

# Spotlight on the Consortium Scholars

HRB/NCI Health Economics Fellowships in Cancer Program

Joint Research Projects in Cancer

In accordance with its mission, the Consortium facilitates a number of joint research training programs aimed at promoting research and educational opportunities for scientists, nurses, and public health professionals in Ireland, Northern Ireland, and the U.S. These programs, which are funded by the HRB, the HSC R&D Office, and the NCI, empower participants from a variety of disciplines with the opportunity to learn about the latest advances in cancer research, establish productive relationships with international peers and mentors, and engage in cross-border and trans-Atlantic collaborations. Two programs sponsored by the Consortium in 2008 are briefly described below, followed by biosketches for several 2008 scholars and their respective research programs.

## HRB/NCI HEALTH ECONOMICS FELLOWSHIPS IN CANCER PROGRAM

In 2008, the HRB and the NCI launched the HRB/NCI Health Economics Fellowships in Cancer Program under the auspices of the Consortium. Administered through the HRB PhD Scholars Programme in Health Services Research, the HRB/NCI Health Economics Fellowships in Cancer Program begins with ten months of coursework in health economics, cancer prevention, and health policy, based mainly in Ireland. Following the completion of coursework, scholars will undertake two years of mentored research at an NCI-affiliated host institution. The program ends with a final year of mentored research at an affiliated host institution in Ireland. In 2008, Mr. James O'Mahony and Ms. Rebecca Moore, both of whom are spotlighted in this section, were selected as the first two participants in the HRB/NCI Health Economics Fellowships in Cancer Program.



**JAMES O'MAHONY**  
*HRB/NCI Health Economics Fellowships in Cancer Program Fellow*  
Trinity College Dublin, Dublin

Mr. James O'Mahony holds a BA in Economics and Philosophy and a Diploma in Statistics from TCD, as well as an MA in Economics from UCD. Prior to his acceptance into the HRB/NCI Health Economics Fellowships in Cancer Program, he worked as a consultant with Goodbody Economic Consultants in Dublin.

During 2008, Mr. O'Mahony participated in an intensive course on the economic evaluation of healthcare at the University of York in York, England. In addition to attending in the Principles and Practice of Cancer Prevention and Control Course at the 2008 NCI Summer Curriculum in Cancer Prevention in Bethesda, Maryland, Mr. O'Mahony also joined the HRB PhD Scholars Programme. The HRB PhD Scholars Programme, which operates as a cooperative effort between the Royal College of Surgeons in Ireland, TCD, and University College Cork (UCC), covers an extensive range of public health topics, including public health policy, health economics, and health information systems.

Mr. O'Mahony has conducted analysis on a range of issues in the Irish health system. His work in this capacity has involved descriptions of potential study designs for cancer screening in Ireland, such as a study investigating socioeconomic gradients in cervical cancer screening and a case-control analysis examining the potential for computed tomography colonography to increase colorectal cancer screening rates. Mr. O'Mahony's recent work has addressed human resource issues related to Irish healthcare; he has also reviewed the policy

options available to the Irish government in confronting professional interest groups within the healthcare system.

Mr. O'Mahony will conclude the HRB PhD Scholars Programme in April 2009 and in May 2009, he will begin two years of mentored research. Mr. O'Mahony is currently exploring various possibilities available in the field of economic appraisal of cancer screening programs.



**REBECCA MOORE**  
*HRB/NCI Health Economics  
Fellowships in Cancer  
Program Fellow*  
Trinity College Dublin, Dublin

Ms. Rebecca Moore obtained a BA and an MA in International Relations from UCC and an MS in Health, Population, and Society from the London School of Economics and Political Science (LSE). For her dissertation project at LSE, Ms. Moore conducted a comprehensive survey of public attitudes and general knowledge regarding the mental health risks associated with cannabis consumption. This survey was commissioned by Rethink, a charity and think tank based in the U.K.

In 2008, Ms. Moore attended the York Experts Workshop in Socioeconomic Evaluation of Medicines at the Centre for Health Economics, University of York. Along with her colleague in the HRB/NCI Health Economics Fellowships in Cancer Program, Mr. James O'Mahony, Ms. Moore also participated in the NCI Principles and Practice of Cancer Prevention and Control Course and the HRB PhD Scholars Programme in Health Services Research.

