

**Michael Lawrence Miller**

MD/PhD Student, MSTP

Phone: +1-212-824-9005

Website: <http://students.mssm.edu/millem14>E-mail: [michael.l.miller@mssm.edu](mailto:michael.l.miller@mssm.edu)

Fishberg Department of Neuroscience  
 Friedman Brain Institute  
 Icahn School of Medicine at Mt. Sinai  
 1470 Madison Ave, Room 10-201  
 New York, NY 10029-6574

**Education**

- M.D. (2010 – present) and Ph.D. in Neuroscience (2010 – present) from Icahn School of Medicine at Mt. Sinai School, New York, U. S. A.
- B.S. in Molecular Integrative Neuroscience and B.S. in Biochemistry (2006 – 2010), and certificate in evolutionary studies, from Binghamton University, New York, U. S. A. *Summa cum laude*.

**Professional Memberships**

- American Physician-Scientists Association (2010 - present)
- Society for Neuroscience (2009 - Present)
- Sigma Xi, Student Associate Member (2008 - 2010)
- ISBE, Student Member (2008 - 2010)

**Teaching experience and extracurricular activities**

- Teaching Assistant for *Principles of Neurobiology: Systems Neuroscience* (Winter 2013), course-directed by Dr. Elizabeth Cropper, Ph.D.
- Teaching Assistant for *Brain & Behavior* (Fall 2012), course-directed by Dr. Carrie Ernst, M.D.
- Laboratory Teaching Assistant for *General Pathology* (Spring 2012), course-directed by Dr. Margret S. Magid, M.D.
- Undergraduate Teaching Assistant for *Cellular Neurobiology* (Fall 2008, Fall 2009), taught by Dr. Carol I. Miles, Ph.D.
- Neuroscience Club co-President (2008 - 2010)
- Fencing Club co-President (2008 - 2010)

**Past and Present Research Affiliations**

- Fishberg Department of Neuroscience, Friedman Brain Institute, Icahn School of Medicine at Mt. Sinai (Summer 2011 - Present), Doctoral thesis advisor: Yasmin L. Hurd, Ph.D.
- Department of Medicine, Brookhaven National Laboratories, U. S. Department of Energy (Summer 2008 - Summer 2010), Advisor: Panayotis (Peter) K. Thanos, Ph.D.
- Biological Sciences Department, Binghamton University (Spring 2007 - Summer 2011), Honor's thesis advisor: Anne B. Clark, Ph.D.

**Manuscripts Published**

Michaelides, M., **Miller, M. L.**, Subrizi, M., Kim, R., Robison, L., Hurd, Y. L., Wang, G.-J., Volkow, N. D., & Thanos, P. K. (2013). Limbic activation to novel versus familiar food cues predicts food preference and alcohol intake, *Brain Research*, 1512, 37-44. [[permanent link](#)]

- Miller, M. L.**, Gallup, A. C., Vogel, A. R., Vicario, S. M. & Clark, A. B. (2012). Evidence for contagious behaviors in budgerigars (*Melopsittacus undulatus*): An observational study of yawning and stretching. *Behavioural Processes*, 89, 264-270. [[permanent link](#)]
- Miller, M. L.**, Gallup, A. C., Vogel, A. R. & Clark, A. B. (2012). Auditory disturbances promote temporal clustering of yawning and stretching in small groups of budgerigars (*Melopsittacus undulatus*). *Journal of Comparative Psychology*, 126, 324-328. [[permanent link](#)]
- Miller, M. L.**, Gallup, A. C., Vogel, A. R. & Clark, A. B. (2010). Handling-stress initially inhibits, but then potentiates yawning in budgerigars (*Melopsittacus undulatus*). *Animal Behaviour*, 80, 615-619. [[permanent link](#)]
- Gallup, A. C., **Miller, M. L.** & Clark, A. B. (2010). The direction and range of ambient temperature change influences yawning in budgerigars (*Melopsittacus undulatus*). *Journal of Comparative Psychology*, 124, 133-138. [[permanent link](#)]
- Gallup, A. C., **Miller, M. L.** & Clark, A. B. (2009). Yawning and thermoregulation in budgerigars: Science as an incremental process. *Animal Behaviour*, 78, e3-e5. [[permanent link](#)]
- Gallup, A. C., **Miller, M. L.** & Clark, A. B. (2009). Yawning and thermoregulation in parakeets (*Melopsittacus undulatus*). *Animal Behaviour*, 77, 109-113. [[permanent link](#)] [Received press coverage and appeared on Discovery Channel's online news website.]

