NEWSLETTER FROM THE DEPARTMENT OF

ANATOMY AND NEUROBIOLOGY

Boston University School of Medicine - Division of Graduate Medical Sciences

Volume 6, Fall, 2008

Inside this issue:

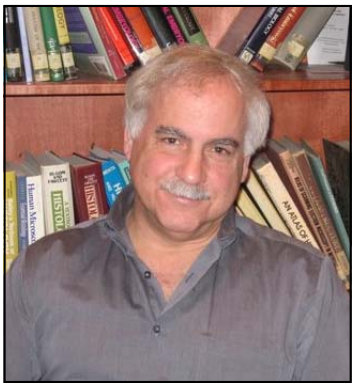
Chairman's Report

by Dr. Mark Moss

The Department continues on its trajectory as one of the leading Departments of Anatomy and Neurobiology/ Neuroscience in the country.

The Department has maintained its large NIH research funding portfolio, has added to its portfolio new industry and private foundation grants, and has continued to develop new innovative programs and courses. The Department's educational mission continues to gain national recognition through both its Ph.D. and Master's level programs. Our teaching program in the biomedical sciences, the "Vesalius Program, has attracted attention from students and faculty alike.

In the same vein, we have entered the third year co-directing two major Ph.D. neuroscience courses (Systems



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Distinguished Alumni: Charles (Chuck) Ribak, Ph.D., by Marissa Simms

Dr. Ribak in the electron microscopy lab.

The distinguished Department of Anatomy and Neurobiology alumnus, Charles "Chuck" Ribak, has contributed much to the field. To date, he has published over 150 papers and book chapters, generated the first primate model of temporal lobe epilepsy, and has taught state of the art techniques of electron microscopy. His fourth co-edited book, "From Development to Degeneration and Regeneration of the Nervous System" (Oxford University Press) debuted at the 38th annual meeting of the Society for Neuroscience. In a one hour phone interview with me, Dr. Ribak talked about his career path and imparted advice to the new students in our department.

Charles Ribak underwent his doctoral training (1971-1975) in the laboratory of Dr. Alan Peters, who was the department Chair and the Waterhouse Chair of Anatomy. Utilizing the then most current anterograde axoplasmic transport tract-tracing method, tritiated-proline autoradiography, he studied the projections from the lateral geniculate nucleus to the visual cortex in the rat brain. As he reminisced about his graduate studies, he described the department as "nurturing and tight knit". The faculty was greatly involved with students, and the students were in charge of organizing seminars every month. Dr. Ribak, for example, invited and hosted David Hubel, the Nobel Prize laureate, to speak on his seminal visual system findings. Although Dr. Ribak confesses that his social life was rather lacking, he enjoyed department events, such as the department's Boston Harbor Cruise and picnics planned by Alan Peters.

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Teaching BUSM Histology with Technology

by Deborah Vaughan, PhD

What has happened to our Histology course? No microscopes to lug around? No slide boxes full of microscope slides? No lab chalk-talks? No microscope-induced nausea? In the fall of 2007, the traditional BUSM Histology course went high-tech with the introduction of virtual microscopy (VM). That change enabled several pedagogical improvements in the teaching of this foundational science.

Over the past several years, medical science faculty have focused attention on how we teach our learners. Now that more of our students come to us with nontraditional backgrounds, the biomedical education of these diverse learners needs to be more professional and effective. Across the country, today's faculty have been encouraged to replace large, passive, didactic lectures with opportunities for collaborative independent learning, small group work, and lectures that are engaging and interactive. By going virtual, histology replaced its traditional microscope-based laboratory sessions with self-directed laboratory exercises and small group interactive discussions that focus on critical thinking skills and teach the art of interpreting histological slides. The success of this new course structure came with the simultaneous introduction of Audience Response System (ARS) 'clickers', used regularly in histology lectures to engage the learners and make our lectures more interactive.

