

Message from the Dean

Fall heralds the new academic year, the attendant excitement of a new cohort of students and the novel scientific discoveries that unfold before them. We wish our incoming students success in their transition to graduate study and our existing students continued success in their research.

As we reflect on our students' research accomplishments, the GSBS faculty may note with satisfaction that GSBS students have contributed more than 1,400 research articles to the field of biomedical sciences since the school's inception in 1979. This remarkable accomplishment amounts to more than 50 research articles per year. For the past two years, our student body has published more than 100 research articles per year. We would like this body of work to be more accessible to our students, faculty, potential recruits and citizens of the commonwealth. We are, therefore, working with library staff to post our students' publications on-line. This work in progress may be reviewed at escholarship.umassmed.edu/gpbs.

Two significant curricular changes have occurred this fall. The first requires each first-year student to undertake two half-rotations in fall and in spring. This provides students with the flexibility to

sample as many as six laboratories before selecting a thesis research mentor and provides faculty with potentially greater access to students. As always, the first-year student may select a specific laboratory for more than one rotation but must undertake research in at least two different laboratories. We hope this will help students and faculty make the most informed thesis research selections.

The second change is in the "Responsible Conduct of Research" curriculum. This year a significant portion of the curriculum was presented during orientation. Animal research, human subjects research and authorship will be presented later in the year as on-line or small-group sessions. This approach allows discussion of mentor/mentee relationships, data integrity, plagiarism, the laboratory notebook, UMMS intellectual property policy and the student honor code before classes



GSBS Dean
Anthony Carruthers, PhD

and research begin in earnest. This reinforces the already collegial relationships that exist between students and faculty by helping new students understand the scientific community's expectations of them and what they should expect of the community.

As always, we encourage input from students and faculty regarding these and other GSBS issues. Our goal remains to provide the very best and most exciting research training experience to our students. ■

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Office of Postdoctoral Scholars created

With the competition for attracting top post-doctoral scholars increasing, UMass Medical School has another resource that will make the school a destination of choice for talented scientists: the Office of Postdoctoral Scholars (OPS).

Post-doctoral scholars play a critical role in institutional biomedical research and in the mentorship and professional development of graduate students, according to GSBS Dean Anthony Carruthers, PhD. There are approximately 350 postdoctoral scholars conducting research on campus. The OPS will ensure that, in addition to having the opportunity to conduct world-class research, post-doctoral scholars can take advantage of all the resources available at UMMS and propel themselves to successful careers as biomedical researchers.

"The OPS intends to enhance the post-doctoral experience by building a broad learning community and by providing and sharing resources across departments and the entire institution," Dr. Carruthers said. Additionally, the OPS will provide a program for mentorship and professional development.

The office will be part of the Graduate School of Biomedical Sciences; a search is currently underway for an associate dean who will guide policy and supervise the administration

of the OPS. The associate dean will be an experienced GSBS faculty member who has a history of mentoring post-doctoral scholars and an awareness of how to include them into a broader research community.

Julie Claycomb, PhD, who is currently a post-doctoral scholar in the lab of Nobel Laureate Craig C. Mello, PhD, Howard Hughes Medical Institute

Investigator, *Blais University Chair in Molecular Medicine* and professor of molecular medicine and cell biology, said that the creation of the OPS will be a point of distinction for both current and potential post-doctoral scholars.

"The office will be a beacon to aid in recruitment of talented new scientists and will facilitate the career development of those post-docs already in training here," Dr. Claycomb said. "The office will also help to foster a sense of community among post-docs." ■

Ten years of discovery

The Center for Infectious Disease and Vaccine Research

For those outside the scientific world, the topics of emerging viruses and disease outbreaks tend to arise in discussions surrounding the latest movie blockbuster, but for a cadre of UMass Medical School researchers, these topics are among the many that have defined their research careers and brought distinction to the research enterprise at UMMS.

It has been a decade since the Center for Infectious Disease and Vaccine Research (CIDVR) was established as an independent research center focusing on immunology and the pathogenesis of emerging viral diseases of humans and their prevention by vaccines. Since its

beginning, the CIDVR has been directed by Francis Ennis, MD, professor of medicine and molecular genetics & microbiology, who has been conducting research on influenza viruses for more than 30 years. Alan Rothman, MD,
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TEN YEARS
10
OF DISCOVERY

Creation of master of science in clinical investigation

As the research enterprise at UMass Medical School continues to grow, the Graduate School of Biomedical Sciences develops new academic programs that both complement and encourage the diversity of research that takes place on campus. This fall the GSBS welcomed six students who began study in the new master of science in clinical investigation (MSCI) program.

