



NEWSLETTER FROM THE DEPARTMENT OF ANATOMY AND NEUROBIOLOGY

Boston University School of Medicine - Division of Graduate Medical Sciences



Volume 4, May 2008 Anatomy & Neurobiology Year in Review

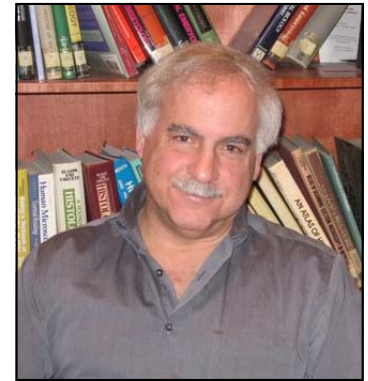
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Chairman's Report by Dr. Mark Moss

I am pleased to report that this year the Department has continued on its course toward becoming one of the top tier Departments of Anatomy and Departments of Neurobiology/Neuroscience in the country. The Department has retained its high national rankings in NIH funding (>13th percentile) and our educational mission, spearheaded by the Vesalius Program, has gained national recognition.

Adding to the strength of our teaching acumen, we welcome Ann Zumwalt, Ph.D., who joined the department faculty this fall. Dr. Zumwalt is an anatomist from Duke University who has broken new ground in providing clinically relevant short-courses to medical students throughout their four-year tenure. She is a welcome addition to our Department and the Vesalius Program.



(Continued on page 8)

First McNary Student Teaching Prize Awarded by Dr. Richard Hoyt



Dr. Hoyt presents the first McNary Student Teaching Award to Dr. James Nilson at the 2007 Department retreat.

James E. ("Jim") Nilson, Ph.D., became the first recipient of the William F. McNary, Jr., Graduate Student Award for Excellence in Teaching at the Departmental retreat on June 6,

2007. The Award is to be given periodically by the Department of Anatomy and Neurobiology to a current or recently graduated student demonstrating exceptional commitment to and

aptitude for teaching in the morphologically based sciences. It honors the memory of William F. McNary, Jr., Ph.D., who had been a member of the Department for 42 years at the time of his death in May, 1991. Dr. McNary was a superb teacher of embryology, histology, and gross anatomy and was idolized by generations of students. He was also interested in training a new generation of teachers to succeed him, quietly and informally mentoring young faculty and graduate students – mainly by personal example. In this sense Dr. McNary can justly be considered the father of our current Vesalius Program.

(Continued on page 9)

Welcome to Lee Iacopucci by Robert Bouchie



I'm sure the following holds true to each and every one of us, at one time in our young adolescence we may have mentioned in the company of an elder "wow, I can't believe how fast the day has passed." The reply has been, and always will be "wait till you're my age." Time certainly has passed rapidly, and an event like an anniversary will certainly bring this to mind. This past September marked the one-year employment of Ms. Lee Iacopucci.

In just this short year, the Department has undergone a significant facelift. On the heels of the Payne library's design and dedication, the Alan Peters Seminar Room and the Departmental Main Office have been completely upgraded to suit the needs of the ever-expanding Department.

Currently, 133 faculty, staff, and students strive for excellence under the direction of Dr. Moss. Contrary to popular belief, Lee was not hired due to her rabid fanatical admiration of the Red Sox (she has been to every opening day and final game of the regular season since 1999). The real reason for her hire was her gleaming experience and her consummate professional approach to every endeavor. The Anatomical

Gift/Laboratory Management division of the Department has never been stronger. She has masterfully put her thumb print upon all aspects of the management, and the result is our bursting file of registered prospective donors and glowing reviews from our past donors' loved ones.

Students have gravitated towards her since the very first day; her calming manner invites all to stop by her office for advice, reason, and (yet, not the primary reason) the overly stocked candy jar with all your childhood favorites.

