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In This Issue...

Page 1

- A Message from Dr. Moss
- Faculty Spotlight: Dr. Kathy Rockland

Page 2

- Faculty Recognitions and Promotions
- Student News

Page 3

- Recent Departmental Publications
- Raviola Day Announcement

Page 4

- Alumni Update: Dr. Margaret MacNeil

Page 5

- March 2017 Thesis Defenses

A Message from Our Chair



Greetings to all of our readers of the Anatomy & Neurobiology Newsletter. As you will read in this issue, we recognize the achievements of two of our

faculty for their continuing excellence in teaching at the School of Medicine. As you may not be aware, the Faculty of the Department of Anatomy & Neurobiology have received over 30 teaching awards over the past 15 years, including the highest teaching awards at the University, the School of Medicine, and the Goldman School of Dental Medicine. The remarkable teaching acumen of our Department faculty was indeed recognized

by comments from our Academic Provost Review evaluators in their report of our Department conducted last year.

Also in this issue, we recognize the promotions of several of our faculty, particularly to the rank of full Professor for two of the members of the Department's leadership team. You will also see the continued productivity in research by the Department faculty and students with 16 research papers published since the last issue of the Newsletter. In this issue we also recognize the successful PhD thesis defense for three of our students and, as in each issue, highlight the achievements of one of our very successful Alumni. Look forward to our next issue on the ongoing fund raising efforts for renovation of the Gross Anatomy lab, and our ongoing recruitment efforts for new faculty members to the Department.