### Seminars and Symposia

- Gallup, A.C., **Miller, M.L.**, Vogel, A.R., Vicario, S.M. & Clark, A.B. Contagious yawning in birds? An observational study in budgerigars (*Melopsittacus undulatus*). Ecology and Evolutionary Biology Integrated Behavioral Research Group, Princeton University, Princeton, NJ, November 2010.
- Vogel, A. R., **Miller, M. L.**, Gallup, A. C., & Clark, A. B. Yawning and stretching as potential contagious signals in budgerigars (*Melopsittacus undulatus*). 34<sup>th</sup> Annual Biological Sciences Research Symposium, Binghamton University, Binghamton, NY, January 2010.
- Gallup, A. C., **Miller, M. L.**, & Clark, A. B. Ambient temperature manipulation in budgerigars (*Melopsittacus undulatus*): Yawning as a cooling mechanism. 33<sup>rd</sup> Annual Biological Sciences Research Symposium, Binghamton University, Binghamton, NY, 23 January 2009.
- Miller, M. L.**, Cusick, J. A., Sutton, D. M., Gallup, A. C., & Clark, A. B. The effect of thermal priming on yawning contagion among budgerigars (*Melopsittacus undulatus*). 33<sup>rd</sup> Annual Biological Sciences Research Symposium, Binghamton University, Binghamton, NY, 23 January 2009.
- Gallup, A. C., **Miller, M. L.**, & Clark, A. B. Ambient temperature manipulation in relation to yawning in parakeets (*Melopsittacus undulatus*). 1<sup>st</sup> Annual Darwin Day, University at Albany, Albany, NY, 8 February 2008.
- Miller, M. L.**, Vicario, S., M., Gallup, A. C., & Clark, A. B. Yawning, stretching, and social contagion in the budgerigar (*Melopsittacus undulatus*). 32<sup>nd</sup> Annual Biological Sciences Research Symposium, Binghamton University, Binghamton, NY, 25 January 2008.

Gallup, A. C., **Miller, M. L.**, & Clark, A. B. Ambient temperature manipulation in relation to yawning in parakeets (*Melopsittacus undulatus*). 32<sup>nd</sup> Annual Ecology and Evolutionary Biology Graduate Student Symposium, Cornell University, Ithaca, NY, 18 January 2008. [Cited in peer-reviewed literature.]

### Poster Presentations

**Miller, M. L.** & Hurd, Y. L. The impact of adolescent THC on mesolimbic microRNA regulation. 5<sup>th</sup> Biennial Gordon Research Conference on *Cannabinoid Function in the CNS*, Waterville Valley, NH, 4 - 9 August 2013. [Received poster award, see below.]

Thanos, P. K., Michaelides, M., **Miller, M. L.**, Subrize, M., Cooney, R. N., Culnan, D., Sun, M., Wang, G.-J., Volkow, N. D. & Hajnal, A. The effects of gastric bypass and a high fat diet on food-reward anticipation. 41<sup>st</sup> Annual Society for Neuroscience Conference, Washington, DC, 12 - 16 November 2011.

Ananth, M., O'Rourke, J., Pagiazitis, J., **Miller, M. L.**, Murmello, J., Clark, J., Wang, G.-J., Volkow, N. D. & Thanos, P. K. Assessment of metabolic syndrome in dopamine D2 mice chronically fed a high-fat diet. 41<sup>st</sup> Annual Society for Neuroscience Conference, Washington, DC, 12 - 16 November 2011. [Follow-up data from related poster presented the year earlier.]

Michaelides, M., Piyis, Y., **Miller, M. L.**, Jacobs, M., Delis, F., Ananth, M., Wang, G.-J., Hurd, Y. L., Volkow, N. D., Thanos, P. K. & Jones, K.W. Cocaine-induced changes in mesocorticolimbic trace metal content and distribution. 23<sup>rd</sup> International Society for Neurochemistry Meeting, Athens, Greece, 28 August - 1 September 2011. [MLM does not appear in the meeting's published program.]