Lee is a 1998 graduate of Tufts University with a dual major in Archaeology and Classical Studies. She found time within her studies to be a heralded competing member of the equestrian team all four years. At a young age, she had a fascination with the skeletal frame of all life forms. This then led to a vast interest in dinosaurs and human skeletal studies which ultimately spurred her career path. Upon graduation, her fascination with the history of the mummification and the ultimate preservation of humans led her to continue her education at the New England Institute of Mortuary Science (NEI) in Newton. NEI is one of the oldest and most respected schools for funeral service in the world. Her compassionate demeanor and professional abilities led to her apprenticeship at the Campbell Funeral Home in Beverly, Massachusetts. Here Lee learned every aspect of funeral service and fulfilled her requirements to qualify for a state license in Funeral Directing. Her inner spirit yearned for a keener interest in the science of life, and when an opportunity presented itself to matriculate to the prestigious Children's Hospital-Boston and direct the laboratory for the pathology department, she accepted. Here she exceeded in all aspects of pathological operations and retooled the protocols of

the department that finds itself among the worlds finest. She was informed of an opportunity at Boston University to essentially combine all of her relative experiences into one, and as they say the rest is history.

Lee's inspiration isn't confined to the workplace. She is a coach for a marathon-training group (Boston Fit), and since her first marathon (Boston 2005) she has coached, trained, and run in a marathon each year (Chicago marathon in 2006 and the US Marine Corp Marathon in Washington, DC in 2007). Along with shorter preparatory races, she is challenged daily with the training of her golden retriever puppy Nixon (named after her beloved former Red Sox right fielder Trot).

Next time you find yourself on the 10th floor, stop by her office for some Lemon-Heads, Banana Laffy Taffy, or Jaw Breakers. Her warm personality will invite you into conversation, and it just may lead to her speaking of her desire to be a member of the Woman's Professional Roller Derby.

Robert Bouchie is the Anatomical Gift Coordinator and Laboratory Manager for the Department.

***Congratulations on passing the
2007 qualifying exams!***

Linda Afifi

Chad Farris

Sarah Greene

Adrian Oblak

Student Achievement Day by Dr. Todd Hoagland

The twelfth annual Henry I. Russek (HIR) Student Achievement Day was held on May 11, 2007, and nineteen graduate students from the Department of Anatomy and Neurobiology submitted posters. We are especially proud of the four graduate students who applied for the HIR awards: Rahul Desikan, Maureen Estevez, Li Liang, and Jennifer Tobin. The awards are based on characteristics that Henry Russek believed to be paramount to the success of scientists and clinicians: research, service (to a department, the school, and/or the university), and scholarship (academic achievement).

When reviewing the applications of our nominees, it is plain to see that they are all talented scholars and accomplished researchers. Combined, the four nominees are responsible for 13 publications and 27 abstracts. They have also contributed a great deal in service to the Department and the School. Some examples of their ser-

vice are: establishing the Department Newsletter, participating as skilled teaching assistants, organizing the annual Guiseppina Raviola seminar, being mentors for junior graduate students, helping with graduate student recruitment, participating on the MD/PhD Student Committee, participating in the Accelerated Cure Project, volunteering at CityLab, giving lectures to the medical and dental school classes, tutoring and much more.

It is clear that all of our nominees are outstanding candidates. After much deliberation, Maureen Estevez (primary advisor Dr. Carter Cornwall) was chosen as our first place winner and she gave a talk entitled "The role of visual pigment structure in cone photoreceptor dark-adaptation". Maureen delivered her presentation with



Dr. Maureen Estevez, 1st place winner of the 2007 HIR award.

the poise and confidence of a seasoned orator. Jen Tobin (primary advisor Dr. Richard Myers) earned second place and Rahul Desikan (primary advisor Dr. Ron Killiany) received an honorable mention in our department. All of our contributing graduate students deserve a round of applause for all their hard work and dedication.

Dr. Todd Hoagland is an Assistant Professor and Director of Graduate Studies in the Department.

Department Participates in John McCahan Education Day by Kristen Lindgren



Dr. John McCahan and Kristen Lindgren, winner of "Best Trainee Abstract," at the 2007 John McCahan Education Day.

On June 21, 2007, members of the Department participated in the 2nd Annual John McCahan Education Day, a forum for showcasing health sciences education at the Boston University Medical Campus. This event honors Dr. John McCahan, a physician who is passionate about medical education

and has contributed much to its character at this institution.

Several members of the Department participated in this event. Kristen Lindgren, an M.D./Ph.D. student in the Department, was awarded "Best Trainee Abstract" for her study entitled "A Novel Approach to Teaching the Spinal Cord Tracts in Medical Neurosciences." For this project, students were asked to construct color-coded clay models of the spinal cord while viewing slides of cross-sections in the neuroanatomy labs. Overall, students found the modeling activity helpful in learning the spinal cord tracts.

