

Cancerlink



The Princess Margaret
Hospital Foundation

SPRING 2006

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PMH's Dr. John Dick wins the Dameshek Prize

Dr. John Dick is the recipient of the prestigious 2005 William Dameshek Prize from the American Society of Hematology. The Dameshek Prize is awarded to an individual who has made an outstanding contribution in hematology.

Dr. Dick is renowned for his work in discovering and confirming the existence of cancer stem cells (CSCs). About 10 years ago, Dr. Dick and his team provided the first clear evidence of cancer stem cells for leukemia. He was able to show that it was these specialized CSCs that were the only cells capable of initiating and sustaining cancer growth in leukemia. This finding sparked the current explosion of interest in cancer stem cells which have now been found to be at the root of all cancers.



DR. JOHN DICK

“For the first time, we know where we should be focusing our research in order to end this deadly cancer,” said Dr. Dick about his study.

Among leukemic cancer stem cells, some are fast-acting and others lay dormant for extended periods of time before becoming active. It is thought that these different stem cells could be responsible for the high recurrence rates – approximately 60 to 90 percent – in acute myeloid leukemia.

Dr. Dick is the current Canada Research Chair in Stem Cell Biology for University Health Network (UHN) and obtained his PhD from the University of Manitoba in 1984. In 2002, he was recruited to UHN to head a cancer stem cell research program. In 2004, Dr. Dick

was appointed the Molecular Medicine Scholar at the McLaughlin Centre and a Fellow, Society of Canada, Academy of Sciences. He has been awarded the Michael Smith Award for Excellence from the Canadian Institutes for Health Research, the Robert L. Noble Prize for Excellence in Cancer Research from the National Cancer Institute of Canada, and the Boerhaave Medal from Leiden University.

Princess Margaret Hospital would like to congratulate Dr. John Dick on this outstanding accomplishment.

PMH Staff Honoured AT THE **KIRSH** Awards

“You should not underestimate the power of touch, of care. It could be that one extra thing that makes the difference to a patient,” said Krystyna Moore, a registered nurse case manager with 20 years experience at Princess Margaret Hospital.

Krystyna Moore and Dr. Donna Reece were the recipients of this year's Gerald Kirsh Humanitarian Awards.

The Kirsh Awards honour employees who interact directly with cancer patients and their families, and who demonstrate compassionate care. Patients and their families nominate caregivers for the awards and two winners are selected each year by a peer committee.

THE PRINCESS MARGARET HOSPITAL FOUNDATION WOULD LIKE TO CONGRATULATE THE REST OF THE 2005 KIRSH AWARD NOMINEES:

DALE BROWN Staff Physician
WHARTON HEAD AND NECK CENTRE

JUANITA CROOK Radiation Oncologist
DEPARTMENT OF RADIATION ONCOLOGY

MICHAEL CRUMP Staff Physician
MEDICAL ONCOLOGY AND HEMATOLOGY

MAUREEN DANIELS Coordinator
THE GERRY & NANCY PENCER BRAIN
TUMOR CENTRE

ANNE EMBLETON Registered Nurse
PMH LODGE

NEIL FLESHNER Head Division of Urology

ANTHONY FYLES Radiation Oncologist
DEPARTMENT OF RADIATION ONCOLOGY

MICHAEL KOGON Division of Urology

WILFRED LEVIN Radiation Oncologist
DEPARTMENT OF RADIATION ONCOLOGY

SONIA MALCOLM
PMH LODGE

HANS MESSNER Staff Physician
MEDICAL ONCOLOGY AND HEMATOLOGY

MARY ANNE MILES Registered Nurse
CLINICAL TRIALS COORDINATOR MEDICAL
ONCOLOGY AND HEMATOLOGY

MASSEY NEMATOLLAHI Clinical Trials
COORDINATOR MEDICAL ONCOLOGY AND HEMATOLOGY

TECKSUAN (SUE) ONG Registered Nurse
CHEMOTHERAPY UNIT

GERALDINE PRENDERGAST Registered Nurse
HEMATOLOGY NORTH

IAN QUIRT Medical Oncologist
DEPARTMENT OF MEDICAL ONCOLOGY

GAIL RAMESAR Appointment Scheduler
BREAST IMAGING

SUZAN SANDERSON General PMH
LODGE ASSISTANT

TERRI VANDERKOOY Registered Nurse
BREAST CLINIC

Save the Date! This year's Behind the Scenes donor appreciation event

is scheduled for Wednesday, June 14th. This is your chance to learn more about the exciting cancer research breakthroughs at PMH and to mingle with our world-renowned clinician scientists. Look for your invitation, coming soon in the mail!