What is virtual microscopy? Digitized images and computers replace glass slides and microscopes. A virtual histology slide is a digitally captured glass slide that is comprised of thousands of high-resolution images obtained with a 40x (or 60x) light microscope objective; these images montage into seamlessly complete images of tissue sections that can be viewed at up to 9 levels of magnification. A computer is used to view, navigate, change magnification, and focus through the virtual slide. Users can measure areas and distances, annotate, view multiple slides simultaneously, capture images to facilitate communication, and, best of all, view the virtual slides anywhere there is a computer! BUSM II students are now directed to view our VM slides as part of their second year DRx (Diagnosis and Therapy) course. This use of our VM slides in the BUSM II curriculum is one example of the "vertical integration" of curriculum we faculty are encouraged to develop.

Because all our Histology students use the same VM slides for the laboratory exercises, our revised Histology laboratory guide is now written with very specific directions and descriptions that enable the learner and his or her study partner to work with an atlas and successfully complete the laboratory exercise independent of faculty. Subsequently, the students attend 75-minute interactive discussion sessions during which additional VM slides are presented and analyzed under the guidance of a faculty member. The discussion sessions are held in computer classrooms that are outfitted with interactive white boards, allowing for manipulation of, and drawing upon, the VM images; as well as software that allows for synchronizing and projecting from any computer in the room.

Quizzes are administered via the ARS, and the Histology faculty have used this efficient technology in all lectures. Since the spring of 2008 Dr. Vaughan and Dr. Toth have presented several workshops to BUSM faculty on the effectiveness of using ARS in lectures, and now many courses use this tool to make their lectures interactive, engaging, and even entertaining.

What inspired the change to VM? Our collection of microscope slides was deteriorating, class size was growing, and faculty and support staff were becoming less available to teach and support the class material. *Are our students denied the experience of using conventional microscopy?* A survey of the students this fall revealed that 100% of the class had used a microscope in a previous class and/or research laboratory. It is worth noting that VM material is becoming commonplace beyond the classroom, in distance consultation for research and pathology . Finally, the Pathology boards use VM in their certification exams.

Has all this technology worked? Yes, and with great success: in the fall of 2007, questions on the first VM practical exam replicated those on the first light microscope exam of the previous fall, and class performance was nearly 16 percentage points higher than the mean of any first exam we have given with conventional microscopes! The students' responses to both the VM and ARS are universally positive and enthusiastic.

Check out the poster located outside Dr. Vaughan's office to see student comments. (Poster and platform talk were presented at the International Association of Medical Sciences Educators in July 2008.)

GMSSO Update from the President

The Graduate Medical Sciences Student Organization (GMSSO) is in its fifth year. The goal of this organization is to bring together students in all departments and programs of BUSM to arrange social gatherings and address student issues in an attempt to provide a better overall community around campus. Our department plays a very important role in this organization with Adrian Oblak as the current President after serving for two years as vice president, Rebecca Lufler and Marissa Simms as Ph.D. representatives, and Chad Farris and Geunwon Kim as M.D./Ph.D. representatives.

The various committees have worked closely with Dr. Moss to produce highly successful events. In March, the GMSSO held the second annual Career Day that featured lectures in resume/CV writing and job hunting. Nine companies ranging from clinical and pharmaceutical research organizations to the Massachusetts State Police Crime Lab came to offer advice and jobs for students. In September, the GMSSO hosted, for the second time, a very innovative Welcome Back event aboard the Boston Spirit Cruises, which included a buffet dinner, raffle prizes, dancing, and a two hour harbor cruise.

One of the most important accomplishments in the missions of the GMSSO has been the acquisition of better health insurance for the graduate students. For the first time during the 2008-2009 academic year, all Boston University graduate students are able to choose between two different health plans. Students can now sign up for a premium plan with more benefits and lower deductables than the standard package.

The GMSSO is continuing to work on issues concerning graduate students such as social events and safety. The organization is always open to other suggestions and concerns that students may have. **You can e-mail GMSSO at gmsso@bu.edu or visit the website for updates at people.bu.edu/gmsso.**

Volunteering Update

by Sarah Greene

Students, faculty, and staff in the Department of Anatomy and Neurobiology have been very busy volunteering in the community. During this past summer, nearly 20 volunteers traveled to Dorchester and Newton to help build homes with Habitat for Humanity of Greater Boston; and, thanks to overwhelming support from the department, family, and friends, we were able to raise nearly $3,000 for this organization. Additionally, several members of the department volunteered with the Special Olympics Summer Games helping athletes and staff with the opening ceremonies and numerous events. Our department has also been volunteering regularly with Rosie's Place throughout the past year, where we provide meals to the women at this shelter. Several upcoming volunteering opportunities have been scheduled, including a fourth Habitat build day in November, and an evening of providing meals at the Boston Living Center. If you have interest in these events, or ideas for additional volunteering activities, please contact the volunteer coordinator (sjgreene@bu.edu).