Members of the Department also presented posters on the Medical and Dental Gross Anatomy courses. Dr. Todd Hoagland reported that despite mandatory decreases in class contact time, student performance increased. Data was also presented from the De-

partment's "Dissector Project" for which a team of faculty and 10 medical students designed, wrote, and illustrated an in-house dissection manual to complement the Gross Anatomy course at BUSM. Drs. Monica Pessina and Elizabeth Whitney presented posters on the use of videotaped lectures in the Dental Gross Anatomy curriculum. They found that students felt that having these recordings available enhanced their learning and did not appear to change their note-taking or learning style habits.

The event was very successful and showcased the Department's strong commitment to teaching. This day also allowed students and faculty to meet with educators from around the BUMC campus and discuss ideas about their educational projects. We hope that members of the Department continue to participate in this annual event.

Grants and Awards



Dr. Alan Peters gave a talk entitled "Myelin Degeneration and Regeneration in the Aged Monkey" at the annual meeting of the Cajal Club. This meeting, entitled "From Development to Degeneration and Regeneration of the Nervous System," was held in conjunction with the Instituto de Neurobiologia UNAM in Juriquilla, Mexico in August 2007.



Dr. Marlene Oscar-Berman received a five-year K05 Senior Research Scientist and Mentorship Award from NIAAA entitled "Affective and Conative Changes in Alcoholism" (K05 AA000219).



Drs. Jennifer Luebke and R. Jarrett Rushmore were selected as the 2007 and 2008 Educators of the Year in the Graduate Sciences, respectively. This award was established to recognize, honor, and reward BUSM faculty who give special effort to ensure the best education for BUSM students. The recipients are characterized by their excellence in teaching, mentoring, and devotion to students.



Dr. Peter Bergethon received a four-year R01 from NIH-NINDS entitled "Biological Mechanism of Fast Near-Infrared Signals in Peripheral Nerves." Dr. Bergethon also received a science grant from the Center for Integration of Medicine and Innovative Technology for his project entitled "Multi-Optode Probe for Evaluation of Diabetic Neuropathy."



Dr. Jeffrey Thompson, a post-doctoral fellow in Dr. Dae-Shik Kim's lab, recently received a two-year NIH NRSA individual postdoctoral fellowship grant entitled "Synaptic Competition During Visual System Development" (F32 EY017506).



Dr. Ann Zumwalt and Rebecca Lufler will share the first American Association of Anatomists Educational Research Scholarship, a \$5,000 prize recognizing excellence in scholarship of upcoming generations of anatomy educators. They will investigate the educational utility of providing CT scans of cadavers to medical students during the first-year gross anatomy course. Rebecca was also recently awarded the Abbott Health Professional Graduate Student Research Preceptorship by the American College of Rheumatology Research and Education Foundation for her study with Dr. Doug Gross entitled "The Anatomical Origin of Forefoot Varus Deformity and Its Relationship to Signs of Hip and Patellofemoral Osteoarthritis in Cadavers."



Adrian Oblak was awarded a Graduate Student Research Fellowship (GSRF) from the Division of Graduate Medical Sciences for her project entitled "GABAergic Alterations of Social Communication Areas in Autism."



Patrick Scott, O.D., M.S., has received a NIH Loan Repayment award and was invited to the 2008 Summer Invitational Research Institute which is sponsored by the American Optometric Association Council on Research and the American Academy of Optometry Research Committee.

Stay in Touch via the Alumni Webpage!

A Google group has been created to allow alumni of the Department of Anatomy and Neurobiology to keep in touch. Please visit the website and join the group. We want to hear from you!

Group name: BU Anatomy & Neuro Alum

Group home page: <http://groups.google.com/group/bu-anatomy-neuro-alum?hl=en>

Group email address: bu-anatomy-neuro-alum@googlegroups.com

WELCOME NEW FACULTY

ANN ZUMWALT, PH.D. (Assistant Professor)

Ann comes to BU from the Department of Biological Anthropology and Anatomy at Duke University where she had been a Research Associate since she completed her Ph.D. in the Center for Functional Anatomy & Evolution in the Johns Hopkins School of Medicine in 2004. She has a number of research interests whose common theme is understanding functional anatomy, either in the context of evolutionary or clinical questions. The evolutionary questions focus primarily on the effect of locomotor loads on bone morphology. Her clinical interests are broad, but she has a particular interest in using diagnostic imaging techniques to understand normal function and pathology in human anatomy. Ann has been teaching gross anatomy for five years and at Duke developed a number of clinical anatomy courses for advanced medical students. She is a very enthusiastic teacher and is pleased to have joined this department and its mission to provide excellent instruction in the anatomical sciences.



