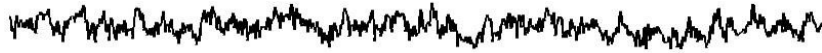


Dr. Michael Dash

281 McCardell Bicentennial Hall, 276 Bicentennial Way, Middlebury, VT
(802) 443-5823 • mdash@middlebury.edu



Professional Experience



Assistant Professor of Psychology

Middlebury College (July, 2014 – Present)

Postdoctoral Research Associate (Drs. Paul Gold and Donna Korol)

University of Illinois – Urbana-Champaign and Syracuse University (Jan, 2012-July, 2014)

Postdoctoral Research Associate (Drs. Chiara Cirelli and Giulio Tononi)

University of Wisconsin – Madison (August, 2011-December 2011)

Faculty Assistant

University of Wisconsin – Madison (August, 2011-December 2011)

Education



University of Wisconsin – Madison (August 2006 - August 2011)

- ❖ Doctor of Philosophy in Neuroscience
- ❖ Dissertation: “Glutamatergic activity, neuroenergetics, and sleep homeostasis”
- ❖ Dissertation advisor: Dr. Chiara Cirelli

Kenyon College, Gambier, Ohio (August 2002 – December 2005)

- ❖ Bachelors of Arts in Neuroscience, *magna cum laude, distinction – senior thesis*
- ❖ Thesis advisor: Dr. Paula Millin

Teaching Experience



Courses Taught

- ❖ PSYC/NSCI 0414: Rhythms of the Brain; (Junior/Senior Seminar); Middlebury College
- ❖ PSYC/NSCI 0301: Physiological Psychology; (Lecture/Lab); Middlebury College
- ❖ PSYC/NSCI 0303: Sensation and Perception; (Lecture/Lab/Discussion); Middlebury College
- ❖ PSYC 0206: Brain Plasticity; (Lecture/Discussion); Middlebury College
- ❖ PSYC 0201: Psychological Statistics; (Lecture/Lab); Middlebury College
- ❖ FYSE 1207: Your Brain at College (First Year Seminar); Middlebury College
- ❖ Bio 300: Research Methods for Life Scientists; (Lecture); Syracuse University
- ❖ Bio 400/600: Rhythms of the Brain; (Junior/Senior Seminar); Syracuse University
- ❖ Bio 200/Psych 233: Biopsychology; (Lecture); Syracuse University
- ❖ Neuroscience Training Program 675: Epigenetics in the Central Nervous System; (Senior Seminar); University of Wisconsin
- ❖ Neuroscience Training Program 629: Molecular Mechanisms of Memory Formation; (TA for Lecture); University of Wisconsin

Publications

* Denotes Middlebury College Student

Ellen J.G.* and **Dash M.B.** (2021). An artificial neural network for automated behavioral state classification in rats. *PeerJ* 9:e12127

Goldenberg J.E.*, Lentzou S.*, Ackert-Smith L.*, Knowlton H.*, and **Dash M.B.** (2020). Interindividual differences in memory system local field potential activity predict behavioral strategy on a dual-solution T-maze. *Hippocampus* 30, 1313-1326

Bingul D.*, Kalra K.*, Murata E.M.*, Belser A.*, and **Dash M.B.** (2020). Persistent changes in extracellular lactate dynamics following synaptic potentiation. *Neurobiology of Learning and Memory* 175, 107314.

Dash M.B. (2019). Infralow coordination of slow wave activity through altered neuronal synchrony. *Sleep* 42 (12), zsz170.

Carroll C.M.*, Hsiang H.*, Snyder S.*, Forsberg J.*, and **Dash M.B.** (2019). Cortical zeta-inhibitory peptide injection reduces local sleep need. *Sleep* 42 (5), zsz028.

Dash M.B., Ajayi S., Folsom L., Gold P.E., and Korol D.L. (2018). Spontaneous infralow fluctuations modulate hippocampal EPSP-PS coupling. *eNeuro* 5 (1).

Dash M.B., Bellesi M., Cirelli C., and Tononi G. (2013). Sleep/wake dependent changes in cortical glucose concentrations. *Journal of Neurochemistry* 124 (1), 79-89.

Dash M.B., Cirelli C., and Tononi G. (2012). Extracellular levels of lactate, but not oxygen, reflect sleep homeostasis in the rat cerebral cortex. *Sleep* 35 (7), 909-919.