Great job everyone!

Forensic Anthropology Masters Program

by Marissa Simms

Fall 2009 will mark the debut of the Forensic Anthropology masters program in BUSM's Division of Graduate Medical Sciences. Forensic anthropologists involved with medicolegal death investigations will provide instruction to students in the theory, practice and techniques of biological and skeletal anthropology. Graduate students will learn to apply the basic principles of anthropology, anatomy, and osteology to criminal casework and situations involving unidentified remains. This 42-credit masters program offering lab and lecture based classes, culminates in a full-length graduate level thesis.

This is the only Forensic Anthropology masters program offered in the anatomy department of a major medical center. Graduate students will have access to the human anatomical sciences laboratory, an outdoor field research station, the state medical examiner's office, and law enforcement crime laboratories. Additionally, as the Forensic Anthropology program is part of the emerging Biomedical Forensics Institute at BUSM, students will have access to academic and practical experiences involving forensic science, forensic anthropology, and criminal investigation.

Graduates from this program will be prepared to pursue doctoral studies in forensic anthropology or to immediately work in the forensic anthropology field. Typical careers in forensic anthropology are in the Medical Examiner's office conducting medicolegal death inspections, in academics, or in the Joint POW/MIA (JPAC)- a joint task force within the Department of Defense that aims to account for the U.S. POW and MIA from past wars.

The Forensic Anthropology faculty include: Tara L. Moore, Ph.D., Program Director; Donald Siwek, Ph.D., Elizabeth Laposata, M.D., William J. Powers, J.D., and consultant Murray Marks, Ph.D. a forensic anthropologist from the University of Tennessee Medical Center. Adjunct faculty have been recruited from local, state, and federal law enforcement agencies.

For more information, visit:

www.bumc.bu.edu/forensicanthro

New Courses and Programs Spring 2009

"Autism and Society"
Helen Tager-Flusberg
- - -
"Master's of Science in Biomedical Crisis Management Program"
Kevin "Kip" Thomas

GRANTS AND AWARDS

Helen Tager-Flusberg has received an Autism Speaks Grant (Total Award: $450,000) titled Novel Measures for Testing Language Comprehension in Children with Autism Spectrum Disorders. (2008-2011), and was elected fellow to the American Association for the Advancement of Science

Robin Cotton received a NIJ Solicitation (2008-NIJ-1746) grant for Forensic Science Training Development and Delivery Program.

Tara Moore and co-PIs Doug Rosene and Dr. Pessina received a n R21 grant from the National Institute of Aging funded in September titled "Primate Model of Stroke and Recovery in Aging".

Josh Stefanik received a Doctoral Dissertation award from the Arthritis Foundation entitled, " The association between patella alta and knee osteoarthritis and pain."

Co-PIs Doug Rosene from Anatomy and Neurobiology along with H Eugene Stanley and Luis Cruz of the BU Physics Department received a 5 year grant renewal for a total of $2,908,820 on Aug 1, 2008 entitled "Quantitative Analysis of Cerebral Cortex in Aging Monkeys." National Insitutes of Health, National Institute on Aging, Biology of Aging Program.

Patrick Scott received the *Ezell Fellowship* from the American Optometric Foundation, and the National Glaucoma Society's *Resident Award*.

WELCOME NEW STUDENTS

Jospeh Michael Amatrudo *North Branford, CT*

Joe pursued his undergraduate education at Siena College near Albany, NY. There he spent a year and a half studying the electrophysiology of medicinal leeches. His current work involves Whole Cell Patch Clamping and computer tech support in Dr. Luebke's lab. Outside of research, Joe enjoys to play music, video games, and travel.