Landing at **MaRS**

THE CANCER STEM CELL RESEARCH PROGRAM

This is the first in a series highlighting the innovative research programs at the state-of-the-art Medical and Related Sciences (MaRS) complex – a centre of unprecedented research convergence and collaboration.

The fundamental problem in curing cancer is targeting the particular cell type capable of initiating and sustaining the growth of tumours. Standard treatment methods successfully destroy the bulk of the tumour and the patient can go into a state of remission. However, most tumours often reoccur.

It has been this problem of tumour recurrence that has confounded cancer researchers for some time. But 40 years ago, two pioneering scientists at the Ontario Cancer Institute (OCI), Drs.



1,000th Volunteer

for the Lung Cancer Screening Study



DR. HEIDI ROBERTS WITH NORMA HENN

Norma Henn became the 1,000th volunteer tested in the Early Lung Cancer Screening Study at Princess Margaret Hospital, which strives to improve early detection of lung cancer and survival rates.

“The actual CT scan takes a minute but knowing the results and the relief I now feel will last a lot longer,” says Norma, who lives in Belleville.

The Early Lung Cancer Screening program examines male and female volunteers who are current or former smokers aged 50 and older, in

good general health, have no previous cancers and have smoked an equivalent of at least one package of cigarettes a day for 10 years. Study participants do not need a referral from their doctor.

Lung cancer is the leading cause of cancer death in Canada but when detected early, the cure rate is between 70 to 80 percent. This study is funded by the Lusi Wong Lung Cancer Early Detection Research Fund through The Princess Margaret Hospital Foundation.

“With this funding we’ve developed the first screening program in Canada and are able to detect and diagnose lung cancer for treatment in its early stages,” says Dr. Heidi Roberts, Principal Investigator, Associate Professor of Radiology in the Department of Medical Imaging. The study was launched in September 2003.

To find out more about this important study, visit the Early Lung Cancer Screening Study website

www.uhnresearch.ca/studies/lungscreening.

Ernest McCullough and James Till conducted the original work predicting that tumours possess a type of stem cell – the cancer stem cell (CSC). The existence of CSCs was then confirmed by two other scientists, Drs. John Dick and Peter Dirks, who are now also working also at OCI.

This discovery, that among all cancer cells in a tumour, only rare cancer cells – the CSCs – are responsible for the maintenance and relapse of the tumour, has sparked a revolution in cancer research. This has opened the door to an entirely new therapeutic strategy to cancer: halting cancer by targeting the unique biological properties and specific molecular pathways of CSCs.

The Cancer Stem Cell Program was launched in 2000 with the recruitment of Dr. John Dick to continue the strong tradition of stem cell research which started with the work of Drs. McCullough and Till. Since then, the research team has grown with the recruitment of other renowned stem cell and cancer researchers.

No other group exists in the world with this breadth of expertise focused on the CSC problem. And because of this, other major research centres in the US (ie. the National Institutes of Health, Baylor University, and Harvard) have collaborations with our research.



A VIEW INSIDE THE HERITAGE ATRIUM AT MaRS

Housed at MaRS, the Cancer Stem Cell Program benefits from an unmatched and critical mass of science expertise and state-of-the-art facilities. This program represents a world-leading initiative in an area where Canada can truly claim an already commanding lead.

A Presigious Award for Cancer RESEARCH PIONEERS

Drs. Ernest McCullough and James Till were the recipients of The 2005 Albert Lasker Award for Basic Medical Research. This prestigious award honours two scientists who make a significant contribution in basic science research.



DRS. TILL AND MCCULLOUGH

At the turn of the 20th century, scientists were postulating the existence of self-renewing cells that could specialize for a wide variety of purposes. In a series of ingenious and elegant experiments 60 years later, Ernest McCulloch and James Till demonstrated that such a type of cell existed in the blood-forming system. **They were the first to establish the properties of stem cells, which still hold true today. Till and McCullough's discoveries also explained the basis of bone marrow transplantation, which prolongs the lives of patients with leukemia and other cancers of the blood.**

The Princess Margaret Hospital Foundation is proud to congratulate these two pioneers of cancer research. Their work has truly broken new ground and paved the way for innovative progress in cancer treatment.

