Upcoming Events

• Dissertation Defenses
  November 23 – Ryan Smith, 9:00 am in 1167 Graves Hall

• Neuroscience Poster Day – December 1
  1:00 pm in the Biomedical Research Tower

• Upcoming Seminars (12:1 pm in 115 BRT, unless otherwise noted)
  November 29 – Michael N. Shadlen, MD, PhD, Professor, Dept. of Physiology and
  Biophysics, Univ. of Washington
  Hunt-Curtis Frontiers in Neuroscience Seminar
  3:30 pm in 115 BRT

  December 6 – Edwin Rubel, PhD, Virginia Merrill Bloedel Professor of Hearing Science
  Professor, Depts. of Otolaryngology and Physiology and Biophysics,
  University of Washington

  December 20 – Steve Lacroix, PhD, Dept. of Molecular Medicine, Laval University, Quebec, Canada

Professional Development

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Director’s Chair
It has been a fantastic year for NGSP. Our students had a bumper crop of papers and
awards, and they continue to secure postdoctoral positions in some of the top neuroscience
research labs in the country and internationally (see features in this issue). We had a very good
recruitment year and welcomed eight new students into the program this fall. The academic
year got a great kick-off with another successful NGSP Annual Retreat, with a special
appearance from past NGSP graduate, Jon Terman from UT Southwestern, who gave the
2010 Alumnus Presentation (also, congrats to Howard Gu and Brad Martin, the 2010
Cornhole Champions(!); see announcements below). We also welcomed Drs. Andrew Hartwick
and Arnab Chakravarti into the program this fall, and new faculty are applying every year.
Looking ahead we are very optimistic about the growth and success of NGSP in the coming
year and beyond.

John Oberdick and Dana
McTigue, NGSP Co-Directors

2010-2011 Student Preview

Please join us in welcoming 8 new students into the program this fall:

Laura Fonken – Laura graduated from Syracuse University with a BS degree in Psychology and Biology. She worked in Randy Nelson’s lab as a research assistant before transferring into the program. Laura is interested in seasonal adjustments of stress and immune function and the physiological and behavioral changes elicited by constant light housing. Laura will rotate in Dr. Courtney DeVries’ lab for the fall quarter.

Asa Gardner – Asa received a BS degree in Physiology and Neuroscience from the University of California-San Diego. After graduating from UCSD, Asa worked as a research assistant in the lab of Dr. Greg Lemke at the Salk Institute. Asa is interested in mechanisms associated with addiction. Asa will rotate in Dr. Howard Gu’s lab for the fall quarter.

Evan Goldstein – Evan graduated from Case Western Reserve University with a BA degree in Biology and Psychology. While studying at Case, Evan received a Howard Hughes Medical Institute Fellowship and worked in the lab of Dr. Angela Ciccia. Evan is interested in glial cell development and demyelinating diseases. Evan is rotating with Dr. Dana McTigue for the fall quarter.

Achikam Haim – Achikam received a BS degree in Biology from the University of Haifa in Israel. He is interested in psychoneuroimmunology and chronobiology. Achikam is currently in the lab of Dr. Randy Nelson.

Sarah Hopp – Sarah graduated from MIT with a BS degree in Brain and Cognitive Sciences. After receiving her degree, Sarah worked as a research assistant for a pharmaceutical company. She is interested in Alzheimer’s disease and other neurodegenerative diseases. Sarah is rotating with Dr. Gary Wnek during the fall quarter.

Jessica Ross – Jessica received a BA degree in English Literature from Trinity College. She is interested in behavioral neuroscience. Jessica will rotate with Dr. Courtney DeVries in the fall.

Melissa Scott – Melissa graduated from Ohio State with a BS degree in Molecular Genetics. Melissa worked as a research assistant in the lab of Dr. Andy Fischer. She is interested in the role of microglia play in neuroinflammation and depression. Melissa received a one year fellowship from the Graduate School and is currently in the lab of Dr. Jon Godbout.