CATHERINE GRGICAK, PH.D. (Instructor, Program in Biomedical Forensics)

Dr. Grgicak recently received her doctorate in Chemistry from the University of Ottawa and has been hired as an Instructor in the Biomedical Forensic Sciences Program at Boston University. She is interested in designing and carrying out research relevant to forensic DNA testing. Current research focuses on optimizing DNA recovery during extraction, development of extraction procedures aimed at detecting and separating cells from multiple sources as well as developing cost effective DNA quantification methods. Prior to her doctoral work, Dr. Grgicak received her M.S. in forensic science from the University of Alabama at Birmingham while working at the Alabama Department of Forensic Sciences. Her Masters research focused on elucidating the nature of primer binding site mutations in forensically relevant markers. She continued her forensic casework and research at the Cellmark Diagnostics Laboratory in Germantown, MD.



ADAM HALL, M.S. (Instructor, Program in Biomedical Forensics)

Hall was previously with the Massachusetts State Police Crime Laboratory where he analyzed evidence within the Arson and Explosives and the Drug Analysis and Criminalistics Units over the past five years. He was also an active member of the Crime Scene Response Unit. Hall has testified in various criminal proceedings during his tenure with the State Police. Currently, Hall instructs several courses in the Biomedical Forensic Sciences M.S. Program. He is also actively developing the Forensic Chemistry and Trace Analysis sections for the program as well as building a Forensic Instrumental Analysis and Microscopy Laboratory for both student use and future research. Hall's research objectives aim to employ instrumental analyses of chemically-relevant evidence samples through specific applications, including the trace analysis of ignitable liquids and explosive residues. The use of ignitable liquids in arson cases, such as biodiesel and E85, and the investigation of non-conventional energetic materials created from readily available substances, are of primary interest. Hall's courses also explore how these substances are employed in improvised explosive devices. His students recently nominated him for the 2008 Educator of the Year Award in the Graduate Sciences for his teaching in the Forensic Chemistry course.



LT. WILLIAM POWERS, J.D. (Assistant Professor, Director - Professional Studies in Applied Forensic Sciences and Criminal Investigation)

Bill Powers, JD, the Director of the Professional Studies Program, retired from the Massachusetts State Police in September of 2007 after thirty-three years of service. During his tenure, he commanded the Detective Units assigned to both the Middlesex and Suffolk County District Attorney's Offices, where he investigated and supervised more than one hundred homicide cases. He was named Director of Training for the Division of Investigative Services and later served as the Commandant of the Training Academy. His final assignment was as Director of the Department's Media Relations Unit. Bill is an attorney and a graduate of the FBI National Academy. Here at BU he will organize training programs in forensics and crime scene investigation for state, local, and federal authorities.



KEVIN "KIP" THOMAS, PH.D. (Assistant Professor, Director - Program in Biomedical Crisis Management)

Dr. Kevin "Kip" Thomas comes to Boston University from the greater Washington D.C. Metropolitan area, having earned his doctorate from George Mason University, School of Public Policy, in Fairfax Virginia. Dr. Thomas is the founding director of the recently approved Master's of Science in Biomedical Crisis Management Program at BUSM. Currently, he is teaching a statistics course for graduate students this semester. Dr. Thomas's past experience includes over 20 years of military service, both in the field as a submariner and in the pentagon. He has broad teaching experience to diverse groups. He was the founding Research Programs Director for the Critical Infrastructure Protection Program, an over \$20 million dollar research program in developing and analyzing methods of critical infrastructure protection and cyber security. He provided project oversight for over 50 research activities conducted throughout a consortium of over 14 universities into critical infrastructures, personally leading or participating as a researcher in a number of these projects.



Snapshots from the Department Retreat, June 6, 2007

Special thanks to Sushma Agam and Ana Amaral for the photos



Meet Our New Students!



Above, left to right (back row): Karanda Bowman, Marissa Simms, Darshan Trivedi, Peter Fried, Felix Hsu, Johanna Crimins. (front row) Jerry Skefos, Niyati Pandya, Seth Elkin-Frankston, Kathy Kopeikina.