Dr. Mark Moss

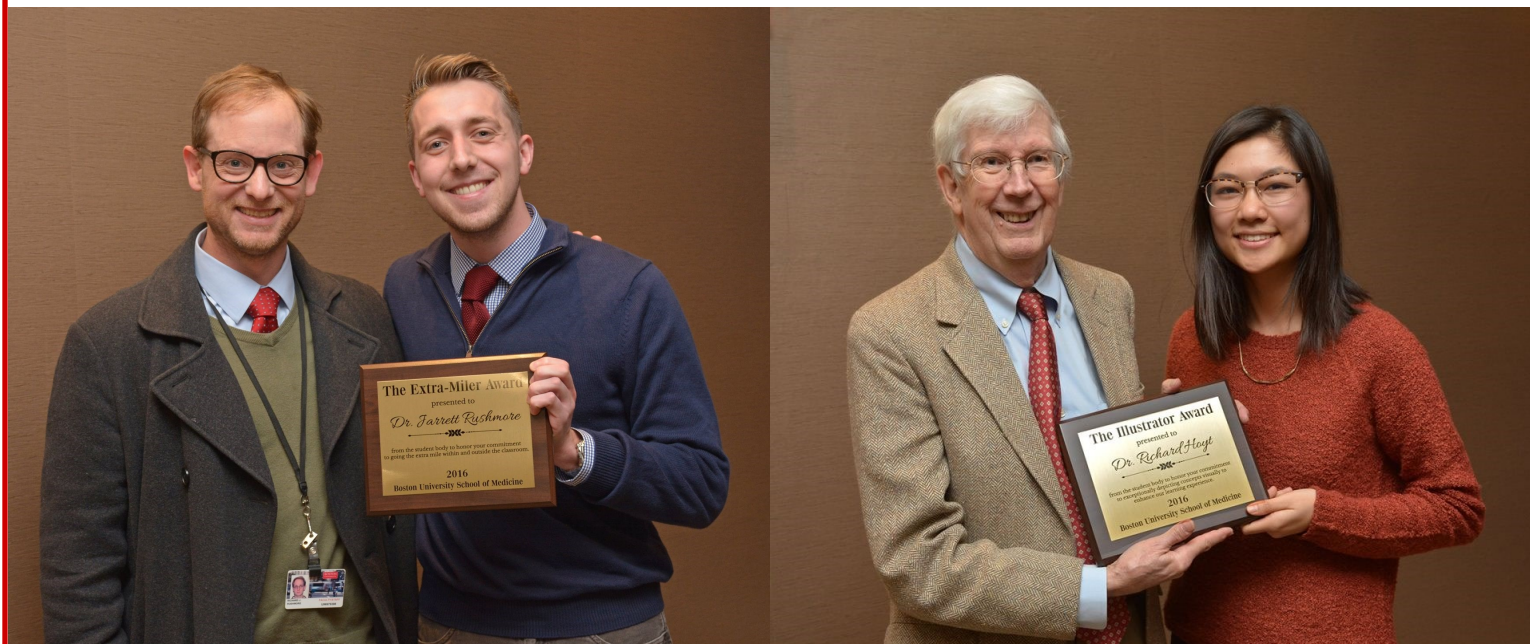
Faculty Spotlight: Dr. Kathy Rockland

Dr. Kathy Rockland, Principal Investigator of the Laboratory for Cortical Organization and Microstructures, is a 1979 PhD graduate of our department. She was an Assistant Professor in the department from 1988 to 1991 and then rejoined our faculty as a Research Professor in 2012, after serving in multiple capacities in Massachusetts, New York, Iowa, and Japan! Dr. Rockland attributes many factors to her return to the department, including new and interesting possibilities in translational research as well as its "unusual and precious sense of tradition and intellectual heritage (for example, the continued respect for the work of Dr. [Alan] Peters and other senior members of the department". Within our department, Dr. Rockland teaches the Advanced Human Neuroanatomy Course and serves on the PhD Qualifying Exam Committee. Outside of the department, Dr. Rockland is an Associate Editor of *Axons and Brain Architecture*, *Journal of Comparative Neurology* and *Frontiers in Neuroanatomy*. Dr. Rockland was also recently selected to serve on a ten-member Scientific Advisory Board for the European Human Brain Project.



Faculty Recognitions and Promotions

Two of our medical teaching faculty, **Dr. Richard Rushmore** and **Dr. Richard Hoyt**, were recognized at the BU School of Medicine Faculty-Student Mixer in December, 2016. Dr. Rushmore (left) was awarded the “Extra Miler” award, given to a faculty member who goes “the extra mile” both within and outside the walls of classrooms to improve the overall experience. Dr. Hoyt (right) was awarded the “Illustrator” award, presented to a faculty member that goes above and beyond inside the classroom by using illustrations, visual and otherwise, to ensure understanding of lecture concepts.



Photos Courtesy of BUSM Communications

We would like to additionally offer our congratulations to **Dr. Tarik Haydar** and **Dr. Jennifer Luebke** on their recent promotions to the rank of Professor within the department, and to **Dr. James Pokines** of the Program in Forensic Anthropology on his promotion to the rank of Associate Professor.

Student News

Lauren Zajac, a 3rd-year PhD student, will be presenting two posters, “Resting-state functional network connectivity differs between healthy aged individuals with and without reports of subjective cognitive change,” and “Measures of hippocampal structure and functional connectivity differentiate healthy aged subjects with and without reports of subjective cognitive change” at the American Academy of Neurology meeting in Boston this month.

Mary Orczykowski, a 5th-year PhD student, presented a poster, “Residual damage is reduced following human umbilical tissue derived cell infusion in a non-human primate model of cortical injury” at the International Stroke Conference in February. She also received a travel award to present a poster based on her Vesalius project, “3D printed models to visualize fascial and peritoneal layers of the abdomen in medical gross anatomy,” at the American Association of Anatomists Meeting this month in Chicago.

The 2016-2017 Newsletter Committee:

- Alexandra Wink (editor)
- Yashar Rahimpour

Would you like to contribute to the Newsletter?

Email updates, stories, or upcoming events to
anatneuronews@gmail.com

Contact or Donate to the Department:

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Recent Departmental Publications

This list includes only a few of the many papers that students, post-docs, and faculty in our department have published since our last issue!

