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Winnipeg Student Wins A Triple Crown of High School Science; Grade 12 Researcher, 17, Seeks Potential Alternative to Chemotherapy

*Ted Paranjothy Sweeps First Place Finishes in
Manitoba, National and International Biotech Competitions;*

*Ottawa, Calgary, Toronto, Montreal Students Take Prizes Also
in Canada-wide Competition Judged by Experts at NRC*

Announcement of Canada's top prize-winning high school projects in biotechnology will take place on a media teleconference from National Research Council headquarters, 100 Sussex Drive, Ottawa, 1 p.m. EDT Fri. May 11.

To join the call, please dial 1-303-664-6043, conference ID 8309014.

To view the announcement online: www.biotechchallenge.ca (follow links to the webcast)

Students are available for individual interviews. Please call 416-538-8712 or 647-284-8712 to schedule a time.

A Manitoba student has a first-ever Triple Crown of high school science, his biotech project seeking a potential alternative to chemotherapy sweeping first-place finishes in **sanofi-aventis** sponsored biotech challenges at the regional, international and national levels over 17 days.

Seven distinguished health and science experts at the National Research Council judged 13 regional finalists in coast-to-coast videoconferences yesterday, awarding top national marks to Ted Paranjothy, a Grade 12 student at Fort Richmond Collegiate, Winnipeg. He

won \$2,000 regionally in Manitoba April 24, \$5,000 today, and US\$7,500 Monday in Boston for the best project at the 2007 **sanofi-aventis** International BioGENEius Challenge. In all, his prize total from the competition series exceeds C\$15,000.

Second place (\$4,000) was awarded to James McLeod, 17, Grade 12, of All Saints Catholic High School, Ottawa, for a project creating new insights into HIV-AIDS, expanding on a project that won him 1st prize in last year's national **sanofi-aventis biotech challenge (sabc)**.

Third prize (\$3,000) went to May Li Yang, 17, Grade 12, Sir Winston Churchill High School, Calgary, for research investigating the potential of coffee to help reverse Alzheimer's disease.

Fourth prize (\$2,000) was given to Aaron Hakim, 15, Grade 10, of Appleby College, Oakville, for his research into the complex functions of genes as related to Parkinson's disease. Aaron's project was also recognized by the judges as having the greatest commercialization potential, resulting in an additional prize of \$1,000.

Fifth prize (\$1,000) went to Lia D'abate, 15, Grade 10, of Sacred Heart School, Montreal, for her project looking into the use of stem cells to repair heart disease-damaged tissue.

Towards a gentler form of cancer treatment

Killing cancer cells without harming healthy cells is the holy grail of cancer treatment and Ted Paranjothy's experiment has identified a promising candidate.

Medical researchers have previously shown that a protein called apoptin that comes from a chicken anemia virus has the remarkable property of causing cancer cells to die without affecting healthy cells. In last year's competition, Paranjothy 'deconstructed' apoptin and determined that small fragments called peptides were responsible for the cancer-death affect. This year he took his research further to specifically identify and determine the molecular structure of these peptides.

"The peptides may one day be a commercially available and cost-efficient therapeutic alternatives to conventional chemotherapy," says Paranjothy.

This was technically challenging research at the molecular level requiring the use of sophisticated tools and techniques such as nuclear magnetic resonance. Paranjothy found

himself doing the work over and over again, constantly fine tuning his experiment to get meaningful data. "The most surprising thing I learned is that experimental failure is in itself a success because it helped me learn more."

Living the "life of a scientist including with late-night (and sometimes overnight) experiments and sacrificing evenings, weekends and holidays," delighted the Grade 12 student. Equally enjoyable was the opportunity to share data and experiences with the SABC judges and exchanging ideas with other students he says.

Joining the *sabc* and working in the lab of mentor Marek J Los (Associate Professor and Canada Research Chair in New Cancer Therapy Development, Faculty of Medicine, University of Manitoba) has also helped Paranjothy discover his real passion in life - medical research.

On June 7th, Paranjothy will be recognized again, entering the 2007 Youth in Motion Top 20 Under 20 award a mentoring programme for young Canadians who have demonstrated significant levels of innovation, achievement and leadership.