Congratulations on completing your Ph.D thesis defense in 2007!

Rahul Desikan

Maureen Estevez

Christopher Holland

Li Liang

Sandy Thevarkunnel

Jennifer Tobin

Noriko Yamamoto

GMSSO Update by Adrian Oblak

The Graduate Medical Sciences Student Organization (GMSSO) is entering its fourth year, and Adrian Oblak was recently elected President of the organization. Rebecca Lufler and Marissa Simms are currently serving as the Department representatives.

The GMSSO sponsored its First Annual Career Fair last spring for students and post-docs in the graduate school. This successful event was repeated this spring and featured workshops on job hunting and job interviewing. It also welcomed alumni, local scientific writers, bio-tech companies, and a variety of other individuals in science-related fields. Last fall, the GMSSO hosted a successful welcome social on the Spirit of Boston Cruise line. The event welcomed 200

GMS students and included a buffet dinner and a two hour Boston Harbor cruise. We are continuing to work hard on the health insurance issues and are happy to announce that changes have been made to the 2007-2008 Chickering health care plan. Ongoing negotiations are taking place with the hope of even more changes for the next academic year. Don't forget to check out the Graduate Student Lounge on the 14th Floor! If you have any questions, concerns, or sugges-

tions, you can e-mail the organization at GMSSO@bu.edu or visit the website for updates.

<http://people.bu.edu/gmssso>



Students from the Department at the Fall GMSSO Welcome Cruise.

Volunteering Update by Sarah Greene

The Department has continued to volunteer within the community through various organizations in surrounding areas. This past year, students have volunteered with the Walk for Multiple

Sclerosis, the Boston Living Center, Rosie's Place, the Pine Street Inn, and the Angell MSPCA in Jamaica Plain. This June, students and faculty will participate in a group build day for

Habitat for Humanity of Greater Boston. If you are interested in participating or making a donation to support our team, please contact Sarah Greene at sjgreene@bu.edu.

Chairman's Report *(continued from page 1)*

The Department has made significant strides in graduate education. We have finished the second year of co-directing two major Ph.D. neuroscience courses (Systems Neurobiology and Cognitive Neuroscience) jointly with the neuroscience programs on the Charles River Campus. Next year, we look forward to offering the "Methods in Neuroscience" course jointly as well. We also implemented the Medical School's first modeling/interdisciplinary biomedical course entitled "Introduction to Interdisciplinary Systems Science: Dynamic Modeling." The course is under the direction of Drs. Peter Bergethon and Ted Woodcock.

With regard to Master's programs, the Mental Health Counseling and Behavioral Medicine Program, developed with the Department of Psychiatry five years ago, has expanded to over 50 students. The new Master's program in Bioimaging, created with the Department of Radiology, has been successfully launched and is completing its second year. Perhaps most striking has been the rapid development of the Program in Biomedical Forensics. After only two years, this program, the first of its kind in the country affiliated with a Medical School, has nearly 70 students enrolled. The program is rapidly gaining national recognition from undergraduates and members of local, state, and federal law enforcement agencies alike. As part of this expansion, we are pleased to welcome Adam Hall, an expert in biochemical forensics, Dr. Catherine Grgicak, an expert in forensic DNA analysis, and Lt. William Powers, who will organize training programs in forensics and crime scene investigation for state, local, and federal authorities.

The Department has two new recently approved Master's programs. The first is an MA program in Forensic Anthropology, and the second is an MA in

Biomedical Crisis Management. These programs will be headed by Dr. Murray Marks and Dr. Kevin (Kip) Thomas, respectively.

The department continues to be quite active in training as well. We anticipate the renewal of our training grant from the NIA entitled "*Training in the Neurobiology and Neuropsychology of Aging*", a multi-institutional training program that includes 17 faculty from BUSM and the Massachusetts General Hospital that was cited by the NIA as a "model for training grants in the field of aging". The faculty also continue to serve a major role as advisors to the school, including SCOMSA (Dr. Hoagland), GMSSO (Dr. Moss) the Academy of Advisors (Drs. Hoagland, Moss, and Vaughan), the MD/Ph.D program (Dr. Bergethon), and for the Masters in Medical Sciences (Drs. Blatt and Sandell). The department continues to sponsor the Clinical Neuroscience Society (CNS), an organization that provides mentoring, research opportunities and exposure to the clinical neurosciences for medical and graduate students at BUSM.

