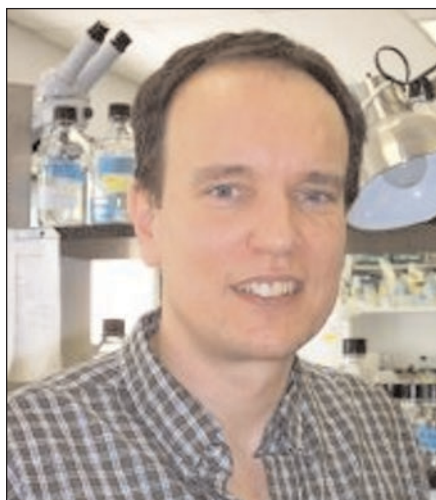

2004 Society Award Designates

Dr. Richard Wozniak from the Department of Cell Biology, University of Alberta, has been chosen to receive this year's **Merck Frosst Prize** for meritorious research by a young Canadian scientist with ten years or less of independent research in the areas of biochemistry, molecular or cellular biology. **Dr. Morag Park**, a member of the Molecular Oncology Group at the Royal Victoria Hospital, McGill University, has been selected to receive the **Jeanne Manery Fisher Memorial** Lectureship award for outstanding contributions by a Canadian woman scientist to research, teaching or society in the fields of biochemistry, molecular or cellular biology. Both awardees will be presenting Plenary Lectures at the 47th Annual General Meeting of the Canadian Society of Biochemistry, Molecular and Cellular Biology to be held May 27-30, 2004 at the Fairmont-Chateau Mont Tremblant (Mont Tremblant, Québec).

The 2004 CSBMCB Merck Frosst Prize Dr. Richard Wozniak



Dr. Wozniak received his Ph.D. from The Rockefeller University in the laboratory of Nobel Laureate Dr. Günter Blobel. Following postdoctoral training at The Rockefeller University, Dr. Wozniak joined the Department of Cell Biology at the University of Alberta as an Assistant Professor in 1994 and was recently promoted to the rank of Professor.

Dr. Wozniak's research is focused on understanding the structure and function of the nuclear pore complex (NPC), which is the major site for transporting macromolecules into and out of the nucleus. Using the yeast *Saccharomyces cerevisiae* as a model organism, Dr. Wozniak and his colleagues identified the first yeast NPC membrane protein called Pom152p,

which is one of the most abundant proteins of the NPC. When ectopically expressed in mammalian cells, Pom152p is similarly targeted to the NPC, which suggests that the molecular mechanisms governing protein sorting and assembly of the NPC are highly conserved. Using a lethal genetic screening procedure, Dr. Wozniak and his coworkers subsequently identified two structurally-related NPC proteins, Nup157p and Nup170p, that together with Pom152p and three other NPC proteins, Nic96p, Nup188p, Nup192p, constitute ~25% of the NPC mass and probably form the repetitive core structures of the NPC. Further analyses led to the identification of two novel Nup170p-interacting proteins, termed Nup53p and Nup59p, which form a subcomplex of the NPC, and act as a docking site for the β -karyopherin/importin- β nuclear transport factor, Kap121p, which mediates translocation of macromolecules through the NPC.

More recent exciting studies have revealed a physical and functional link between the NPC and proteins of the spindle checkpoint machinery which is responsible for the faithful separation of sister chromatids during mitosis. Dr. Wozniak and graduate students Tatiana Louk and Oliver Kerscher demonstrated that Mad1p and Mad2p, two proteins required for the execution of the spindle checkpoint, are localized to a great extent at the NPC throughout the cell cycle until the checkpoint is activated. Mad2p is then released from the NPC and accumulates at kinetochores. This was the first report that Mad1p and Mad2p require specific nucleoporins as a scaffold for their action.

In a separate investigation, Dr. Taras Makhnevych, a postdoctoral fellow in Dr. Wozniak's laboratory, uncovered a novel role for nucleoporin Nup53p in inhibiting nucleocytoplasmic transport across the NPC during mitosis. This work represents the first description of a transport inhibitory function for a nucleoporin and establishes a more elaborate role for the NPC in mediating nucleocytoplasmic transport than previously appreciated. This landmark study was recently pub-

lished in the December 2003 issue of *Cell*. These findings, as well as other seminal research papers, have paved the way for a greater understanding of the structural organization of the NPC, and how proteins and other macromolecules are transported between the cytoplasm and nucleus of eukaryotic cells.