It is the second time a Manitoba student has won the national *sabc* competition. In 2005, Winnipeg student Will Turk won for research related to HIV-AIDS.

A range of cutting-edge biotech

The *sanofi-aventis biotech challenge* is a high-level event that introduces students to the real world of biotechnology by carrying out research projects of their own design. Each student team works with a mentor in their community, who provides expert advice and access to equipment and supplies.

Judging the 2007 competition were:

- Mr. Dupuis Angers, Chair, BioTalent Canada
- Dr. Luis Barreto, Vice President, Public Affairs, Sanofi Pasteur Limited
- Dr. David Brener, Director, Industry Programs Branch, Canadian Institutes for Health Research
- Dr. Elwyn Griffiths, Acting Director General, Biologics and Genetic Therapies Directorate, Health Canada

- Dr. Paul Morley, Chief Scientific Officer, Zelos Therapeutics
 - Dr. Eliot Phillipson, President and CEO, Canada Foundation for Innovation
- and
- Dr. Roman Szumski, Vice President, Life Sciences, National Research Council

The national finalists, winners of *sabc* competitions in Newfoundland, PEI, Nova Scotia, New Brunswick, Montreal, Eastern Ontario, Greater Toronto, Southwestern Ontario, Manitoba, Saskatchewan, Edmonton, Calgary and British Columbia, presented judges with a range of cutting-edge biotech research.

All regional finalists this year advanced scientific knowledge about a commercial or human health problem. Two finalists from the Maritimes successfully looked for answers to problems in the potato and mussel industries; other finalists created new insights into diseases: diabetes, Alzheimer's, cancer, Parkinson's, HIV-AIDS, heart disease and asthma.

In remarks at the ceremony, Dr. Jim Richards, Acting Director General, National Research Council Institute for Biological Sciences, said finalists in the competition “represent some of the brightest young scientists in Canada and I congratulate them all on their outstanding achievements. The NRC is proud to be part of this program and we look forward to future competitions.”

He thanked the competition sponsor and **Sanofi Pasteur Limited** President Mark Lievonen for helping foster an appreciation of science education.

In addition to announcing the name of the first place winner, Mr. Lievonen announced that, in recognition of the strong support of BioTalent Canada, the competition name in 2008 will be the sanofi-aventis BioTalent Challenge.

National finalists, from west to east:

British Columbia

Genetically engineering cells for diabetes treatment

Christina Chiu, 16, Hugh Boyd Secondary School, Vancouver

Calgary

Can coffee reverse Alzheimer's?

May Li, 17, Sir Winston Churchill High School

Edmonton

Students show bay leaves can slow growth of cancer cells

Mustafa Babadagli, and Hazal Babadagli, both 16, Old Scona Academic High School

Saskatchewan

Turning tree bark into medicine

Xingyu Zhou, 14, Walter Murray Collegiate, Saskatoon

Southwestern Ontario

Student engineers plant to treat diabetes, other immune disorders

David Wang, 17, A.B. Lucas Secondary School, London

Greater Toronto

Student finds genes involved in Parkinson's disease

Aaron Hakim, 15, Appleby College, Oakville

Eastern Ontario

New insight into future HIV/AIDS treatment

James MacLeod, 17, All Saints Catholic High School, Ottawa

Montreal

15-year old finds stem cells to repair heart disease damaged tissue

Lia D'abate, 15, Sacred Heart School

New Brunswick

Hunt for potato growth gene in bid to reduce pesticide use

Jennifer Randall, 18, Brent Webb, 17, Leo Hayes High School, Fredericton

Nova Scotia

Student shows breast cancer drug could work for ovarian cancer

Victoria Bentley, 16, Sacred Heart School, Halifax

Prince Edward Island

Student develops genetic test to protect mussel industry

Rebecca Wolfe, Three Oaks Senior High School, Summerside

Newfoundland

A natural treatment to help asthmatics breath easier

Sarai Hamodat, 17, Holy Heart High School, St. Johns

Sponsors of the 2007 national competition are:

- **sanofi-aventis**
- **Sanofi pasteur**
- BioTalent Canada
- Government of Canada's Sector Council Program
- Genome Canada
- National Research Council
- Canadian Institute of Health Research
- Canadian Louis Pasteur Foundation
- VWR International
- Canadian Foundation for Innovation