

# Spotlight on Consortium Scholars

## EPIDEMIOLOGY FELLOWS



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### **Deirdre Cronin, PhD**

Consortium Fellow, Cancer Epidemiology  
National Cancer Registry of Ireland  
Cork

I obtained my PhD at the National Institute for Cellular Biotechnology, Dublin City University (DCU) in 2002. Initially I trained in Biomedical Sciences, where emphasis was placed on the science behind a wide variety of diseases. Throughout my PhD, my skills were adapted to focus on the molecular biology of cancer. The specific aim of my PhD studies was to highlight genes involved in the development of multiple drug resistance in lung and breast cancer. Through these studies I became interested in applying both the theoretical and practical knowledge I had gained into the field of public health.

I began a fellowship in cancer epidemiology at the National Cancer Registry of Ireland in March 2003. The original emphasis of my research was on a study examining the waiting times of cancer patients within the Irish Health Boards. This project familiarized me with how data from Irish hospitals is collected and analyzed. Whilst working at the NCRI, I attended a course specializing in Cancer Epidemiology at the London School of Hygiene and Tropical Medicine.

At the beginning of the US phase of my fellowship, I attended the North American Central Cancer Registries Conference in Hawaii. This gave me a valuable insight into the potential of applying registry data to cancer research.

My epidemiology training has been continuously enhanced at both NCI and at the Johns Hopkins Bloomberg School of Public Health where I participated in the Summer Institute taking classes in Epidemiology, Statistics and Data Analysis, and where I have studied throughout my time here at NCI. In addition, I participated in the six-week summer Cancer Prevention course taught at NCI. These courses, while challenging, have prepared me for the project work I am doing at NCI and work I hope to carry out in Ireland.

Although I am based within the Surveillance Research Program analyzing data collected by SEER registries in the US, I am also working on projects within the Applied Research Program of the Division of Cancer Control and Population Sciences and in the Division of Cancer Epidemiology and Genetics at NCI. These projects have involved research on breast and lung cancers and I have collaborated with a number of NCI researchers, analyzing data and writing research papers.

Although the overlap between basic laboratory science and public health has up to recently been quite minimal, cancer risk assessment has moved increasingly towards the screening of molecular

markers and scientific progress has facilitated the identification of genes that impact on cancer treatment and prognosis. When I return to Ireland, I will use the knowledge I have gained here in the US to analyze data collected by the NCRI. In conjunction with colleagues in both the North and South of Ireland, I hope to involve myself in a number of studies, drawing on both my molecular biology and epidemiology experience.

Possibly the highlight of my time here in the US has been the opportunity to work with some of the most outstanding researchers in the world. I hope that, through the training I have received and my project work, collaborations will be further enhanced when I return to Ireland. Finally, I am extremely grateful to the HRB, NCRI and NCI for their sponsorship of the fellowship program.



*"I will go back to the states intellectually stimulated, emotionally fulfilled, and, from the overall experience, ... slightly intoxicated. A brilliant year, a brilliant experience!"*

#### **Joseph Campo**

Cancer Epidemiologist  
Washington State Department of Health  
Olympia, Washington, United States

Unlike most (if not all) of the other Consortium scholars, I am from the States and have come to Ireland on a research fellowship. My major assignment here, while on a one year sabbatical leave from my position as a cancer epidemiologist with the Washington State Department of Health,

is to work with the Northern Ireland Cancer Registry and the National Cancer Registry of Ireland to write the second all-Ireland cancer report. Since that report requires the merging of the two registries' databases, I am also concurrently developing an all-Ireland database for future analyses.

There are a host of potential analyses from this merged database but two research areas most excite me. First, while the people of Ireland are a relatively homogeneous group sharing similar genetic, socio-economic and behavioural risk factors, the public health and medical care systems in the North and the Republic are profoundly distinct. The registries' merged databases are ripe for assessing the impact these contrasting systems have on the health and health care costs of the two populations. Second, the political division of the island of Ireland has tended to highlight the differences rather than the similarities of the two populations. With the merged database, concerns common to both sides of the border can be identified and, when appropriate, addressed through collaborative or complementary interventions. From the pronounced divergence of the North's and the Republic's prostate cancer incidence rate trend lines suggesting differing testing policies to a North/South border-crossing region with seemingly elevated stomach cancer rates suggesting shared dietary risk factors, examples of these potential research opportunities are readily evident.