Corinna Mae Bauer *Toronto, Canada (northeast suburb)*

Corinna graduated from the University of Western Ontario with honors, having studied physiology, psychology, and piano performance. In 2008, she completed her MA in Bioimaging at BU, studying under Dr. Jara and Dr. Killiany. Her past and present research endeavors involve the application of quantitative neuroimaging in Alzheimer's disease, under Dr. Killiany.

Michael Kelley Erb *Upstate New York*

Kelley obtained his BS in mechanical engineering from Lehigh University. Thereafter, he spent two years in southeast Virginia working for an electrical engineering design group studying the control systems for propulsion in the US navy's nuclear aircraft carriers. Following two years of work under Dr. Kim in biomedical imaging, he's joined the department with an interest in computational neuroscience.

Kim Geunwon *Wallingford, CT*

Kim graduated from Cornell with a major in Biology and Society. Her prior research focused on cognitive development in infants and toddlers, utilizing structural and functional MRI and DTI.

Samantha Leigh Handler *OK, IL, TX, CT, and NJ*

Samantha studied history and psychology at American University, where she became fascinated with behavioral neuroscience. As an undergrad, she researched in the Psychopharmacology and Classical Conditioning labs. Aside from her interests in researching developmental neurobiology and nociception, she was drawn to our department by the people in it.

Adam Ludvigson *De Pere, WI*

Adam undertook his undergraduate studies at St. Olaf College in Northfield, MN. Although new to the city, he's taken a liking to it, and to our department, appreciating the personal interaction between faculty and students. Following obtaining a master's degree, Adam intends to pursue medical school. His hobbies include photography, golf, music, tennis, and quality teas.

Louis Byungho Yu *St. Louis, MO*

Lou graduated from BU with an undergraduate degree in Biology, after which he worked for a year in AIDS clinical research at Washington University. It was in this clinical environment that he set his sights on a lifelong medical career. He's enjoyed his studies in neurobiology and is highly motivated to begin research work in the department.

Mary Alba

by Alan Peters, PhD

When I hired Mary in 1973 to do "light typing and some filing", the Department was a different place from what it is now. I think that the only faculty member of the present Department who was around then is Dr Vaughan, who was a postdoctoral fellow. As far as I recall, the Departmental Secretary was Ann-Marie, and the diener was Robert Kane, both of whom attended Mary's 90th birthday party. In 1972 the Departmental office was in the same location as it is today, but there were no computers. There was always a background clattering of electric typewriters as letters, grant applications and scientific articles were typed manually. And since there were no copying machines, secretaries had to make several carbon copies. Heaven help you if you made a mistake and decided to alter something. The whole page and sometimes several pages had to be retyped. Also financial books and student's grades had to be entered by hand.

This was the world that Mary entered in 1973. She still does filing but now she has learned to use a computer. What has not changed is Mary. She is a little older, but she is still the same cheerful person, who probably knows more about people's personal lives than anyone else in the Department. She is the Department's surrogate mother, who often asks about the health and well-being of you and your family or significant other. She gives advice about how to live your life, and how it might be modified for the better.

Mary has a long commute each Monday, Tuesday and Wednesday. But except for voting days she is always here, irrespective of the weather. She also comes in some other days if there is a party or reception being held, because Mary loves parties. She likes parties because she likes people and likes to see them having a good time.

Long may it last Mary!

Department Kickball

by Stephanie Soscia

Several students in our department have taken some time away from the lab bench to burn off some extra energy (and perhaps a little post-experiment frustration) on the kickball field. The World Adult Kickball Association (www.kickball.com) allows graduate students and young professionals to come together for a little healthy competition in a sport that most of us haven't played since fourth grade.

Chad Farris, Seth Elkin-Frankston, Pat Scott, Adrian Oblak, Pete Fried, Amelie Lanoue, Kelley Erb, Shannon King, Marissa Simms, and I all participated in the Cambridge Patriots Division this past summer. Who would have thought that Chad could kick the ball over most of the outfielders' heads? Pete and Kelley lead most games with their excellent pitching skills, and Seth is definitely the Kevin Youkilis of kickball. Just a word of caution to all kickball basemen out there: Watch out for Adrian when she's running the bases – she means business.

