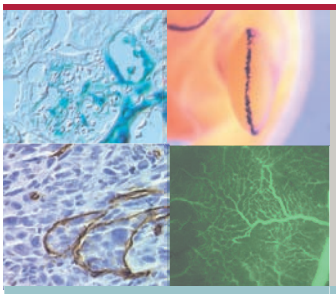

Research Highlights

centered on science

Volume 3, Issue 1 *Winter 2007*

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MISSION STATEMENT
"Biomedical research is integral to excellence in medical care. The mission of research at Maine Medical Center is to foster inquiry among our clinicians; support rigorous, focused scientific investigation; teach health care providers to engage in biomedical research; and bring beneficial discoveries to our patients, our community, and our world."

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Maine Medical Center
Research Institute

Clinicians Receive Research Funding

Maine Medical Center's research mission (the full statement appears at left) is to foster inquiry, support scientific investigation, teach and bring discoveries to use for patient benefit.

It's with this mission in mind that the Research Strategic Plan Steering Committee established grants to support MMC clinicians interested in research.

This past year, through a competitive application process, awardees had their projects renewed for a second year. The Committee was encouraged by the progress of each investigator and to see how their work has begun to benefit not only the research effort at MMC/MMCRI, but also the practice of medicine and patient care in our community.

Susan Miesfeldt, MD, received an award of $47,104 for the support of two projects. The first aims to improve care for women at high risk for hereditary breast and ovarian cancer, and the second will improve practice-based colon cancer screening.

David Eugene Clark, MD, MS, MPH, received an award of $44,430 to develop information and statistical models to improve the care of trauma and critical care patients. "I am responsible for a large database compiled by the American College of Surgeons from hundreds of trauma center registries. We would like to use the most accurate statistical methods for comparing hospital outcomes. This grant will help provide the resources for me to work with a statistician who has special expertise in these methods."

Thomas D. Nolin, PharmD, PhD, received an award of $21,200 to study the effect of kidney disease on a drug metabolizing enzyme, CYP3A, and an active transporter, P-Glycoprotein. "The Maine Medical Center RSP award affords investigators with clinical responsibilities the opportunity to undertake research efforts using protected time. RSP funding has enabled me to dedicate and financially justify time for the sole purpose of furthering my research and in doing so has been instrumental in my success to date."

Robert P. Smith, MD, MPH, received an award of $46,000 to support two projects. "This award provides me the time necessary to continue to develop our molecular capabilities in the Vector-borne Disease Lab, and perhaps to extend this capability to the tracking of other sorts of infections that may be acquired in the hospital setting as well. A better understanding of the role of strain diversity of Lyme disease bacteria, for example, may lead to novel prevenative approaches to a disease now acquired in our own backyards in many areas of Maine. This technology can also shed new light on the emergence of several other newly recognized diseases spread by ticks or mosquitos that have appeared in Maine over the past decade."

Global Partners in Biomedical Research: A Visit to China

by Robert Friesel, PhD, Director, Center for Molecular Medicine

China is a bustling country of 1.3 billion people. The Chinese people are proud and excited to be hosting the 2008 Summer Olympic Games, and to be taking a major role in the world economy. In November 2006, my MMCRI colleague Dr. Zack Wang and I were invited to speak at a scientific session of the Shanghai International Symposium on Cardiology.

In addition to this symposium, we were invited to give research seminars at the Institute of Hematology and Blood Diseases, (Tianjin), The Beijing Genomics Institute, Chinese National Academy of Sciences (Beijing), College of Life Sciences, Peking University (Beijing), and Wuhan University (Wuhan). We received a very warm welcome from the faculty and staff at each institution. This trip enabled me to speak with many Institute directors and senior scientists to gain firsthand their views on where biomedical science in China is headed. I was impressed with the quality of the science and the facilities that we visited.

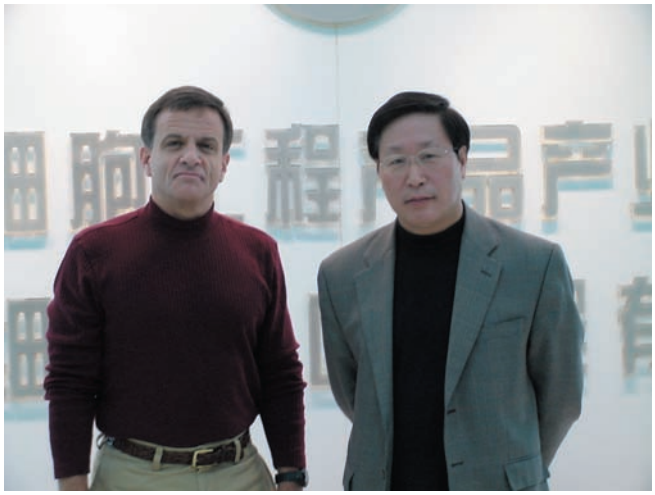
One very interesting shift is taking place in biomedical research in China. After decades of China's brightest scientists going abroad to seek training and faculty positions, many of these scientists are now returning to top level positions at major universities and government institutions. The reasons for this are many. First, funding for biomedical research in China has increased significantly, making it more attractive to do research there. Second, there is a sense of national pride among those who have been successful abroad, and that they may now return to make a significant impact on the quality of science in China, as well as play a role in defining future science policy. While senior scientists who have had success abroad are returning to take leadership positions, graduate students and postdoctoral trainees still seek to go abroad, particularly to the U.S. and Europe.

