



Canadian Genetic Diseases Network
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Leprosy susceptibility genes identified



Dr. Erwin Schurr (above) and fellow CGDN scientist Dr. Tom Hudson led a team that discovered two leprosy susceptibility genes.

An international research team led by CGDN Principal Investigators, Drs. Erwin Schurr and Thomas Hudson, has discovered that small variations in two genes, Parkin 2 and PACRG, make people more susceptible to leprosy.

This could explain why the disease persists globally even though the bacteria that cause leprosy can be killed with drugs, stated Dr. Schurr in an interview with the *Toronto Star* in January.

Leprosy, as stated in a recent World Health Organization report, is a disease of the poor, the underprivileged and the marginalized. It currently affects approximately one million people worldwide with its highest incidence in Southeast Asia and Africa.

The international team, whose results were published in the February 2004 issue of *Nature*, analyzed the DNA from over 200 Vietnamese families with leprosy. They found that certain forms of the Parkin 2 and PACRG genes were associated with increased susceptibility to the disease.

Dr. Schurr and his colleagues hope to use these newly identified genetic variations as risk markers to enable identification of susceptible individuals before they develop the leprosy, so that they may receive preventative treatment.

continued on page 2

IN THIS ISSUE

Leprosy susceptibility genes identified	1
Awards & Achievements	2
SNP's: Short, Newsworthy Points	3
The Other Side	4
For Your Calendar	5
Announcements	5

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Facts about Leprosy

- Leprosy is caused by a bacteria, *Mycobacterium leprae*, and is transmitted through direct personal contact or contaminated respiratory droplets
- Symptoms include skin lesions and permanent nerve damage in the feet and hands leading to the loss of fingers, toes, feet and hands if left untreated. 

Sources: The World Health Organization and the National Institutes of Health

AWARDS & ACHIEVEMENTS

Robert Hegele recognized for excellence in research

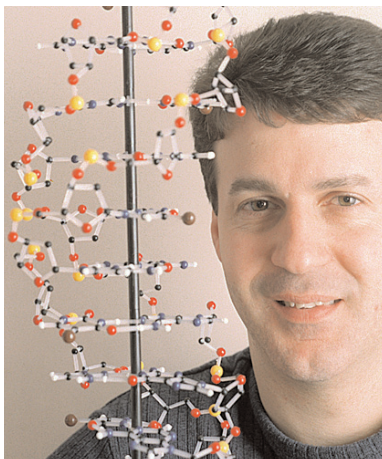


CGDN scientist Dr. Robert Hegele awarded the Hellmuth Prize.

Dr. Robert Hegele, a CGDN Principal Investigator, was named one of two winners of the 2004 Hellmuth Prize for Achievement in Research, the University of Western Ontario's highest honour of research excellence. Dr. Hegele is the Director of the Blackburn Cardiovascular Genetics Lab at Robarts Research Institute.

Dr. Hegele's research has included investigating the genetic mutations causing Type 2 diabetes, namely among the Oji-Cree in northern Ontario. He has also done extensive research into a lipodystrophy mutation that causes a major increase in the risk of early heart disease.

Steacie Prize awarded to Steven Scherer



Dr. Steven Scherer is this year's recipient of the Steacie Prize.

This year's Steacie Prize has been awarded to Dr. Stephen Scherer, a CGDN Principal Investigator and Core Facility Director. The Steacie Prize, named in memory of E.W.R. Steacie (a physical chemist and former President of the National Research Council of Canada), is awarded to a young scientist or engineer for outstanding scientific research carried out in Canada. Dr. Scherer was recognized for his contributions to the field of human genomics and genetic disease research.

Dr. Scherer is a Senior Scientist in the Department Genetics at the Hospital for Sick Children and the Director of the Centre for Applied Genomics in Toronto.

CGDN would like to congratulate Drs. Hegele and Scherer for their achievements.

continued from page 1

Leprosy susceptibility genes identified

"Genetic approaches are again illuminating totally unexpected and important pathways leading to illness," said Dr. Michael Hayden, the Scientific Director of the CGDN. "This is a very significant discovery."

This study was funded by the Canadian Genetic Diseases Network, the Canadian Institutes of Health Research and granting agencies in France and the Netherlands. Drs. Erwin Schurr and Thomas Hudson are both scientists at the Research Institute of the McGill University Health Centre. Dr. Hudson is also the Director of the McGill University and Genome Quebec Innovation Centre. 



SNP's: Short, Newsworthy Points

Increased Demand for Bioinformatics

CGDN's Canadian Bioinformatics Workshops (CBW) series has received a significant number of applications for its upcoming 'Developing the Tools' workshop that will be held in Montreal from May 3–9, 2004.

"The high response by applicants for the 'Developing the Tools' workshop really demonstrates the need for this type of course."