Kent Williams – Kent has a BS degree in Biology from Purdue University and a MS degree in Biology from Indiana State University. He is interested in underlying causes and potential solutions to the problem of age-related dementia. Kent also received a one-year fellowship from the Graduate School and is rotating in Dr. Karl Obrist’s lab for the fall.
Dr. Andrew Hartwick and Dr. Arnab Chakravarti

NGSP Faculty Spotlight

Dr. Arnab Chakravarti

Dr. Arnab Chakravarti and Andrew Hartwick joined the NGSP faculty in the fall of 2010. Please join us in welcoming Drs. Chakravarti and Hartwick to the program.

Dr. Chakravarti is Chair and Professor of the Department of Radiation Oncology, Max Householder Chair of Cancer Research, and Co-Director, Brain Tumor Program. He received his MD from the University of Virginia School of Medicine and came to OSU from Harvard in 2009.

The Chakravarti Laboratory investigates the molecular mechanisms of radiation resistance and develops strategies to overcome. Efforts are focused on studying signal transduction pathways that mediate radiation resistance in gliomas and prostate cancer. His lab has identified the receptor tyrosine kinase (RTK)/PI3K/AKT signaling cascade to be of particular importance in this regard. Furthermore, his lab has identified another molecule called Survivin that appears to play a critical role in treatment resistance in both high grade gliomas and prostate cancer.

Currently, the lab is investigating how these pathways enhance survival in gliomas, especially in response to radiation and other DNA damaging agents. He has been able to translate this work from the bench to the bedside through development of national clinical trials on targeted therapies that inhibit signaling through this molecular pathway. Further, he is actively investigating epigenetic and genetic mechanisms of therapeutic resistance in both malignant and low-grade glioma. The objective is to identify underlying mechanisms of treatment resistance and devise strategies to overcome. Many of these studies are being conducted through the Radiation Therapy Oncology Group (RTOG), which is the largest and most respected cooperative group in the field.

Dr. Hartwick is an Assistant Professor in the College of Ophthalmology and received his PhD from Dalhousie University.

The Hartwick Laboratory focuses on the anatomy and physiology of these retinal ganglion cell (RGC) axons. A small group of RGCs in the inner mammalian retina express the phototransducer melanopsin and can respond directly to light. These neurons provide information regarding environmental light levels (illuminance) to the brain centers that regulate circadian rhythms (daily rhythms of physiology and behavior) and the size of the pupil of the eye. The mechanisms underlying the intrinsic light responses of these cells have yet to be fully elucidated.

Dr. Hartwick is currently investigating how these photoreceptors are able to convert captured light photons into an electrical signal. In addition, their lab is investigating the contribution of melanopsin-containing RGCs to light-evoked pupil constriction. A long-range goal of the lab is to investigate the effect of glaucoma on retinal intrinsic coding, and determine whether defects in this pathway are clinically detectable prior to those associated with vision.

Projects currently ongoing in the lab involve investigations on: 1) the photochemical cycle (chromophore bleaching and regeneration) of melanopsin in light-sensitive RGCs; 2) new testing strategies for isolating specific components of the pupillary light reflex that are mediated by melanopsin-containing RGCs (as opposed to rod or cone-driven components); and 3) the circadian rhythm of intracranial pressure in rats.

Announcements

• Ryan Smith and his wife Erin welcomed the birth of their son, Nolan Matthew, born on August 21.
• Winners of the 1st Annual NGSP Cornhole tournament were Dr. Howard Gu and Brad Martin. Runners-up were Dr. Wolfgang Sadee and Ryan Smith. The tournament was held during the Annual Retreat on Sept. 14, 2010. Each winner received a $50 Target gift card and each runner-up received a $25 Target gift card.
• Ryan Smith gave a webinar hosted by Golden Helix, a software company. The webinar may be viewed at http://www.goldenhelix.com/Events/recordings/knitm-nicotine-dependence-index.html

Student Publications


EYE ON IT

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Student Publications


Please join us in welcoming Dr. Kailen Katena and Haiyan Peng to the committee. Dr. Mykytyn's term will begin October 1, 2010 and Haiyan is the new junior student representative.
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Society for Neuroscience
Annual Meeting, San Diego, CA
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