Although funding and infrastructure have improved dramatically in China over the last ten years, many young scientists feel that some of the best training opportunities are still found abroad. With the new vigor in biomedical research in China, Chinese scientists are seeking research collaborations and partnerships with western academic institutes and industry, resulting in new opportunities on both sides of the Pacific Ocean. The next ten years should see many changes and new strategies for the globalization of biomedical research, with China playing a major role.

Bob Friesel (2nd from left) and Zack Wang (1st on right) with two graduate students from the Beijing Genomics Institute at the Great Wall of China.

"I was impressed with the quality of the science and the facilities that we visited."

-Bob Friesel



Bob Friesel with Zhongchao Han, M., PhD, Professor and Director, National Center for Stem Cells, Institute of Hematology and Blood Diseases, Chinese Academy of Sciences, Tianjin, PR China.

ScienceWorks for ME: Teaching our Future Scientists and Physicians

ScienceWorks for ME hosted 50 honors-level science students from three area high schools to MMCRI for a program on stem cells, cloning, and regeneration. Hosted jointly by MMCRI and the Foundation for Blood Research, the program included two lectures via web-cast by the Howard Hughes Medical Institute: "Adult Stem Cells and Regeneration" by Nadia Rosenthal, PhD (European Molecular Biology Laboatory), and "Coaxing Embryonic Stem Cells" by Douglas Melton, PhD (Harvard University). The students were welcomed by Dr. Walter Allan from the Foundation for Blood Research, and a tour of the MMCRI facility included conversations with Drs. Lucy Liaw, Joe Verdi, Zack Wang, and Igor Prudovsky, who described various aspects of stem cell research ongoing in Maine.

Participating students had lots of questions and learned a great deal from the experience of touring a biomedical research facility and interacting with scientists. One student commented afterward: "I've never had as much fun learning about something so confusing and complex. Thank you for the experience, I enjoyed it." Teachers were enthusiastic and gave positive feedback regarding this opportunity. A number of schools that were unable to participate on this day have requested a repeat of our program and tour!

High school science students watch a lecture from the Howard Hughes Medical Institute

"I've never had as much fun learning about something so confusing and complex."

- High school student participant

Research at MMCRI is Guided by National Experts

How do our scientists maintain high quality research, and keep competitive nationally? One way is to evaluate our science with the help of national experts around the country who serve as advisors to our program directors. This past summer and fall, our Vascular Biology and Stem and Progenitor Cell Biology Programs each held retreats. Special guests at our meetings were our external advisory boards, composed of experts in these respective fields of study.

The Vascular Biology Program, led by Dr. Robert Friesel, has an external advisor group consisting of seven prominent scientific leaders from Cornell University, Benaroya Research Institute, New York University, University of Massachusetts, University of Chicago, and the Cancer Centers at University of Michigan and Dartmouth Medical School.

The Stem and Progenitor Cell Program, led by Dr. Don Wojchowski, has an advisory board consisting of experts from Memorial Sloan Kettering Cancer Center, Indiana University School of Medicine, The Jackson Laboratory, University of Utah, and Dartmouth Medical School.

Scientists within our programs present the results of their studies, discuss future goals, and receive feedback from the advisory board members.. The Vascular Biology group held their retreat at the University of New England in Biddeford, and the Stem and Progenitor Cell group had their retreat at the Black Point Inn in Scarborough. Both were productive meetings that garnered useful feedback and suggestions regarding programmatic improvement and growth.

Members of the Vascular Biology group enjoy a lobster bake on the University of New England campus.

NOTEWORTHY

Seminar Series

Throughout the year, MMCRI hosts a Seminar Series where scientists and physicians from the US and overseas are invited to come and present their research. In addition, clinicians from the Medical Center present their research in our "Bedside to Bench" series. You are welcome to join us at the Institute to hear about the exciting work from these investigators.

MARCH
3/15: Thomas Nolin, PharmD, PhD
Maine Medical Center

3/29: Gail Sonenshein, PhD
Boston University Medical School

APRIL
4/5: Karen Hirschi, PhD
Baylor College of Medicine

4/12: Kaikobad Irani, MD
University of Pittsburgh Medical Center

MAY
5/03: James Palis, MD
University of Rochester Medical Center

5/17: David Scadden, MD
Massachusetts General Hospital

5/24: Suresh Kumar, PhD
University of Arkansas

JUNE
06/14: Ulrike Mende, MD
Rhode Island Hospital and Brown University

06/21: Thomas O'Brien, MD, MPH
National Cancer Institute

For a complete listing, please visit our website at www.mmcri.org/seminars

If you would like to be added to our mailing list or receive the newsletter via email, please contact Betsy Crocker at 207.885.8219 or crockb1@mmc.org.

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