Dash M. B., Douglas C. L., Vyazovskiy V. V., Cirelli C., and Tononi, G. (2009). Long-term homeostasis of extracellular glutamate in the rat cerebral cortex across sleep and waking states. *Journal of Neuroscience* 29, 620-629.

Presentations

* Denotes Middlebury College Student

Dash MB (2020). The Search for Sleep Function. Oral Presentation. American Association of University Women – Middlebury Chapter.

Dash MB (2019). Infralow coordination of slow wave activity through enhanced neuronal synchrony. Oral Presentation. University of Vermont Neuroscience, Behavior, and Health Research Forum.

Green AA* and **Dash MB.** (2019) Changes in neuronal synchrony alter slow wave activity across infralow cycles. Poster presentation. Society for Neuroscience 49th Annual Meeting.

Green AA*, Lessing A*, and **Dash MB**. (2019). Cortical zeta inhibitory peptide injections reveal the complex influence of synaptic strength on sleep quality and quantity. Poster Presentation. Vermont Genetics Network Career Day.

Knowlton HT*, Ackert-Smith LA*, and **Dash MB** (2019). Neuronal synchronization predicts type of learning during spatial memory tasks. Poster presentation. Vermont Genetics Network Career Day.

Green AA*, Lessing A*, and **Dash MB**. (2019). Cortical zeta inhibitory peptide injections reveal the complex influence of synaptic strength on sleep quality and quantity. Poster Presentation. University of Vermont Neuroscience, Behavior, and Health Research Forum.

Dash, MB. (2019). To sleep, perchance to dream... Research talk presented as part of the "Science Pub", a monthly lecture series organized by the Friends of Castleton Free Library and open to community members across Vermont.

Dash MB (2018). Sleep: The Price we pay for Learning. Invited Seminar. AALAS: Northern Mountain Branch.

Bingul D.*, Kalra K.*, and **Dash MB**. (2018). Metabolic Consequences of Synaptic Plasticity. Poster Presentation. *The International conference on learning and memory*.

Goldenberg J.*, Lentzou S.*, and **Dash MB**. (2018). Local Field Potential (LFP) Determinants of Behavioral Variability in a Dual Solution T-maze. Poster Presentation. *The International conference on learning and memory*.

Dash MB. (2017) Endogenous Controls of Evoked Response Variability. Oral Presentation. UVM Psychology and Neuroscience Vermont Summer Summit.

Dash MB. (2017) Synaptic Depotentiation Reduces Sleep Need. Oral Presentation. Northeast Regional Idea Conference (NERIC).

Carroll C*, Hsiang H*, Snyder S*, Forsberg J*, and **Dash MB** (2017). Reductions in local and global sleep need following pharmacological depotentiation in rat cerebral cortex. Poster Presentation. Vermont Genetics Network Career Day.

Murata E* and **Dash MB** (2017). Synaptic Strength Dependent Metabolic Changes in the Hippocampus of Freely Behaving Rats. Poster Presentation. Vermont Genetics Network Career Day.

Carroll C.*, Hsiang H.*, Snyder S.*, Forsberg J.*, and **Dash MB** (2016). Reductions in local and global sleep need following pharmacological depotentiation in rat cerebral cortex. Poster presentation. *Society for Neuroscience 46th annual meeting*.

Dash MB (2016). The Dynamic Synapse: How plasticity both shapes and constrains brain function. Invited Seminar. *University of New Hampshire COLSA Seminar Series*.

Ly A.*, Wooldridge L.*, and **Dash MB** (2015). Synaptic strength reductions do not alter glucose concentration in motor cortex of freely behaving rats. Poster presentation. *Northeast*

Undergraduate Research Organization for Neuroscience (NEURON) 29th annual meeting.

Wooldridge L.*, Ly A.*, and **Dash MB** (2015). Extracellular lactate concentration varies with synaptic strength. Poster presentation. *Northeast Undergraduate Research Organization for Neuroscience (NEURON) 29th annual meeting.*

Dash MB, Ajayi S, Folsom L, Gold PE, and Korol DL (2014). Hippocampal evoked response variability associated with spontaneous infraslow fluctuations in EEG activity. Poster presentation. *Society for Neuroscience 44th annual meeting.*

Dash MB (2014). Spontaneous Activity of the Brain Reveals Brain Function. Invited Seminar. *Hamilton College Biology Department Seminars.*

Dash MB, Tononi G, and Cirelli C (2011). The extracellular concentrations of lactate and oxygen exhibit sleep/wake dependent changes in rat cerebral cortex. Oral presentation. *The Associated Professional Sleep Societies 25th annual meeting.*