- Joseph RM**, Korzeniewski SJ, Allred EN, O'Shea TM, Heeren T, Frazier JA, Ware J, Hirtz D, Leviton A, Kuban K; ELGAN Study Investigators. Extremely low gestational age and very low birthweight for gestational age are risk factors for autism spectrum disorder in a large cohort study of 10-year-old children born at 23-27 weeks' gestation. *American Journal of Obstetrics and Gynecology*. 2016.
- Kim SH, **Joseph RM**, Frazier JA, O'Shea TM, Chawarska K, Allred EN, Leviton A, Kuban KK; Extremely Low Gestational Age Newborn (ELGAN) Study Investigators. Predictive Validity of the Modified Checklist for Autism in Toddlers (M-CHAT) Born Very Preterm. *The Journal of Pediatrics*. 2016.
- Santana SA, Bethard JD, **Moore TL**. Accuracy of Dental Age in Nonadults: A Comparison of Two Methods for Age Estimation Using Radiographs of Developing Teeth. *Journal of Forensic Sciences*. 2017.
- Yucha JM, **Pokines JT**, Bartelink EJ. A Comparative Taphonomic Analysis of 24 Trophy Skulls from Modern Forensic Cases. *Journal of Forensic Sciences*. 2017.
- Wink AE**, Gross KD, Brown CA, Guermazi A, Roemer F, Niu J, Torner J, Lewis CE, Nevitt MC, Tolstykh I, Sharma L, Felson DT. Varus thrust during walking and the risk of incident and worsening medial tibiofemoral MRI lesions: the Multicenter Osteoarthritis Study. *Osteoarthritis and Cartilage*. 2017.
- Akle V, **Stankiewicz AJ**, Kharchenko V, **Yu L**, Kharchenko PV, **Zhdanova IV**. Circadian Kinetics of Cell Cycle Progression in Adult Neurogenic Niches of a Diurnal Vertebrate. *Journal of Neuroscience*. 2017.
- Estrada LI, Robinson AA, Amaral AC, Giannaris EL, Heyworth NC, **Mortazavi F**, Ngwenya LB, Roberts DE, Cabral HJ, **Killiany RJ**, **Rosene DL**. Evaluation of Long-Term Cryostorage of Brain Tissue Sections for Quantitative Histochemistry. *Journal of Histochemistry and Cytochemistry*. 2017.
- Harmatz ES, Stone L, **Lim SH**, Lee G, McGrath A, Gisabella B, Peng X, Kosoy E, Yao J, Liu E, Machado NJ, Weiner VS, Slocum W, Cunha RA, Goosens KA. Central Ghrelin Resistance Permits the Overconsolidation of Fear Memory. *Biological Psychiatry*. 2016.
- Brennaman AL, Love KR, Bethard JD, **Pokines JT**. A Bayesian Approach to Age-at-Death Estimation from Osteoarthritis of the Shoulder in Modern North Americans. *Journal of Forensic Sciences*. 2016.
- O'Brien AT, Amorim R, **Rushmore RJ**, Eden U, Afifi L, Dipietro L, Wagner T, Valero-Cabré A. Motor Cortex Neurostimulation Technologies for Chronic Post-stroke Pain: Implications of Tissue Damage on Stimulation Currents. *Frontiers in Human Neuroscience*. 2016.

(Continued on Page 5)

Upcoming Event: 29th Annual

Guisepina d'Elia Raviola Memorial Seminar

Guest Speaker: **Dr. Jamie Maguire**, Tufts University

"GABAergic control of neural circuits involved in stress and anxiety"

Thursday, April 27, 2017; 1:00 pm

Keefer Auditorium

Reception to Follow in the Alan Peters Seminar Room



Alumna Update: Margaret (Midge) MacNeil, PhD



Dr. Margaret A. MacNeil is a 1996 graduate of the department of Anatomy and Neurobiology. She currently serves as Chair and Professor of Biology at York College, City University of New York (CUNY) and as a faculty member at the CUNY Graduate Center. She teaches courses in Comparative Animal Physiology and Human Biology,

as well as courses in neuroscience and biology for non-majors. York College is an undergraduate college serving about 8000 students. Being part of a small department has given Dr. MacNeil opportunities to teach courses she would not expect, meaning she never gets bored by the classes she teaches! Dr. MacNeil's current research focus is the impact of target removal on the development of amacrine and bipolar cells in the mammalian retina.

While at BU, Dr. MacNeil worked in Bertram Payne's laboratory, alongside fellow students Donald Siwek and Steve Lomber, where she studied the reorganization of visual cortical connections after early damage to primary visual cortex. Additionally, she performed preliminary experiments to determine whether that reorganization extended to the retina. Due to lack of funding, this work was not included in her thesis, but her interest in these studies persisted. After graduating, she completed a post-doctoral fellowship with Richard Masland at Massachusetts General Hospital and performed independent research identifying the numbers and morphologies of amacrine, bipolar, and ganglion cells. When her husband was relocated to New York for work, she found her current position at York College.

What is your favorite aspect of your current position?

I'm able to both teach and do research. My intention in getting a degree in neuroscience was for the chance to teach at

an undergraduate institution, but I also wanted to continue research. York has enabled that. We're part of a larger university system with access to resources I might not have if I were at an independent private college. The students in my lab have all been undergraduates, so progress is usually slow and the teaching load is heavy compared to a research-intensive institution, but I've been able to teach while still maintaining a research program.

What was your most memorable moment in the department?