Michaelides, M., **Miller, M. L.**, Subrize, M., Kim, R., Robison, L. S., Wang, G.-J., Volkow, N. D. & Thanos, P. K. Individual differences in brain metabolism in the hypothalamus and ventral striatum predict differences in food expectation. 40<sup>th</sup> Annual Society for Neuroscience Conference, San Diego, CA, 13 - 17 November 2010.

Ananth, M., **Miller, M. L.**, Clark, J., O'Rourke, J., Pagiazitis, J., Wang, G.-J., Volkow, N. & Thanos, P. K. Assessment of metabolic syndrome factors in mice with targeted disruption of the dopamine D2 receptor gene. 40<sup>th</sup> Annual Society for Neuroscience Conference, San Diego, CA, 13 - 17 November 2010.

Vogel, A. R., **Miller, M. L.**, Gallup, A. C. & Clark, A. B. Studies on parakeet yawning: The physiological and social functions of yawning and related behaviors in budgerigars (*Melopsittacus undulatus*). 32<sup>nd</sup> Annual Undergraduate Research Fair for Psychology and Psychobiology, Binghamton University, Binghamton, NY, 22 April 2010.

**Miller, M. L.**, Jarchin, L. & the Club's Executive Board. Brain awareness week programs hosted by the Binghamton University Neuroscience Club. 39<sup>th</sup> Annual Society for Neuroscience Conference, Chicago, IL, 17 - 21 October 2009. [Received travel and registration scholarship, see below.]

**Miller, M. L.**, Cusick, J. A., Sutton, D. M., Vogel, A. R., Gallup, A. C., & Clark, A. B. The temporal association between yawning and brief handling stress in budgerigars (*Melopsittacus undulatus*). North-

Eastern Regional Sigma Xi Conference, S.U.N.Y. at Oswego, Oswego, NY, 18 April 2009. [*Received 1<sup>st</sup> place undergraduate research poster award, see below.*]

Gallup, A. C., **Miller, M. L.**, & Clark, A. B. Yawning and ambient temperature manipulation in budgerigars (*Melopsittacus undulatus*). North-Eastern Regional Sigma Xi Conference, S.U.N.Y. at Oswego, Oswego, NY, 18 April 2009.

**Miller, M. L.**, Vicario, S. M., & Clark, A. B. Social contagion of yawning and stretching in budgerigars (*Melopsittacus undulatus*). 12<sup>th</sup> International Behavioral Ecology Congress, Cornell University, Ithaca, NY, 9 - 15 August 2008.

**Miller, M. L.**, Vicario, S. M., & Clark, A. B. Contagious yawning and stretching in the budgerigar (*Melopsittacus undulatus*). 30<sup>th</sup> Annual Undergraduate Research Fair for Psychology and Psychobiology, Binghamton University, Binghamton, NY, 25 April 2008.

Gallup, A. C., **Miller, M. L.**, & Clark, A. B. Yawning and thermoregulation in budgerigars (*Melopsittacus undulatus*). North-Eastern Regional Sigma Xi Conference, S.U.N.Y. at Oswego, Oswego, NY, 19 April 2008. [*Received graduate research poster award, see below.*]

#### **In-House Grants, Scholarships, and Awards**

President's Award for Undergraduate Student Excellence (2010), \$1000  
 State University of New York Chancellor's Award (2010)  
 John L. Fuller Memorial Award (2010), \$100  
 University Undergraduate Research Award (2009), \$250  
 University Undergraduate Research Award (2008), \$169  
 Edward Thorsen Memorial Scholarship (2008), \$400  
 Freshman Chemistry Award (Fall 2006, Spring 2007), \$50 each

#### **External Grants, Scholarships, and Awards**

Graduate Student's GRC Poster Award (2013)  
 Brain Awareness Week Travel Award (2009), \$750 + conference registration  
 Sigma Xi Undergraduate Research Poster Award (2008, 2009), \$100 each  
 Barry M. Goldwater Scholarship (2009), \$7500  
 Department of Energy's Summer Undergraduate Lab Internship (Summer 2009), \$3200 stipend  
 Plainview Diner Scholarship (2006), \$500