The Department also continues to participate in leadership positions at the University and Medical School. Dr. Julie Sandell has just completed a very successful and effective year as President of the Faculty Council. Dr. Deborah Vaughan, Assistant Dean for Medical School Admissions, helped see to fruition one of the best Medical school classes to date. And finally, faculty in the Department include four 1st year medical school course directors or co-directors who have all had a very busy year working on the new curriculum.

Research funding in the department continues to be strong. One highlight for the year was the renewal of our Program Project on the "Neural Basis of

Cognitive Decline" from the NIA that carries the distinction of the very first POI awarded by the NIA (AG-00001). The faculty were also very active in publishing with over 100 original articles published or in press this past year. Our graduate students and postdocs were also active in research with many attending and presenting at national meetings.

Stemming from the Department's commitment to the belief that both teaching and research form the foundation for excellence in a basic science department, the Department was again recognized for its excellence in teaching. Drs. Jennifer Luebke and R. Jarrett Rushmore were the recipients of the *Educator of the Year Award in the Graduate Sciences* in 2007 and 2008, respectively. With guidance from our Vesalius program, several of our graduate students have also made significant strides in becoming first-rate teachers with several receiving accolades from medical students and faculty alike for their involvement in Medical and Dental Gross Anatomy and Medical Neuroscience. Dr. James Nilson, a former graduate student from the department who has just entered medical school at BUSM, was the recipient of the first annual William McNary Jr., Teaching Award in Anatomy at the Department's retreat in June.

We also welcome the arrival of our new graduate school class of five Ph.D candidates (Karanda Bowman, Peter Fried, Seth Elkin-Frankson, Kathy Kopeikina, and Marissa Simms), one MD/Ph.D candidate (Darshan Trivedi), and four MA candidates (Johanna Crimins, Felix Hsu, Niyati Pandya, and Jerry Skefos).

By all accounts, the Department has had a very successful year, and continues to have an impact at the local and national level through its vibrant research and teaching missions.

First McNary Student Teaching Prize Awarded

(Continued from page 1)

Jim Nilson entered the Department as a graduate student in 2001. He received his Ph.D. in 2005 for work in Dr. Charles Zucker's lab, where he studied the relationship between differential distribution of chloride cotransporters and the directional light responses of starburst amacrine cells in rabbit retina. In 2006, he joined the Medical Class of 2010 here at Boston University.

Jim's skill and dedication as a teacher are of a very high order. As a graduate student, he was particularly drawn to Gross Anatomy. Not only was he one of

the best teaching assistants we've ever had, he was the first student in recent memory to be entrusted with regular lectures to the Medical and Dental classes. During the year between graduate school and medical school, Jim worked with Dr. Jennie Luebke in her research lab and supervised the teaching assistants and prosectors in the dissecting lab. Given his prior experience, Jim was exempted from Gross Anatomy in his first year at the Medical School. He spent much of the time thus freed up working in the Lab, helping his classmates; and during the last two weeks of the semester, in Head and Neck, he gave virtually non-stop re-

views to "small" groups of students. The faculty had to adjust to an increase of 30 students in the Medical class that year, and Jim's efforts contributed greatly to the success of the Course.

Although unable to attend the presentation, Dr. McNary's widow, the late Jean McNary, reviewed Jim Nilson's qualifications carefully. She found him ideal as the first recipient of the award established to honor her husband's achievements as a teacher.

Dr. Richard Hoyt, Jr. is an Associate Professor in the Department.

20th ANNUAL GUISSEPINA RAVIOLA MEMORIAL SEMINAR

May 22, 2008
2:00 P.M.
L-110

Guest Speaker: Nancy Kanwisher, Ph.D.

"Functional Specificity in the Cortex: Selectivity, Experience, & Generality"

For more info visit:
http://web.mit.edu/mcgovern/html/Principal_Investigators/kanwisher.shtml
<http://web.mit.edu/bcs/nklab/>



Boston University School of Medicine - Department of Anatomy and Neurobiology



McNary Student Teaching Prize (Fund # 1769-1)

Checks or money orders can be made payable to:

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Please detach coupon and return with donation to:

Address _____

**Boston University School of Medicine
Department of Anatomy & Neurobiology**

Phone _____

715 Albany Street L-1004
Boston, Massachusetts 02118-2526

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Phone: (617) 638-4200

Recent Publications

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