However, because my time here is relatively short, it is unlikely that I will be able to personally pursue these analyses. I have, instead, tried to focus on establishing systems that will allow others to follow through. For instance, since small area analysis is a growing interest, and since in the Republic there are no postal codes—nor for that matter little standardized addressing criteria (including whether English or Gaelic are used!)—I spent part of the summer learning about the postal system and the sub-county units of spatial analysis while developing, testing and documenting a method for geocoding the registry records which wound up being more comprehensive and accurate than what had previously been purchased from a proprietary geocoding agency. Similarly, I will leave behind programs and procedures that will allow subsequent users to recode, merge and “deduplicate” the two registries’ data, as well as incorporate them into SEERPrep/SEERStat, Joinpoint and SaTScan. Of course, I will also leave behind the All-Ireland Cancer Report that will hopefully serve as a template for future reports.

Nonetheless, whatever I leave in Ireland will pale in comparison to what I will take with me. Living in Europe has been a life-long ambition. And from the collaborative meetings in Belfast with research staff from the North, to New Year’s Eve in London, to IARC’s International Course on Epidemiological Research in Nutrition and Cancer in Lyon, to the bank holiday weekend on the Aran Islands, to a workshop on small area analysis at

University College in Dublin, to the ballet in Paris, to workaday life in Cork, I will go back to the States intellectually stimulated, emotionally fulfilled, and, from the overall experience— together with a creamy-headed pint of Murphy’s stout—slightly intoxicated. A brilliant year, a brilliant experience!

## NCI SUMMER CURRICULUM IN CANCER PREVENTION

**Suzanne MacFarlane**  
Post-doctoral Research Fellow  
Department of Oncology  
Queen’s University Belfast

At present I am a post-doctoral research fellow based in the department of Oncology, at Queen’s University in Belfast. The main focus of my current research is to investigate the molecular mechanism by which the chemokine Interleukin-8 promotes prostate cancer metastasis. I was keen to attend the molecular prevention course as having recently completed a PhD I was relatively new to the field of cancer research and hoped that participation in the course would provide me with an overview of current research in this area and enable a smooth transition from my PhD studies to my post-doctoral work.

The course covered a wide range of subjects related to the molecular prevention of cancer and was very comprehensive and informative. The standard of teaching was very high and all the lecture topics were appropriate with some sessions being particularly relevant to my own research. I feel that attendance at the course has

given me a broader knowledge of the molecular basis of the disease and has added a new perspective to my own work.

I would highly recommend this course to others because it is a unique training opportunity—there is no similar course that I am aware of either in Ireland or elsewhere in Europe. Furthermore, the course also provides a forum for interaction with other researchers, which could potentially lead to the formation of new international collaborations or future career opportunities. Every aspect of the course was well organised and planned to the highest standards. Overall I believe that attendance at the molecular prevention course was a valuable training experience that has hugely benefited my research.



*"With the public's growing knowledge and understanding of the molecular basis of cancer, this course was invaluable..."*

**Naomi Thompson**  
Senior Cancer Prevention Officer  
Ulster Cancer Foundation, Belfast

I trained in Edinburgh University as a General Nurse, then moved into the field of Health Promotion, and have worked with the Ulster Cancer Foundation for the past three and a half years. My role as Cancer Prevention Officer is to promote knowledge on how to prevent cancers and to promote early diagnosis. Smoking cessation training is my main role at the present

time due to the development of the Tobacco White Paper—Smoking Kills—and the current Northern Ireland five-year Tobacco Action Plan. The Ulster Cancer Foundation provides a range of training courses from a 1.5-hour awareness-raising session to a two-day specialist smoking cessation course that enables people to run a smoking cessation clinic.

