

September 15, 2015

Department of Cell Biology and Neuroscience

Ph.D program: Assessment 2013-2015

For doctoral students:

1. Produce and defend an original significant contribution to knowledge at the appropriate level for a doctoral candidate.
2. Demonstrate mastery of subject content knowledge and research/critical inquiry methodology
3. Demonstrate effective written communication of substantive content
4. Demonstrate effective oral communication of substantive content
5. Be able to conduct scholarly and professional activities in an ethical manner
6. Publish thesis work in high quality, peer reviewed journals and present work at relevant conferences.

Based on the information below, all of our five doctoral students are achieving our learning outcomes.

- **Lauren Bennett** (mentor: Thom Hughes).

In her 3rd year of graduate school.

Passed her comprehensive exam, September, 2015.

Publications:

Drobizhev, M., Stoltzfus, C., Topol, I., Collins, J., Wicks, G., Mikhaylov, A., **Barnett, L.**, Hughes, T.E., and Rebane, A. (2014). Multiphoton photochemistry of red fluorescent proteins in solution and live cells. *J. Phys. Chem. B* 118, 9167–9179.

Stoltzfus, Caleb R., **Lauren M. Barnett**, Mikhail Drobizhev, Geoffrey Wicks, Alexander Mikhaylov, Thomas E. Hughes, and Aleksander Rebane. "Two-photon directed evolution of green fluorescent proteins." *Scientific reports* 5 (2015).

Drobizhev, M., P. R. Callis, R. Nifosi, G. Wicks, C. Stoltzfus, **L. Barnett**, T. E. Hughes, P. Sullivan, and A. Rebane. "Long- and Short-Range Electrostatic Fields in GFP Mutants: Implications for Spectral Tuning." *Scientific reports* 5 (2015).

- **Nicholas Dotson** (mentor: Charlie Gray)

Graduated with Ph.D in May 2014

Passed his Oral candidacy exam

Passed his Oral thesis defense

He took the Ethics course

Publications:

Dotson NM, Salazar RF, Gray CM. 2014. Frontoparietal correlation dynamics reveal interplay between integration and segregation during visual working memory. J Neurosci. 34(41):13600-13..

Salazar RF, **Dotson NM**, Bressler SL, Gray CM. 2012. Content-specific frontoparietal synchronization during visual working memory. Science. 23;338(6110):1097-100

Oral presentations:

Chico conference (2010) the conference we hosted with the University of Montana

Kopriva lecture (2015)

Society for Neurosciences Annual Meeting: 2009-2015

Cosyne 2010

SAND6 2012

Networked Brain Conference 2013

FENS 2014

Teaching Assistant for "Introduction to Neurophysiology" (1 semester, 2009)

Guest Lecturer for "Cognitive Neuroscience" class (2011, 2012) (your class)

Guest Lecturer for "Techniques of Animal Experimentation (2012) (Chris' class)

- **Steven Hoffman** (mentor: Charlie Gray)

Oral presentations:

Society for Neurosience, Fall 2014

Department of Cell Biology and Neuroscience seminar, May 2015.

Graduate School travel award to present a poster at the Society for Neuroscience annual meeting, Fall 2015.

Took an Ethics course.

Paper submitted:

Methods, caveats, and the future of large-scale microelectrode recordings in the non-human primate

Nicholas M. Dotson¹, Baldwin Goodell¹, Rodrigo F. Salazar^{1,2}, Steven J. Hoffman¹ and Charles M. Gray¹

- **Typhani Lynn** (mentor: Charlie Gray)

Presentations:

2013 Spring - Poster MSU Student Research Celebration (Interdisciplinary research with Data Mining Lab)

2013 Spring - Awarded Graduate Research Fellowship from the National Science Foundation

2013 Spring - MBSP Seminar Presentation at MSU

2015 Spring - CBN Department Seminar at MSU

2013-2015 TA for Neuroscience of Mental Illness

- **Sarah Ohlen** (mentor: Frances Lefcort)

Presentations:

Department of Cell Biology and Neuroscience, Fall, 2014

Passed her graduate comprehensive exams in November, 2014.

Finished all her required course work

Two papers in preparation.

Will be presenting a poster at this year's American Society for Cell Biology meeting in San Diego, CA.

Was awarded a \$500 grant from CLS and a \$400 grant from the American Society for Cell Biology to attend the meeting.

Took an Ethics course.