In 2009, Ms. Moore will transition into the mentored research phase of the HRB/

NCI Health Economics Fellowships in Cancer Program. Under the fellowship, Ms. Moore plans to further study health disparities, as well as the utility and value of oncology drugs and the translation of knowledge into practice. As healthcare systems across Ireland, the U.S., and Europe strive to improve the quality and efficacy of patient treatment despite limited financial resources, Ms. Moore wishes to explore the benefits of patient adherence to treatment as a way of improving treatment outcomes and eliminating the waste of resources. She is anticipating the continued transformation of cancer care through new targeted anti-cancer medicines and other novel types of treatment, which she believes will be of great benefit in reducing the global burden of cancer.

## JOINT RESEARCH PROJECTS IN CANCER

The JRPC program was developed to cultivate strong, sustainable relationships between cancer researchers and research institutions on the island of Ireland and in the U.S. The program achieves this by supporting collaborative research between Irish and American PIs on a defined cancer research project of mutual interest. The program requires that each team select one research fellow, who is expected to complete at least one year of research under the supervision of an Irish or Northern Irish PI and at least one year under the supervision of a U.S. PI. In Ireland, research topics include, but are not limited to, biomedical and clinical sciences; translational research; public health; epidemiology; and health service and practice-based research. In Northern Ireland, clinical sciences, translational research, public health, epidemiology, and health service and practice-based research will be covered.

Three PIs from Ireland, Drs. Dean Fennell, Linda Sharp, and Charles Spillane, and two PIs from Northern Ireland, Professors Ken Mills and Liam Murray, were selected for the JRPC in 2008. The JRPC research programs of Professor Ken Mills and Dr. Linda Sharp are detailed below.



**PROFESSOR KEN MILLS**  
*Chair of Experimental  
Hematology*  
Centre for Cancer Research and  
Cell Biology, Belfast

Professor Ken Mills holds a PhD in Cellular Immunology from the University of Southampton in the U.K., as well as fellowship status of the Royal College of Pathologists (FRCPath). He currently serves as chair of Experimental Hematology at the CCRCB at QUB. Over the course of his career, Professor Mills has authored and/or co-authored 97 peer-reviewed papers.

Professor Mills' primary areas of interest center on translational research in acute myeloid leukemia (AML) and myelodysplastic syndrome (MDS). These studies are aimed at improving diagnosis, prognosis, and prediction of therapeutic responses. Recent advances in both SNP genotyping technology and statistical methodologies have enabled researchers to identify genetic variants that contribute to complex diseases using genetic association studies. Professor Mills is currently conducting a study in a large cohort of adult AML samples, for which his group has aggregated comprehensive outcome data that includes overall survival, time to relapse, and time to remission and therapy. Professor Mills' research work has two primary objectives: 1) to determine whether genetic variants confer either risk or protection from AML and 2) whether genetic variants influence outcome following therapeutic intervention. He expects

that the identification of candidate variants will be instrumental in identifying novel genes involved in disease pathogenesis and may have possible applicability in clinical decision-making.



As a part of his JRPC project and in collaboration with Dr. Stephen Chanock (pictured left) of NCI's Laboratory of Translational Genomics, Professor Mills is using

several high-throughput techniques to expand understanding of how molecular events determine clinical response. These techniques include Affymetrix GeneChip® microarray technology gene expression profiling,<sup>1,2</sup> miRNA quantification and profiling, methylation status assessment through pyrosequencing, global methylation assessment through CpG island arrays, and in-vitro analysis of the cellular and molecular responses to novel therapeutic agents. These studies will be integrated with whole genome SNP analysis to facilitate the determination of therapeutic responses in the elderly.



#### Selected Publications:

1. Mills K. Gene expression profiling for the diagnosis and prognosis of acute myeloid leukaemia. *Frontiers in Biosciences*. 2008. 13:4605-4616.

2. Mills K, et al. Microarray classification of MDS identifies subgroups with distinct clinical outcomes and identifies patients with high risk of AML transformation. 2008. *Blood*. In preparation.



#### DR. LINDA SHARP

*Epidemiologist*

National Cancer Registry, Ireland

Dr. Linda Sharp of the NCRI and Professor Cathy Bradley of Virginia Commonwealth University in Richmond, Virginia, U.S. were awarded an additional JRPC grant to examine employment outcomes in cancer patients in Ireland. This project will build upon the research conducted as part of an NCRI project that investigated the financial impact of cancer for patients and their families in Ireland. This recently completed NCRI study, which was funded by the Irish Cancer Society, discovered that many patients do not receive sick pay from their employers during the time they spend away from work for treatment. Under the new JRPC study, a cohort of individuals with breast, prostate, or colorectal cancer, who were working at the time of diagnosis, will be followed over time. Rates of work resumption and a spate of factors associated with returning to work, including the respective roles of employers and health professionals, will be assessed. The project will also incorporate comparative analysis with a similar project conducted by Professor Bradley in the U.S.