Dr. Wozniak has established an international reputation for original thinking and definitive experimentation to address questions of major scientific importance. His work is consistently of the highest quality and published in top-ranked journals in the field. He has received Scholarships from the Alberta Heritage Foundation for Medical Research (AHFMR) and the prestigious Investigator (formerly Scientist) award from the Canadian Institutes of Health Research (CIHR) in recognition of his research accomplishments. His scientific ability and evaluation skills have been sought after by provincial, national, and international biomedical funding agencies and prominent scientific journals. Dr. Wozniak has clearly distinguished himself as an outstanding scientist in Canada and internationally, and is a worthy recipient of the Merck Frosst Prize.

The 2004 Jeanne Manery Fisher Memorial Lectureship Dr. Morag Park

Dr. Park earned her Ph.D. degree from the University of Glasgow under the supervision of Dr. Joan McNab, working on the role of herpes simplex viruses in oncogenic transformation. She then carried out postdoctoral training as a Fogarty Fellow, first with Dr. Donald Blair at the National Cancer Institute in Washington, D.C., and thereafter with Dr. George Vande Woude at the National Cancer Institute in Frederick, Maryland. During this time Dr. Park studied oncogenic signaling pathways, which led to the initial molecular cloning of the Met oncogene, a receptor tyrosine kinase that she has investigated ever since. Following completion of her postdoctoral training in 1988, Dr. Park was recruited as Director of the Molecular Oncology Laboratory of the Ludwig Institute for Cancer Research in Montreal, which at that time was affiliated with McGill University.

In 1992, she joined the Departments of Medicine, Oncology and Biochemistry at McGill as an Assistant Professor, and rapidly rose through the ranks to the level of Professor. She was recently appointed Associate Director of Fundamental Research for the McGill University Health Centre.

Since becoming an independent investigator, Dr. Park has continued to make many seminal contributions to our understanding of cell growth and motility factor signalling through receptor tyrosine kinases, such as the Met/hepatocyte growth factor(HGF)/scatter factor receptor, and has investigated the role that these proteins play in epithelial neoplasias, particularly human breast cancer.



Her research had led to a more comprehensive understanding at the molecular level of the distinct signalling proteins that are required for epithelial morphogenesis, as well as those that promote the disruption of organized epithelial structures, anchorage independent growth, tumorigenesis and invasion. Of notable significance are recent observations that continuous activation of signalling pathways through the Met/HGF receptor in transformed and tumor cells is distinct from those activated following short-term stimulation of the receptor by its ligand. The challenge now is to elucidate how these signals become distorted in tumor cells compared to normal cells, and to identify the critical molecular signals that may be suitable targets for therapeutic intervention. One of Dr. Park's current ambitions is to establish murine models of breast cancer that integrate the complexity of genetic alterations found in human breast cancer, and then rapidly transfer discoveries made at the "bench" to the "bedside". To materialize this vision, Dr. Park, in partnership with clinician scientist Dr. Meterissian, has formed the Montreal Breast Cancer Functional Genomics Group which is a multidisciplinary team of scientists, surgeons, oncologists and pathologists from basic science departments at McGill

University and units within the McGill University Hospital Centre. The strategy is to exploit recent advances in genomic and proteomic methodologies to identify molecular determinants of tumor prognosis, diagnosis, and response to therapeutic modalities. This translational research project will also interface more broadly with a multidisciplinary team of investigators from across Canada who are funded by the “Streams of Excellence Program” of the Canadian Breast Cancer Research Initiative, in a joint effort to apply basic cancer research findings to improved patient care.

Dr. Park has earned numerous competitive awards during her entire career. As an independent scientist, she obtained Scholarship support from the National Cancer Institute of Canada and former Medical Research Council of Canada, and most recently obtained a Senior Investigator award from the Canadian Institutes of Health Research. She has published extensively during all phases of her career in the very best scientific journals, attesting to the excellent quality of her work. Her prominence in the field is also evidenced by numerous invitations to present her work at important national and international scientific conferences, and to write reviews for high-profile journals on a regular basis. In addition, Dr. Park has participated in many other scientific activities that further attest to her scientific standing and contributions to Canadian science. These include acting as a grants panel member for several agencies in both Canada and the United States. She has chaired the Canadian Institutes of Health Research Cancer A and B panels, as well as the Idea Grants Panel of the Canadian Breast Cancer Research Initiative. Dr. Park has also taken on many leadership roles at McGill University; for example, she is currently the Associate Director of Fundamental Research in the McGill University Health Centre. As well, she has helped organize a number of scientific meetings. Dr. Park is clearly recognized as one of the very best scientists world-wide in the signalling field, and is a most deserved recipient of the Jeanne Manery Fisher Memorial Lectureship award.