'Developing the Tools' is the second of four short-courses that the CBW series is running in 2004 and teaches participants to create computer programs to manage huge sets of biological data. It is an intensive course for individuals with previous experience in bioinformatics, using computational approaches to answer biological questions.

"The high response by applicants for the 'Developing the Tools' workshop really demonstrates the need for this type of course," said Saara Romu, coordinator of the CBW series.



The students and instructors sporting their CBW toques at the February 2004 Bioinformatics workshop in Vancouver. (photo courtesy of Will Hsiao)

The CGDN's CBW series organizes short-courses in computational biology, an emerging field of genetic research. For more information about CBW, visit www.bioinformatics.ca

New Partners in Training

The CBW series will be receiving \$47,000 in support from partnering organizations in the 2004 workshop season. The Canadian Bacterial Diseases Network (CBDN) and Mathematics for Information Technology and Complex Systems (MITACS), two other Networks of Centres of Excellence, have shown their

support for the series by committing \$28,000 for student bursaries in the 2004 season.

In addition, the Burroughs Wellcome Fund is continuing its support of CBW by committing \$19,000 to the 2004 workshop series for bursaries and curriculum development. This is the third consecutive year that the Fund has contributed to the CBW series.





Dr. Nadon is the co-director of the CGDN's Microarray Analysis Core Facility. He is also an Associate Professor at McGill University in Human Genetics and Medicine and works at the McGill University and Genome Quebec Innovation Centre.

The Other Side

A profile of Dr. Robert Nadon of the McGill University & Genome Quebec Innovation Centre

Where are you from originally?

I'm from Montreal.

What made you go into science?

I was interested in understanding how we know what we know and how knowing in a scientific sense compares to knowing in a literary sense. Learning about the scientific method as an approach to understanding nature broadly defined and how statistics and experimental design extended early ideas about science was a great revelation. I was hooked then and I still am.

Who has been your greatest role model?

No one role model—bits and pieces really from various people.

What has been one of the biggest challenges in your career?

Distinguishing between the important and unimportant details in various fields so that my students and I can identify exactly what we need to know to answer the questions at hand.

What is the most important life lesson that you've learned?

That's a hard question... I'm not sure if it's the most important life lesson but the most important lesson I've learned about scientific work is to take the work very seriously, but to not take myself too seriously.

If you could be anywhere in the world right now, where would you be?

Anywhere on calm water in a canoe.

Finish this sentence: "If I wasn't a scientist, I would be a..."

Writer.

Do you have any idiosyncratic lab quirks?

Hmmm... I'm sure I have idiosyncratic quirks... but my students are best placed to say what they are!



FOR YOUR CALENDAR



2004 marks the 6th season series of the Canadian Bioinformatics Workshops. The series, coordinated by CGDN as part of its training mandate, offers courses in computational biology across Canada. The 2004 course schedule is listed below:

BIOINFORMATICS

occurred February 18–28, 2004

DEVELOPING THE TOOLS

application deadline passed

Montreal

May 3–9, 2004

PROTEOMICS

Calgary

July 19–24, 2004

GENOMICS

Vancouver

August 16–21, 2004



Canadian Genetic Diseases Network
Réseau canadien de maladies génétiques

Enhancing health. Enriching lives.

The Canadian Genetic Diseases Network is the primary catalyst in advancing collaborative medical genetics research in Canada. The unique efforts of our researchers have resulted in significant contributions to the ongoing prevention, diagnosis and treatment of human disease.

The Canadian Genetic Diseases Network is made possible through funding from the Networks of Centres of Excellence Canada. The Networks of Centres of Excellence Canada is a joint initiative of the Natural Sciences and Engineering Research Council, the Canadian Institutes of Health Research, the Social Sciences and Humanities Research Council and Industry Canada.

Announcements

An Important New Resource for the Genetic Research Community

Dr. Geoff Hicks, the director of the CGDN's Functional Genomics Core Facility, is pleased to announce the new website for the International Gene Trap Consortium (IGTC) at www.igtc.ca. The IGTC website, supported by CGDN, the Canadian Institutes of Health Research and the University of Manitoba, allows researchers to log on and enter a particular gene. All of the available information databases will then be searched for this gene.

The IGTC was established as a subgroup of the International Mouse Mutagenesis Consortium and is committed creating a large public resource of gene trap insertions that can be used to analyze gene function in mice. This resource is offered free to the academic community, and will provide researchers with models to be used in the study of human genetic diseases.

CGDN's 13th Annual Scientific Meeting

The 2004 Annual Scientific Meeting of the CGDN will be held from May 27–30, 2004 at the Talisman Mountain Resort, one and a half hours from downtown Toronto, Ontario. CGDN investigators, core facility directors, associates, post-doctoral fellows, graduate students, Board Members and industrial partners will come together for four days of scientific presentations, poster sessions, networking and collaborative opportunities. For more information, please call Megan Airton at (604) 221-7300 ext. 110 or email mairton@cgdn.ca.