The Green Monsters (pictured here) finished with a record of 3-4-1. Some of us, along with other members of the department, joined the Fall Ironsides division in Fenway, and we will be playing each Sunday afternoon through November. Come cheer us on! **For more information, or if anyone is interested in playing this coming spring, please email me at ssoscia@bu.edu.**

Fun, Sun, and (hot dog) Buns

by Steve Schettler

Every year I look forward to the Department of Anatomy & Neurobiology's Annual Retreat and this year's potluck/picnic was no exception. At it's best, the retreat provides an opportunity for us to not only examine, but also rededicate ourselves to the teaching and research missions of the department and use the time to re-connect socially with friends and colleagues. At it's worst, however, it's a day of conspicuous consumption and playing outside in the sun. This year was one of the worst on record.

The day wasn't entirely bad, I'll admit. After gorging myself on hamburgers and ribs (masterfully prepared by Bill Powers and Don Siwek, respectively), we picked teams for a friendly losers-forfeit-their-self-esteem game of softball. Needless to say, my team won and when I say 'won' I mean 'completely dominated'. To show that I'm a good sport though, I won't add insult to injury by mentioning the names of anyone on Mark Moss's losing team.

Let's get serious for a moment here. The departmental retreats are also great from an entirely different perspective: you get to converse with people outside of the realm of the Gross Anatomy Lab, and talk about things other than what a drag it is to publish all of your work in Nature. Consider this little tidbit I found out at the retreat: Mark Moss was a HAM radio operator in his youth! I realize that many of you might think that HAM radio is just something that people do by themselves in the basement of their parent's houses because they have no dating prospects. Not true. Apparently it's also something that sublimely cool, future departmental chairs do in their parents' houses.

More than anything else, the retreat is a really good time. If you weren't there, you missed out, plain and simple. I hope that my bombast is transparent enough to anyone reading this, but I consider myself very lucky to have such a fantastic group of people to work with; days like this allow us to slow down and appreciate it.

I also hope that Mark will still sign my dissertation.

--Cheers!

Student Achievement (Russek) Day

by Todd Hoagland, PhD

Adrian Oblak, 1st place winner of the HIR award, and first ever recipient of HIR Service Award.

The fourteenth annual Henry I. Russek (HIR) Student Achievement Day was held on June 6, 2008, and eighteen graduate students from the Department of Anatomy and Neurobiology submitted posters. The scope of research being accomplished in the Department is truly impressive. This occasion allows us to come together to celebrate the accomplishments of our gifted graduate students and faculty mentors. We are especially proud of the three departmental recipients of the HIR Student Achievement Awards: Adrian Oblak, Steve Schettler, and Patrick Scott, and their research mentors.

The day began with Shelley Russek welcoming all the faculty and students, and thanking the Russek Foundation for their generous support of graduate student education at Boston University School of Medicine. The Foundation provides the funds to hold this achievement day each year and to support the monetary awards given to outstanding graduate students from various departments. The awards are based on characteristics that Henry Russek believed to be paramount to the success of scientists and clinicians. Dr. Russek was an excellent mentor and he encouraged his students to be outstanding in research, service (to a department, the school, and/or the university), and scholarship (academic achievement). It is no coincidence that these are also the hallmarks of successful graduate students and junior faculty.

This year the Department of Anatomy and Neurobiology had four outstanding candidates to apply for the HIR Student Achievement Day awards. All four students are exceptional with many accomplishments in research and teaching. They all have extremely high grade point averages, have published manuscripts in top-notch journals, and have been teaching assistants for multiple years. Combined, the four nominees are responsible for 9 publications and 22 abstracts.

Each nominee has also made significant contributions in service to the department and school. Dr. Russek believed strongly that for an institution to be truly exceptional it needed the support and service from dedicated faculty and students. When reviewing the applications of our nominees, it is plain to see that they are all talented scholars, accomplished researchers, and they have contributed a great deal in service. They have been involved in the following: president of GMSSO, member of the Graduate Medical Sciences Steering Committee, the BUSM Executive Committee, new student orientation, training of students, technicians, and post-docs in the lab, participating as skilled teaching assistants, organizing the annual Guiseppina Raviola seminar, being mentors for junior graduate students, helping with graduate student recruitment, tutoring and much more.

