In memoriam

Born on March 22, 1935 in Winnipeg, Manitoba, Rolly was the third of nine children born to Rodney Fox and Bertha (Shale) Fox. The early years were difficult financially for the large Fox family, resulting in Rolly, at the youthful age of nine, being sent to live with his older sister, Janet, who was living in a boarding home in Toronto. Rolly would stay with his sister for two years. In 1947, Rolly’s family moved to Abbotsford, B.C., where he would attend elementary school. Rolly was a bright student with the added challenge of being a “lefty” and would often be the target of teasing by his classmates. Despite these challenges, Rolly excelled academically and was a member of the high school debate team. He continued this success in university, where he received a degree in engineering. Rolly was a proud and dedicated family man, and his greatest joy was his children and grandchildren. He was known for his sense of humor and his ability to find the silver lining in any situation. Rolly was a loyal friend and a respected member of his community. He will be deeply missed by all who knew him. 

Rolly was survived by his wife Janet; three children Fred (Theresa), Darrell (Bonnie), and Rod; and six grandchildren. He was predeceased by his brother Terry, who passed away in 1981, and by his parents and other siblings.

Rolly started his career as a switchman on Vancouver’s north shore in 1954. Working outside in all kinds of weather, he quickly rose through the ranks and became a foreman. In 1965, Rolly was promoted to the position of chief switchman, a role he would hold for the next 36 years. This position afforded him the opportunity to travel throughout the country, and he used this time to establish a network of friends and colleagues. Rolly’s strong work ethic and dedication to his craft earned him the respect of his peers and superiors. He was known for his ability to solve complex problems and for his innovative approach to operations. Rolly was a leader in the industry, and his contributions to the development of new technologies and processes were instrumental in the advancement of railroading.

When Terry died in 1981, Rolly and Betty were forced into roles neither was prepared for, but they met the challenge with strength and grace. Rolly’s role as a caregiver was essential in the last days of Terry’s life, and he continued to support Betty and the family during the efforts to find a cure for cancer. Rolly was committed to the Terry Fox Foundation and dedicated his life to the cause of cancer research. He was a member of the Terry Fox Run committee in Vancouver and was instrumental in the development of the Terry Fox Research Institute. Rolly’s contributions were recognized with the Terry Fox Award for Excellence in Cancer Research, which he received in 2005. His legacy continues to inspire and motivate those who work in the field of cancer research. Rolly is survived by his wife Janet, his children Fred, Darrell, and Rod, and his grandchildren.

Donations can be made to The Terry Fox Foundation
The Terry Fox Foundation
1950-8960 University St
Port Coquitlam, V3A 4V6
www.terryfox.org
T: 1-888-838-9786

Please visit the Terry Fox Foundation website for more information on donating.

Reference:
Researchers study measles vaccine, pancreatic cancer and lung cancer

TFRI has funded three 2016 New Investigators: Dr. Guy Ungerechts, Dr. Ralph Dacosta and Dr. William Lockwood following its annual competition, which supports future leaders in cancer research as they develop their careers in the field. Recipients of the award receive three-year funding totaling $450,000 each and are sponsored and mentored by an existing Terry Fox-funded program.

**Project Title**
**Next Generation Cancer Immunovirotherapy:** Heterologous oncolytic prime-boost enhanced with selective immunomodulators

**Mentoring Program**
**The Terry Fox New Frontiers Program**
**Project Grant in Canadian Oncolytic Virus Consortium (2007-2011)**

![Image](185x554 to 283x620)

**Mentor:**
**DR. GUY UNGERECHTS**

Dr. Guy Ungerechts, Dr. Ralph Dacosta

**Project Description:**
An oncolytic virus works to destroy cancer in multiple ways, explains Dr. Ungerechts, notably by stimulating the immune system and directly killing cancer cells. The team plans to use a modified version of the Measles virus as an oncolytic "cancer vaccine," enhancing it with a second virus (the Maraba virus) that will act as a booster. The team is already testing a similar strategy in patients in Ottawa, Hamilton, Toronto and Vancouver. However, this trial uses one virus (Maraba) that can replicate and spread throughout the tumour and one that cannot replicate into the tumour. This generation therapy would use two replicating oncolytic viruses, to hopefully maximize tumour destruction.

"What we would like to do in the TFRI project is use the Measles virus to mount a great response from the patient's immune system," said Dr. Ungerechts, who is trained as a medical oncologist and molecular virologist. "We will inject the virus right into the tumour site so it will replicate in the tumour, stimulate the immune system and hopefully destroy cancer cells."

The Measles virus was chosen for several reasons: it's already an effective vaccine for children, and has an excellent safety profile. Further, early clinical trials run by researchers from the Mayo Clinic, USA have shown promising results in patients with different types of cancer.

Dr. Ungerechts is also exploring approaches to genetically modify the Measles virus to express various immunomodulatory payloads, stimulating the immune system to attack cancer cells specifically. Examples include immune checkpoint inhibitors (anti-CTLA-4/anti-PD-1 antibodies) and bispecific T cell engagers (BiTEs).