Apart from smoking cessation, I also have developed a campaign against bowel cancer with a range of professionals from across Northern Ireland—trying to increase awareness of both the preventative messages, but also the early signs and symptoms. This is an ongoing campaign, which the Ulster Cancer Foundation wants to make a priority, linking in the key messages of diet and exercise.

To this end, NCI Summer Curriculum in Cancer Prevention and Molecular Prevention courses have given me great background information on the current research on the major cancers and the major targets for prevention. In my role of training and education, this high quality research is crucial to ensure that excellent and relevant information is informing our local campaigns and that finance is being targeted at the most important issues in our population. With the public's growing knowledge and understanding of the molecular basis of cancer, this course was invaluable in explaining the biological information that I can now disseminate in training courses, cancer awareness raising sessions and meetings.

Beginning to understand the range of professionals working in the field of cancer prevention and developing networks with local practitioners, whilst meeting some of the world experts whilst at NCI was a great experience that will continue to impact my work in the Ulster Cancer Foundation over the incoming years. The course was an excellent opportunity to learn that I'm grateful to have had.

**Mary McClean**

Cancer Co-ordinator  
Southern Area Health Promotion Department  
Armagh, Northern Ireland

My background is in nursing and psychology. I have also worked as a post-doctoral researcher in pharmacy practice in the School of Pharmacy at Queen's University, Belfast. I am currently working as a cancer co-ordinator in the Southern Area Health Promotion Department in Armagh. My interest in attending NCI Summer Curriculum Course in Cancer Prevention was to find out about the various approaches to cancer prevention, particularly with regard to special populations such as ethnic minorities and other more marginalised groups. I was also keen to learn about ways to promote healthy diets and physical activity and the role of behavioural science and community interventions.

The lectures were very informative and provided an overview of the different issues in relation to "the war on cancer." For example, the measures of progress such as survival and early detection were shown to be only an advantage if you can change the history of a tumour. Also, the fact that

billions of dollars have been spent over many years and that this still has only produced a 1% decrease in cancer has indicated that there is still a lot that we need to learn and that it needs to be from a multi-faceted approach. The handouts of the slides and the many research publications that went along with the lectures were very detailed, informative and of a very high standard. The lecturers encouraged questions and the questions asked from people of different countries gave useful insight into their expertise and approaches to cancer prevention.

I was particularly struck by the presentations made by the international participants on the international day, especially those from Africa, where communicable diseases are still the more important health issue and where the WHO predicts an epidemic of lung cancer in the developing world over the next decade.



*"What was particularly attractive about the summer courses was that the specialised instruction was available from renowned investigators."*

**Rebecca Hourihan, PhD**

Post-Doctoral Scientist  
Cork Cancer Research Centre

Last Spring I attended a seminar presented by Professor Doug Weed, where he outlined the "NCI Summer Curriculum in Cancer Prevention." As NCI has an impressive reputation for its significant contribution to cancer research, in addition to education and training projects, I felt

that attending the summer curriculum would be of tremendous benefit. In 2001, I completed a PhD entitled "Comparative Genetic Analysis of Adenocarcinoma of the Human Gastrointestinal Tract" and am currently employed by the Cork Cancer Research Centre (CCRC). I have a longstanding interest in cancer research and value the benefit of attending and presenting at cancer-related meetings and conferences. However, I wanted to expand my understanding of various areas within the cancer field and readily accepted the opportunity to attend these courses at NCI. It was of great interest to become exposed to areas that I had never studied in-depth, such as diet, diet-related lifestyle factors, occupation and environment and the roles that these factors play both in the etiology and prevention of various cancers. An impressive collection of up-to-date literature, spanning a wide range of cancer-related issues, was provided, which is available to all CCRC employees, as an important reference source. What was particularly attractive about the summer courses was that the specialised instruction was available from renowned investigators. It was also a great opportunity to interact with international clinicians and fellow investigators, opening the possibility of future collaborations with CCRC.

Successful control and prevention of cancer in Ireland depends on highly skilled personnel who have an excellent understanding of the problems being faced and can initiate the most effective approaches to be taken. Participation in these

courses has helped prepare me to play a fully active role in cancer prevention and control at a national and international level.