It is clear that all of our nominees are outstanding candidates who could easily earn the first place award among many other departments in the division of Graduate Medical Sciences and it was difficult to choose. After much deliberation, Adrian Oblak (primary advisor Dr. Gene Blatt) was chosen as our first place winner and she gave a talk entitled “Decreased GABA and Serotonin Receptors in the Anterior and Posterior Cingulate Cortices in Autism: Relevance to Clinical Treatments”. Adrian delivered her presentation with the confidence and poise of a seasoned orator, and she received the first ever HIR Service Award for her outstanding contributions to the Division of Graduate Medical Sciences. Steve Schettler (primary advisor Dr. Mark Moss) earned second place and Patrick Scott (primary advisor Dr. Julie Sandell) 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.

Please congratulate our three awardees and all graduate students who submitted posters for this very important event. We had an excellent showing all around on Student Achievement Day and our awardees set the bar awfully high for future students. I am confident the next generation will rise and meet this challenge. This was truly a proud day for our awardees and the Department of Anatomy & Neurobiology.

Todd Hoagland is an Assistant Professor in the Department.
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Distinguished Alumni: Charles (Chuck) Ribak, Ph.D. (continued from pg. 1)

For post-doctoral studies (1975-1978), Dr. Ribak went to work with a former post-doc from Edinburgh University in Scotland and former colleague of this department, Jim Vaughn, at the City of Hope Medical Center in Duarte, CA. There, Dr. Ribak conducted the first studies on the distribution of GABA neurons in the rat visual cortex.

Looking back, Dr. Ribak recognized that "it is very rare to do a three year post-doc", however, he attributes this feat to publishing ten papers in those few years. His focus was perhaps instilled by his senior post-doc advisor Eugene Roberts who gave Dr. Ribak the following advice: "There will always be important issues that will come up in your department. Do not get involved…. Keep your nose to the lab bench and churn out papers. In the end, people will want to know what papers you have published, not what important department issues you have discussed." Reflecting back on his time spent here, he cannot believe thirty years have elapsed since then. He commented, "…time goes by quickly when you are having fun, in research!"

At the University of California at Irvine, Dr. Ribak has advanced to full professorship and has had continued success studying the neurocytology of the developing and aging cerebral cortex, and the role of GABAergic neurons in models of epilepsy. Most recently, Dr. Ribak has studied how newly-generated neurons in the hippocampus are affected by epilepsy. When questioned about what makes an individual successful in the medical sciences he replied: "To be successful in medical science, you have to think about your experiments both inside the lab and outside the lab. And, you have to be creative in your thinking. Successful scientists are always talking about doing experiments and making up hypotheses… at dinners, meetings, social events. It sounds nerdy but you have to understand... the really creative experiments have a lot of thought put into them." Ribak recommends that students read Sanatiago Ramón y Cajal's book "Advice for a Young Investigator", and express appreciation to their mentors. Additionally, Dr. Ribak recommends that graduate students join the Cajal Club (www.cajalclub.org), the oldest existing neuroscience club; as a grad student, he was greatly influenced by the neuroanatomists he met at Cajal Club meetings.

Looking back on his research career, Dr. Ribak says the best thing about neuroscience is, "it is truly the frontier of medical science… back in graduate school I learned that all kinds of organs could be transplanted… except the brain!.. I knew that neuroscience was an area of medical research I wanted to be involved with. This is what has kept me going over the years". Dr. Ribak expressed his appreciation for the mentorship he received from Dr. Peters during his graduate studies and continued support over the years.

It should be noted that Dr. Ribak delivered the very first distinguished alumni lecture in 2005 to the Department of Anatomy and Neurobiology on how newly generated hippocampal neurons form aberrant basal dendrites after seizures and contribute to recurrent excitatory signaling.

Dr. Ribak near his home by the ocean.