The MSCI program was created in response to an institutional interest in increasing the opportunities for training clinical and translational researchers on campus as well as the desire to strengthen the profile of this research at UMMS to attract funding through National Institutes of Health (NIH) Clinical and Translational Science Awards, according to MSCI Director Robert J. Goldberg, PhD, professor of medicine. The MSCI program emphasizes the

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development in students of strong clinical investigation skills based on a solid foundation in study design, conduct of observational studies and randomized trials, clinical epidemiology

and biostatistics.

There are few comparable programs to the MSCI at other academic health centers, Dr. Goldberg said, and he believes the success of the new program will lie in “playing to our strengths in the basic sciences as well as in population-based research in the broader community.”

The program is geared primarily toward young physicians-in-training, and secondarily, to those with advanced degrees in other fields such as the basic sciences and nursing. Students can complete the program in two years of full-time study, including a required thesis. This fall’s first-year class includes five physicians and one PhD-trained scientist and reflects what is expected to be the typical number of incoming students, according to Goldberg.

The new program should prove critical as UMMS works toward a Clinical and Translational Science Award (CTSA) from the NIH, submitting the grant application in October. A national consortium of CTSA sites was created in 2006, and to date, the consortium comprises 38 academic health centers—including Harvard, Tufts and Boston University—in 23 states. When fully implemented in 2012, there will be approximately 60 institutions, of which UMMS expects to be one.

The NIH has noted that “the goal of the CTSA program is to create a definable academic home for the discipline of clinical and translational science at institutions across the country. Ultimately, this consortium will enable researchers to provide new treatments more efficiently and quickly to patients.” ■

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student profile

In this issue of *Focus on the GSBS*, we feature James Potts, a third-year GSBS student in the Clinical & Population Health Research program, who is working in the lab of Alan Rothman, MD, professor of medicine, in the Center for Infectious Disease and Vaccine Research. James graduated from the University of Oklahoma in 2004 with a bachelor of science degree in microbiology and, in 2006, with a master of public health degree in biostatistics.



Q: What attracted you to the Graduate School of Biomedical Sciences?

I was working as a communicable disease epidemiologist and I wanted to do infectious disease research in the clinical realm and be involved in the translational aspect of new prevention methods for fighting infectious disease outbreaks in human populations. The Clinical & Population Health Research program gave me the best opportunity to do this kind of research.

Q: What is the focus of your research?

My dissertation research involves using different statistical methods to analyze clinical laboratory variables associated with dengue illness to develop diagnostic tools for early disease classification.

Q: What have you enjoyed most so far at the GSBS?

Honestly, I never thought I’d enjoy research as much as I do. I’ve been given limitless research opportunities, been involved in numerous projects, published my own research and even submitted my own grant. It’s all very exciting and I really enjoy it.

Q: What are your plans after graduation from the GSBS?

I would like to work in infectious disease epidemiology at either the state or federal level and be involved in infectious disease surveillance and outbreak investigation. Being a “disease detective” and discovering novel ways to prevent future outbreaks is very intriguing to me.

CIDVR

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professor of medicine and an active investigator in viral immunology for more than 20 years, co-directs the CIDVR.

The CIDVR includes nine faculty members from the Department of Medicine, each with diverse research interests. The majority of the laboratory research performed in the CIDVR involves human subjects, and current projects include developing new technologies for evaluating the human T cell response to emerging viruses; studying one of the first dengue vaccines; and evaluating influenza vaccines and their ability to induce immune responses against potential pandemic human and avian influenza viruses.

The strong reputation of CIDVR researchers has allowed them to create long-standing collaborations with physicians and scientists around the world, including partnerships with colleagues in Thailand, the Philippines, Colombia, Venezuela and Finland, as well as with several vaccine manufacturers.

While there has been concern in the academic science world about recent stagnation in NIH funding,

Rothman said he feels fortunate that the areas of research the group has been concentrating on for the past 20 years, namely immunology and pathogenesis of emerging virus infections, have remained priority areas for research funding.

“We’ve been able to compete successfully in response to specific research funding opportunities and our funding has been relatively stable,” Rothman said.

The CIDVR is among several centers, departments and programs at UMMS that are conducting research in immunology, virology and infectious disease. For potential GSBS students, the strength of the training and academic opportunities available through the PhD programs, particularly Immunology & Virology and Molecular Genetics & Microbiology, make UMass Medical School a very desirable destination for graduate study, according to Rothman.

Because of the NIH’s commitment to research in immunology and emerging infectious diseases, Rothman believes that job prospects for new PhDs with experience in these research areas are promising. ■

Focus on the Graduate School of Biomedical Sciences

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