*"Since health professionals from many nations were represented, it provided a truly unique opportunity to discuss a global view on cancer and cancer treatment."*

**Breda Kiely, PhD**  
Post-Doctoral Scientist  
Cork Cancer Research Centre

After obtaining my PhD in Pharmacology, I started work at the Cork Cancer Research Centre (CCRC) where I gained in-depth knowledge of the signaling mechanisms of cancer and metastatic spread. I felt that the opportunity to participate in the summer prevention courses at NCI came at an ideal point in my education and career to improve my skills and gain a broad-based perspective on the concepts, methods, issues and applications relating to cancer prevention and control. I found the lectures on each specific type of cancer highly relevant and an excellent overview of the current status of research and prevention. Another motive for attending these courses was the great diversity of participants who were in attendance. Since health professionals from many nations were represented, it provided a truly unique opportunity to discuss a global view on cancer and cancer treatment. The most effective preventative and therapeutic strategies must be applied to the management of this disease. I believe that these strategies will be most

effectively implemented on an international and collaborative basis. As a result of these courses, I have a much better understanding of the problems facing us regarding cancer control and prevention. I would definitely recommend these courses to colleagues.

**Alan Moss, MB, BCh, BAO, MRCPI**

Research Fellow  
Department of Medicine & Therapeutics  
Conway Institute  
University College Dublin

I am a trainee gastroenterologist, and have spent two years undertaking research in the Department of Medicine & Therapeutics, Conway Institute, UCD. My thesis is based on the use of bioinformatic techniques to examine gene expression in colon cancer. One of my interests is biomarkers implicated in the polyp-cancer pathway. My gastrointestinal oncology research has also included both the pancreas and oesophagus in prior work.

As my thesis involves both laboratory work and bioinformatics, I was interested in furthering my understanding of the processes involved in cancer development, and the techniques used to study these. I applied to NCI course in molecular prevention of cancer to facilitate this interest.

During the week in Bethesda, I was introduced to novel cancer pathways and expanded my understanding of others. The lectures on DNA methylation and molecular epidemiology were of particular interest to me. It was a perfect example

of seeing topics in a new light when presented by experts in the field.

The social interactions and networking were an important element of this course. Ironically, I met a number of cancer researchers from Ireland that I might not have met at home! The welcome and support received from NCI staff was sincerely appreciated.

## NURSES' CLINICAL TRIALS PROGRAMME

**Mary Doody**

Oncology Clinical Nurse Specialist  
Waterford Regional Hospital  
Waterford, Ireland

In the summer my nurse manager encouraged me to apply for this course. In October 2003 I was lucky enough to attend the six-week education programme on clinical research for nurses. This programme was facilitated at the National Cancer Institute in Bethesda, Maryland, just outside Washington DC.

Most of my career has been spent in the Oncology/Haematology setting. However, I had limited exposure to clinical research and approached this course as a novice with an open mind. I thought it would be a great opportunity to learn and a chance at exposure to research at a level that is currently unavailable in the Irish clinical setting. It was great! While at NCI, I got the opportunity to meet experts, share ideas and experiences, and bring back expertise that could only be gained at NCI.

Shortly after arriving at NCI, I attended a three-day course on the Fundamentals of Clinical Trials. This course enabled an understanding of trials from writing the protocol to publishing the results. The fundamentals course was a key point in understanding the role of the research nurse and making sense of NCI experience. Shortly after this course, I had an opportunity to consolidate my learning by shadowing Teresa, an NCI research nurse, as part of the lymphoma research team. This was a valuable learning experience. The bio-ethics course was also a great learning experience. It seems that NCI has endless opportunities for learning.

The nurses I met at NCI, in particular Georgie, Joyce, Elizabeth and Teresa, have stimulated my interest in clinical research—in particular, nurse-led research. I have made many contacts at NCI and intend keeping in touch to share information.

After the six-week programme, I have had the chance to incorporate some of what I learned at NCI into my clinical work—in particular, aspects of patient and staff education. The insights into clinical research have been invaluable. Hopefully, this experience will enhance the clinical nurse's role in research in my institution.

Following a positive experience of the scholar exchange programme, I would encourage colleagues to participate.