The Weekend to End Breast Cancer

The Weekend to End Breast Cancer benefiting Princess Margaret Hospital is one of the most successful fundraisers in Canadian history, with net proceeds of \$31 million from three annual events. During one amazing weekend, thousands of women and men

THE NEXT WEEKEND TO END BREAST CANCER WALK IS SEPT. 8-10, 2006.

New Addition TO THE PMH FOUNDATION



CHRISTINE LASKY

We are delighted to announce that Christine Lasky has joined the Foundation as Vice President of Strategic Initiatives.

Christine will manage our lotteries, the Weekend to End Breast Cancer, PMHF Branding and Communications and new strategic initiatives.

A Top Ten for one of PMH's Scientists



DR. DAVID JAFFRAY

In the January 2006 issue of Medical Imaging magazine, PMH's own Dr. David Jaffray, Head of Radiation Physics was voted to the "Top Ten List" of Radiation Oncology/Cancer researchers in polling conducted by the magazine. To put this honour into perspective, Dr. Jaffray is the only non-physician on the list.

This is another in a series of accomplishments for Dr. Jaffray, the Orey and Mary Fidani Chair of Radiation Physics at PMH and named as one of Canada's Top 40 Under 40 in the recent past.

Medical Imaging set out to compile a ranking of the industry's 10 best in 10 categories to find and acknowledge the best and brightest in the field of radiology.

The Princess Margaret Hospital Foundation congratulates Dr. David Jaffray and his colleagues, who are frequently recognized as one of the top Radiation Medicine Programs in the world.

16

1 new way
Weekend to End Breast Cancer™
BENEFITING
Princess Margaret Hospital

will unite to walk 60 km in Toronto in a bold display of courage and commitment. It's a weekend of hope, as we honour lives lost, celebrate the survivors, and help to find a cure for breast cancer...once and for all.

Funds raised support innovative programs in breast cancer research, treatment and patient care at PMH.

1 in 9 Canadian women will develop breast cancer in her lifetime. And now there's something you can do about that – get involved with The Weekend to End Breast Cancer benefiting Princess Margaret Hospital. It's an awesome life-changing adventure that you'll never forget.

DISCOVER THE STRENGTH YOU NEVER KNEW YOU HAD. VISIT WWW.ENDCANCER.CA TO REGISTER TO WALK OR VOLUNTEER TODAY.

Christine brings a strong marketing background and diverse experience in branding, new program launches, promotion and strategy to the foundation. She has held senior management positions in marketing in packaged goods firms which included Procter & Gamble, Nabisco Brands and George Weston Limited. She also spent over 10 years in the financial services sector with National Trust and Sun Life Financial

and their mutual fund firm, Spectrum Investments. More recently she was engaged in providing marketing consulting and taught marketing at George Brown College. Christine holds a Masters of Business from the Schulich School of Business where she was also a Marketing Gold Medal winner. In her spare time Christine is taking her Bakery Arts Certificate and loves to ski and hike.

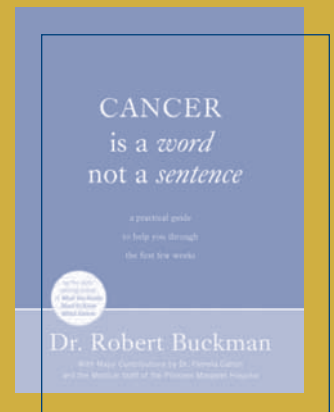
We are pleased to welcome Christine to the Foundation.

Cancer is a word *not a sentence*

AN EVENING WITH DR. ROBERT BUCKMAN

One of PMH's medical oncologists, Dr. Robert Buckman, who is also a world-class expert on inter-personal communications, conducted a Q & A session at the Jane Mallet Theatre, St. Lawrence Centre for the Arts on Feb. 8.

Dr. Buckman is the author of Cancer is a word not a sentence, a practical guide to help cancer patients deal with the diagnosis of cancer. A portion of the proceeds from the sale of his new book will be donated by Dr. Buckman to further support patient education programs at PMH.