Boston University School of Medicine - Department of Anatomy and Neurobiology

☐ McNary Student Teaching Prize (Fund # 1769-1)

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Chairman's Report

(continued from pg. 1)

Neurobiology and Cognitive Neuroscience) jointly with the neuroscience programs on the Charles River Campus. We have also seen the continued success of the School's first modeling/interdisciplinary biomedical course entitled "Introduction to Interdisciplinary Systems Science: Dynamic Modeling", and will see the launching of a course this fall entitled "Introduction to Educational Neurobiology". Both courses were created by, and are under the direction of, Dr. Peter Bergethon. We are hopeful that the latter course will serve as the foundation for a new Masters' Program in Educational Neurobiology; one we expect will be seminal in driving a new discipline that merges neuroscience and education.

With regard to Master's programs, the Mental Health Counseling and Behavioral Medicine Program, developed with the Department of Psychiatry six years ago, has expanded to over 50 students. The new Master's program in Bioimaging, created with the Department of Radiology, is entering its third year with over 15 students. The Program in Biomedical Forensics, also in its third year, continues to expand and will have over 70 students enrolled by the fall of 2008. Under the direction of Dr. Robin Cotton, Amy Brodeur and Dr. Tara Moore, the program has rapidly gaining national recognition from undergraduates and members of local, state, and federal law enforcement agencies alike. The program in Professional Training in Forensic Sciences, under the direction of Bill Powers, was launched this past year with great success, and has added significantly to the status of the School of Medicine as an emergent national leader in the Forensic Sciences.

Not to lose momentum in programmatic development, supported by the efforts of our Dean, Karen Antman, the Department has created two new programs this the past year. The first is a Masters program in Biomedical Crisis Management the direction of Dr. Kip Thomas, and the second is in Forensic Anthropology, under the direction of Dr. Tara Moore. We look forward to accepting students to these new programs by September of 2009.

The department continues to be quite active in training as well. The Department was successful in renewing our training grant from the National Institute on Aging entitled "Training in the Neurobiology and Neuropsychology of Aging". This is a multi-institutional training grant 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, Rosene, and Vaughan), the MD/Ph.D program (Dr. Bergethon), or for the Masters in Medical Sciences (Drs. Blatt and Sandell). The department also continues to sponsor the Clinical Neuroscience Society, an organization that provides mentoring, research opportunities and exposure to the clinical neurosciences for medical and graduate students at BUSM.

As mentioned, research funding in the department continues to be strong. Our NIH Program Project on the "Neural Basis of Cognitive Decline" that carries the distinction of the very first PO1 awarded by the National Institute on Aging (AG-00001) is in full gear. Dr. Peter Bergethon was awarded a coveted CIMIT award for his biotechnology work using NIRS imaging. The faculty were also very active in publishing with over 90 original articles published or in press this past year. Of note, Dr. Dae-Shik Kim was a co-editor on a new volume on neuroimaging.

We were also very pleased that this past year, Dr. Helen-Tager Flusberg was elected as a Fellow to the AAAS in recognition of her significant contributions on language function in developmental disorders. Also, Dr. Ted Woodcock, Adjunct Professor, was elected as a fellow in the Royal Academy of Medicine.

Our graduate students and postdocs were also active in research with many attending and presenting at national meetings. Adrian Oblak, president of the GMSSO, and Becca Lufler both received student research awards, from the Medical School and American Association of Anatomists, respectively. In addition to their scholarly contributions, the graduate students of the Department of Anatomy and Neurobiology, in the spirit of community service, sponsored and participated in several community projects under the direction of Sarah Greene, including organizing a team to help build a home with Habitat for Humanity, helping out with the Special Summer Olympics in Massachusetts, serving meals at Rosie's Place, and helping to care for animals for the MSPCA at Angell Memorial Hospital.

Stemming from the Departments' unwavering commitment to the belief that teaching as well as research forms the foundation for excellence in a basic science department, the department was again recognized for its excellence in teaching. An unprecedented ten members of the Department were nominated for Instructors of the year, and indeed, Dr. Jarrett Rushmore was this year's recipient of the Outstanding Instructor for the year in the Graduate Sciences. 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 participation in Medical and Dental Gross Anatomy and Medical Neuroscience.

In sum, the Department has had a very successful year and we look forward to the next as we map out our continued development and achievements.

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