Dash M.B., Cirelli C., and Tononi G. (2010). Simultaneous fixed potential amperometry and EEG recordings enable characterization of biochemical changes associated with the sleep/wake cycle and spontaneous EEG activity. Oral presentation as part of the technical workshop, "Novel methods for assessing transmitter release and effects during behaviour". *The 7th Forum of European Neurosciences annual meeting.*

Dash M.B., Douglas C.L, Cirelli C., and Tononi G. (2008) Opposite and progressive changes in extracellular glutamate levels during wakefulness and sleep. Poster Presentation. *Society for Neuroscience 38th annual meeting.*

Dash, M. and Millin, P. (2006). Two choice drug discrimination using morphine on the sand maze. Poster Presentation. *Midwest Psychological Association Annual Meeting.*

Newman T., **Dash M.**, Baker A, Stearns M., Carrol L., and McFarlane H. (2005). Chronic methylphenidate treatment does not sensitize male juvenile rats to amphetamine. Poster Presentation. *Society for Neuroscience 35th annual meeting.*

Newman T., **Dash M.**, Baker A, and McFarlane H. (2005) The effects of GABA agonism on methylphenidate-induced behavioral sensitization. Poster Presentation. *Midwest Psychological Association Annual Meeting.*

Newman T., **Dash M.**, Stearns M., Carrol L., and McFarlane H. (2005) Methylphenidate does not cross-sensitize rats to amphetamines. Oral presentation. *The 19th Annual Ohio Undergraduate Psychology Research Conference.*

Newman T., **Dash M.**, and McFarlane H. (2005) The effects of GABA agonism on methylphenidate-induced behavioral sensitization. Oral presentation. *The 19th Annual Ohio Undergraduate Psychology Research Conference.*

Research Funding

Awarded

- ❖ **NIH/NIGMS Vermont Administrative Supplement to INBRE Award (2020/2021; \$100,000 direct costs)**
Co-Principal Investigator (with Deirdre O'Reilly – University of Vermont) – Sleep Disturbance on Bedside EEG: A Biomarker for Neonatal Abstinence Syndrome
- ❖ **Vermont Genetics Network Pilot Award (2018/2019; \$25,000 direct costs)**
Principal Investigator – Local Sleep Homeostasis and the Control of Behavioral State
- ❖ **Vermont Genetics Network Pilot Award (2017/2018; \$25,000 direct costs)**
Principal Investigator – Metabolic Consequences of Synaptic Plasticity II
- ❖ **Vermont Genetics Network Pilot Award (2016/2017; \$25,000 direct costs)**
Principal Investigator – Metabolic Consequences of Synaptic Plasticity

Applied (but not funded)

- ❖ **NIH/NIMH R15 (2018; \$299,935 direct costs)**
Principal Investigator – Local Sleep Homeostasis Modulates Behavioral State and Affective Processing

Academic and Professional Awards

- ❖ Center for the Comparative Study of Race and Ethnicity Pedagogy and Course Development Grant (2019-2020) – Redesign of PSYC 0201 syllabus to incorporate broader themes of diversity, inclusivity, and systemic racism.
- ❖ Digital Liberal Arts – General Funding Award, PSYC 0201 statistical simulation development (2016)
- ❖ Society for Neuroscience travel award to attend the 7th Annual Forum of the Federation of European Neuroscience (2010)
- ❖ UW-Madison Vilas Travel Award (2009)
- ❖ Selected presentation: Sleep Research Society's "Data Blitz" at Society for Neuroscience annual meeting (2008)
- ❖ Summer science scholars research grant, Kenyon College (2005)
- ❖ Franklin Miller award for academic contribution, Kenyon College (2005)
- ❖ Kenyon distinguished scholar scholarship (2002-2005)

Professional Societies

- ❖ Society for Neuroscience (2007-present)
- ❖ Sleep Research Society (2011-2016)

Service

- ❖ Middlebury College IACUC member (2018-present)
- ❖ Middlebury College Lab Safety Board (2016-2018), Faculty Chair (2017-2018).
- ❖ Middlebury College Academic Judicial Board (2015-2016)
- ❖ Mentor for Incoming Faculty (5x)
- ❖ Faculty Affiliate – Middlebury Women's Soccer (2015-present)
- ❖ Psychology Department Speaker Committee (4x)
- ❖ Psychology Department External Review Subcommittee (2014-2015)