Dr. Buckman is a medical oncologist at Princess Margaret Hospital and a Professor of Medicine at the University of Toronto. In addition to medicine, he's had an extensive communication and broadcasting career in Britain and Canada. He has written twelve books including I Don't Know What to Say - How To Help

& Support Someone Who Is Dying and the bestseller What You Really Need To Know About Cancer - A Comprehensive Guide For Patients and Families, which has sold over 200,000 copies and is being reprinted in March 2006.

Bigger, Better, Bonanza.

1 in 10 chances



PMHF'S HOME LOTTERY TICKET SALES HAVE ALREADY BEGUN.

The 20th Princess Margaret Hospital Foundation Lottery - Home Lottery 2006 - has the best chances to win ever with 1 in 10.

The 2006 Home Lottery features the "World's Greatest Grand Prize Showhome" with 10 fully-furnished grand prize showhomes and a luxury BMW sedan in each driveway. In total, there are 34,504 prizes valued at almost \$14 million.

The early bird draw prize on May 16 is a lakefront cottage country prize package, a definite motivator to buy your tickets by April 27, the early bird deadline. The prize package includes a fully-furnished luxury cottage, a 2006 Jeep Commander 4x4 and \$10,000.

Since 1996, The Princess Margaret Hospital Foundation's Lotteries Have Raised More Than \$130 Million For Cancer Research At Princess Margaret Hospital.

PRIZES DON'T END HERE BUT ALSO FEATURE:

- SPECTACULAR VEHICLES & WATERCRAFTS
- WORLDWIDE VACATIONS
- THOUSANDS OF HOME ELECTRONICS
- THOUSANDS OF SPORT & LEISURE ITEMS

Visit www.helpconquercancer.ca for a list of more prizes.

HOW TO GET YOUR TICKETS

TICKETS WENT ON SALE JAN 31 AND FOR \$100 EACH OR \$250 FOR A 3-PACK, WITH ONLY 345,000 TICKETS TO BE SOLD. YOU CAN DOWNLOAD A FAXABLE APPLICATION FORM ONLINE TO ORDER TICKETS, BY PHONE AT

416-650-7888 OR 1-866-631-1234

OR AT KIOSKS LOCATED AT ALL THREE HOSPITALS (PRINCESS MARGARET HOSPITAL, TORONTO GENERAL HOSPITAL AND TORONTO WESTERN HOSPITAL).

Research Breakthroughs at PMH

BREAKING NEWS AT DNA BREAK SITES

A research breakthrough from an international team of scientists, including our own Drs. Robert Bristow and Lothar Lilge, made the cover of the prestigious journal Cancer Research.

The group discovered that damaged DNA in a cell binds a specific form of the tumour suppressor protein p53—a molecule essential to the cell's ability to sense and repair damaged DNA.

The researchers recorded the location of p53 in the cell following different types of DNA damage. They found that only a phosphorylated form of p53 (modified by the addition of phosphate groups) interacted with DNA repair proteins and accumulated at sites of the damage.

Mutation and altered phosphorylation of p53 proteins are common in cancer cells and can reduce the response to cancer therapy. By uncovering what types of p53 direct DNA repair, researchers can develop therapies that target how a cancer cell responds to DNA damage.

MEET ONE OF OUR RESEARCHERS

Dr. Igor Jurisica

Dr. Jurisica has been a Scientist at the OCI/PMH, Division of Cancer Informatics since July 2000. He is an Assistant Professor in the Departments of Computer Science and Medical Biophysics, University of Toronto, as well as an Adjunct Assistant Professor at Queen's University, and a Visiting Scientist at the IBM Centre for Advanced Studies.

He earned his degree in Computer Science and Engineering at Slovak Technical University in 1991, and his M.Sc. and Ph.D. in Computer Science from University of Toronto in 1993 and 1998 respectively.

Dr. Jurisica's research focus is computational biology – developing and applying computational algorithms to the analysis, visualization and interpretation of molecular profiles of cancer. It's a promising new area of research, which generates new knowledge by applying computer science and mathematics to integrate multiple experiments and existing data about cancer. The ultimate goals are to detect cancer at a much earlier state (before symptoms are even seen), understand how tumours generate, improve current treatment methods, and design better drug therapies.