We were doing some visual field mapping in an animal whose visual cortex had been removed at birth. I'd participated in these mapping experiments before, and frankly, had a hard time convincing myself that the visual fields were located where Bert [Payne] and Don [Siwek] drew them. But this animal was different. The units in extrastriate cortex were alive! Every time the bar of light entered their visual field they responded with loud bursts of activity—nothing like units in unoperated animals. At that moment, I understood why this area of visual cortex was so important for study and I knew what I wanted to study.

What advice would you give to students preparing to graduate from the department today?

The academic job market is probably more competitive now than it was when I was searching for a position, so if you are open to working at a teaching-intensive college, you may want to consider it. When you apply for positions, you'll need to show evidence of accomplishment—abstracts are the first step, but employers want to see that you have publications—they are necessary for tenure and promotion, so a department wants to have confidence that the person they hire can work independently and grow a research program. When getting ready to graduate, submit your projects for publication before writing your thesis—these will help in getting post-doc offers and faculty positions later on. The other thing I'd recommend is that students take advantage of teaching opportunities. I recognize that teaching cuts into research time, but having teaching experience is often what sets candidates apart when applying for jobs.

Alumni, would you like to submit to the newsletter or update your information on the department website? Email us at anatneuronews@gmail.com!

March 2017 Thesis Defenses

Congratulations to two of our PhD Students, **Teresa Guillamon-Vivancos** and **Alexander Stankiewicz**, as well as **Nadine Aziz**, a Molecular and Translational Medicine student who works in our department, on successfully defending their PhD theses in March!

Teresa Guillamon-Vivancos is a student of Dr. Jennifer Luebke in the Laboratory of Cellular Neurobiology and Dr. Tarik Haydar in the Laboratory of Neural Development and Intellectual Disorders. Her thesis was titled "Distinct Progenitor Lineages Contribute to Neuronal Diversity in Layer 4 of the Barrel Cortex." Teresa plans to continue research as a postdoctoral fellow. Her favorite memories of the department include potlucks, decompressions, and other social events as well as Dr. Thomas Kemper's journal club. As an international student, Teresa would like to especially thank Melissa Kelly, our departmental administrator, for her patience and assistance.



Jennifer Luebke and Teresa
Guillamon-Vivancos

Alex Stankiewicz is a student of Dr. Irina Zhdanova in the Laboratory of Sleep and Circadian Physiology. His thesis was titled "Adult Neurogenesis in a Diurnal

Vertebrate: from Hours to Years." He plans to continue research as a post-doctoral fellow.



Irina Zhdanova and Alex
Stankiewicz

Nadine Aziz is a Molecular and Translational Medicine student whose love of neuroscience led her to join Dr. Tarik Haydar's laboratory in 2012. Her thesis was titled, "Histological, Cellular, and Molecular Abnormalities in Forebrain and Spinal Cord of Three Distinct Mouse Models of Down Syndrome." Nadine's favorite memories in the department are of the departmental holiday parties and spending time with Melissa Kelly.



Tarik Haydar and Nadine Aziz

Departmental Publications (Continued)

Newcomb AM, **Pokines JT**, **Moore TL**. Taphonomical effects of mechanical plowing on buried juvenile-sized remains. *Journal of Forensic Sciences*. 2017.

Pokines JT, Sussman R, Gough M, Ralston C, McLeod E, Brun K, Kearns A, **Moore TL**. Taphonomic Analysis of Rodentia and Lagomorpha Bone Gnawing Based Upon Incisor Size. *Journal of Forensic Sciences*. 2017.

Voss SC, Magni P, **Dadour I**, Nansen C. Reflectance-based determination of age and species of blowfly puparia. *International Journal of Legal Medicine*. 2017.

Shobin E, Bowley MP, **Estrada LI**, Heyworth NC, **Orczykowski ME**, **Eldridge SA**, **Calderazzo SM**, **Mortazavi F**, **Moore TL**, **Rosene DL**. Microglia activation and phagocytosis: relationship with aging and cognitive impairment in the rhesus monkey. *Geroscience*. 2017.

Bauer CM, Hirsch GV, **Zajac L**, Koo BB, Collignon O, Merabet LB. Multimodal MR-imaging reveals large-scale structural and functional connectivity changes in profound early blindness. *PloS one*. 2017

Grossberg S. and **Zajac L**. How humans consciously see paintings and paintings illuminate how humans see. *Art & Perception*. 2017.