson, B.M. and Mair, R.G. (2013). *Memory coding properties of prefrontal cortical neurons in the rat*. Society for Neuroscience, 43rd Annual Meeting.

Miller, R.L.A, Bates, C.J., **Onos, K.D.**, Wormwood, B.A., Franceur, M.J., Gibson, B.M. and Mair, R.G. (2013). *Memory coding properties of central thalamic neurons: relationship to prefrontal neuronal coding*. Society for Neuroscience, 43rd Annual Meeting.

Onos, K.D., Stevens, S.R., Wormwood, B.A., and Mair, R.G. (2012). *General anesthesia is reversed by electrical stimulation of midbrain and thalamus*. Society for Neuroscience, 42nd Annual Meeting.

Onos, K.D., Hembrook, J.R., Wormwood, B.A., Stevens, S.R. and Mair, R.G. (2011). *Brief electrical stimulation of ventral midline thalamus reverses the effects of general anesthesia on the right reflex in the rat*. Society for Neuroscience, 41st Annual Meeting.

Hembrook, J.R., **Onos, K.D.**, Wormwood, B.A., Dennison, S.W., Cripps, A.C. and Mair, R.G. (2011). *Temporal dynamics of spatial working memory: Effects of event-related deep brain stimulation of ventral midline thalamus in rats*. Society for Neuroscience, 41st Annual Meeting.

Wormwood, B.A., Hembrook, J.R., **Onos, K.D.**, Barrick, E.M., Blake, A.W. and Mair, R.G. (2011). *Localized effects of lesions to reuniens and rhomboid nuclei on working memory in the rat*. Society for Neuroscience, 41st Annual Meeting.

Onos, K.D., Hembrook, J.R., Heitzman, E.E., Barrick, E.M. and Mair, R.G. (2010). *Influence of ventral midline thalamus on spatial working memory*. Society for Neuroscience, 40th Annual Meeting.

Hembrook, J.R., **Onos, K.D.**, Curran, G.P., Cripps, A.L. and Mair, R.G. (2010). *Distinct effects of reuniens and rhomboid thalamic nuclei on spatial working memory in the rat*. Society for Neuroscience, 40th Annual Meeting.

Hembrook, J.R., **Onos, K.D.**, DeOgburn, D.S., and Mair, R.G. (2009). *Reversible inactivation of midline thalamus disrupts rats in an operant DNMT task*. Society for Neuroscience, 39th Annual Meeting.

Onos, K.D., Wrocklage, J.W., Hembrook, J.R., and Mair, R.G. (2009). *Reversible inactivation of reuniens and rhomboid thalamic nuclei impairs radial maze measurement of spatial working memory*. Society for Neuroscience, 39th Annual Meeting.

Onos, K.D., Kenny, E.R., Rice, D.C., and Markowski, V.P. (2007). *Long-term Learning deficits following developmental exposure to the flame retardant decaBDE*. Behavioral Toxicology Society, 26th Annual Meeting.