His work means that we will one day be able to screen people for cancer and design a treatment plan to match a patient's exact genetic profile. In other words, we will be



DR. IGOR JURISICA

able to target an individual's circumstances rather than providing all patients with similar, broadly-based treatment.

According to Dr. Jurisica, *“Developments in this area are critically important. More effective and less invasive treatment, improved quality of life, and lower treatment costs are all expected outcomes. It's an immense pay-off.”*

TELOMERES: THE BURNING FUSES OF CELL DIVISION

A process often disrupted in cancer may be more complex in blood-forming cells involved in leukemia than in other cell types. This is the latest finding from Drs. John Dick and Lea Harrington in their study of telomeres.

Telomeres are structures at the ends of chromosomes that prevent DNA damage. Each time a cell divides, the telomeres are shortened but they can be partially restored by an enzyme called telomerase. When telomeres are shortened beyond a certain limit, the cell's lifespan expires, triggering cell death.

While increasing telomerase activity will normally prevent cell death, the researchers found that this is not the case for the blood-forming cells.

According to Dr. Dick, “changes in telomerase activity may be an early step in leukemia. Investigating how telomere length is stabilized differently in these blood-forming cells may lead to therapeutic targets specific to leukemia.”

MOLECULE CRITICAL FOR CANCER METASTASIS

Drs. Tak Mak and Rama Khokha have discovered that the molecular switch RhoC is crucial for tumour metastasis—the spread of cancer from one part of the body to another.

The researchers generated RhoC-deficient mice and showed that tumour cells in this model are less likely to spread, since they are smaller, less mobile and fewer in number than tumour cells from normal mice. RhoC-deficient cells are also more likely to die at secondary sites (e.g., in metastases).

This research suggests that the RhoC pathway may serve as suitable target for cancer therapies.

Calendar OF Events



MAY 2/06	The 3rd Annual Mindy Kirsh Memorial Bridge to the Cure – a Bridge and Mah Jongg tournament and luncheon to benefit the Familial Ovarian Cancer Clinic (FOCC) at PMH.
MAY 7/06	A Touch of Spring Fashion Show to support cervical cancer research.
JUNE 1/06	The Gerry & Nancy Pencer Brain Trust's Annual Gala to support The Gerry & Nancy Pencer Brain Tumour Centre at PMH.
JUNE 14/06	Behind the Scenes - PMH's Annual Donor Appreciation Event.
JUNE 17/06	The 4th Annual Breast Friends Ball to benefit breast cancer research at PMH.
JUNE 17/06	The 7th Annual Lemonade Stand to support cancer research and patient care at PMH.
AUG 18/06	Master Insulators Association Golf Tournament to support mesothelioma research at PMH.
SEPT 10/06	Brave Heart Walk for a Cure to support the Lisa Cristine Brave Heart Fund for Radiation Therapy.
SEPT 15/06	Life Over Lymphoma Gala to support lymphoma research at PMH.
SEPT 24/06	Gift of Life 5KM Walk for leukemia research at PMH.
OCT 11/06	Laugh Lines to support the Breast Centre Women's Committee Fund at PMH.
OCT 16/06	The Toronto Marathon to support various cancer research areas at PMH.
OCT 22/06	Periwinkle 2006 - A Gala to support the Cervical Cancer Research Fund at PMH.

www.pmf.ca for more information about upcoming special events to support cancer research at PMH.

Cancerlink

A PUBLICATION OF THE PRINCESS MARGARET HOSPITAL FOUNDATION

Our Vision: To Conquer Cancer.

Our Purpose: To raise and steward the funds necessary for breakthrough research, compassionate care and exemplary teaching at Princess Margaret Hospital, Canada's cancer research hospital.

HOW TO REACH US

The Princess Margaret Hospital Foundation is dedicated to supporting excellence in health care by raising funds for breakthrough research, compassionate care and exemplary teaching at Princess Margaret Hospital. You may request to be removed from our fundraising list at any time by contacting us at 416.946.2114 or at listremovalpmhf@pmhf.ca

REGISTERED CHARITABLE ORGANIZATION NUMBER: 88900 7597 RR0001

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Strategic Thinking. Intelligent Design. For more information visit www.fishoutofwaterdesign.com