Determining which approach is most effective for killing cancer cells and stimulating the immune is an exciting prospect for Dr. Ungerechts. By the end of his three-year award, he hopes the novel treatment will be moved to clinical trials for advanced stage cancer patients who have run out of options.

**Project Title**
**Investigating radiation responses of pancreatic tumours, their vasculature and microenvironment using in vivo imaging to identify new treatment strategies**

**Mentoring Program**
**The Terry Fox New Frontiers Program**
**Project Grant in Research Pipeline for Hypoxia-Directed Precision Cancer Medicine**

**Mentor:**
**DR. RALPH DACOSTA**

While survival rates for many cancers have improved over the last decade, cure rates for some forms of the disease – such as pancreatic cancer – remain as low as just two to three per cent.

"The survival rate for pancreatic cancer is abysmal," says Dr. Ralph Dacosta, a molecular imaging scientist, noting that around 5,000 Canadians are affected by the disease each year. "One of the main reasons that I picked this particular cancer to study was because I thought we could bring a real level of innovation and new knowledge to understanding this complex tumour microenvironment."

He’ll use his three-year award to try to find new and innovative ways to study the complex tumour microenvironment to develop new treatment strategies for pancreatic cancer and prevent deadly tumour recurrences in patients from his laboratory at the Toronto’s Princess Margaret Cancer Centre, UHN.

Radiation and chemotherapy can be a very effective treatment for many cancers, but are often unsuccessful in treating pancreatic cancer. Dacosta’s research team has learned that advanced pancreatic tumours are often very "hypoxic." This means they are low in oxygen, which decreases the efficacy of treatment, and makes the likelihood tumours will grow and spread aggressively.

Further, the team discovered in animal models of pancreatic cancer that high-dose radiation therapy can actually increase tumour hypoxia, change the invasive behaviour of tumour cells, and modify the tumour microenvironment and microenvironment. The result? It’s harder to kill cancer cells.

But there’s hope. Dr. Dacosta and collaborators in the Leslie Dan Faculty of Pharmacy (University of Toronto) have developed a new injectable nanoparticle formulation comprised of manganese dioxide that generates oxygen in vivo, and makes a tumour less hypoxic. When used in conjunction with traditional radiation, early results suggest cancer cells can be killed more easily using a much lower treatment dosage.

"The clinical impact is pretty profound if we can get this right. If you give a patient the nanoparticles, and make the tumour more oxygenated, you could be just as effective at killing tumour cells with a much lower radiation dose, and also reduce unwanted toxicity of the therapy to the patient," Dacosta explained.

Dr. Bradley Wouters and Rob Bristow, co-investigators of TFRI’s Hypoxia Program and senior scientists at UHN, will mentor Dr. Dacosta for the duration of the three-year award.

**Project Title**
**Assessing the effect of radiation from screening low-dose CT scans on lung cancer development and progression**

**Mentoring Program**
**Early Detection of Lung Cancer: A Pan-Canadian Study**

**Mentor:**
**DR. WILLIAM LOCKWOOD**

It has been shown that regular screening of patients at high-risk for developing lung cancer reduces their chance of dying from it by as much as 20 per cent. But is there a drawback to screening? Does low-dose computed tomographic (LDCT) emitted radiation cause long-term harm? TFRI New Investigator Dr. William Lockwood, a scientist at the BC Cancer Agency, hopes to answer this important question with this new funding.

"What we’re interested in is the potential risk factors that could be involved in cumulative screening radiation," he explains. "The radiation that is accumulated over time may actually have some adverse effects that could affect cancer outcomes in a patient that would be at a high-risk of lung cancer."

In Canada, lung cancer kills over 20,000 people annually, and is the primary cause of cancer deaths. With early detection, however, five-year survival rates can be over 70 per cent. Yet the high-risk participants involved in TFRI’s pan-Canadian early-detection lung cancer study (which concluded in 2015) aren’t “normal” people who are healthy and don’t smoke, notes Dr. Lockwood. Many already have some abnormal cells in their lungs.

"When you wish to implement a program where people ages 55 and over who are high-risk individuals that have smoked a lot and should be screened yearly, we don’t really know what will happen over 25 years of screening," he said, noting that many scientists worry about potential harm from low doses of radiation administered over decades.

"At the end of this, if it doesn’t have an effect, than we can tell our patients that they shouldn’t be worried about it – because it is something that people worry about."

The study will analyze tumours from mice exposed to similar levels of radiation, then compare them with human tumours and non-tumour lung tissues from patients who underwent multiple rounds of LDCT screening to see if the radiation contributes to cancer development by causing similar gene disruptions.

Dr. Lockwood is excited to work under the mentorship of senior scientists who are experts in the field, such as his sponsor Dr. Stephen Lam, chair of BC’s Provincial Lung Tumour Group at the BC Cancer Agency and a professor of medicine at the University of British Columbia, who led TFRI’s Pan-Canadian Early Lung Cancer Detection Study.

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**2017 Funding Competition Important dates**

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**Translational Research Projects 2017**

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**The 2017 New Investigator competition is now OPEN!**

**Application deadline:** September 9, 2016

Visit www.tfri.ca for competition details

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