



The Foundation Newsletter

THE SCOTTISH RITE
CHARITABLE FOUNDATION OF CANADA

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Windsor Valley sweeps new awards program

In the inaugural year of a new awards program to recognize donations to the Scottish Rite Charitable Foundation, the Valley of Windsor won all three categories. The awards were presented during the Foundation luncheon September 16 which was part of the Scottish Rite's annual general meeting in Toronto.

J. Carl Fairthorne, Deputy for Ontario accepted the awards on behalf of the Valley. "I thought we might get one," said Carl. "But three! It's a testament to our members." The three framed awards now hang outside the newly-opened Learning Centre for Dyslexic Children in the Windsor Temple.

Windsor, as a border city, is in a unique position, explains Carl. A major source of their revenue is monthly bingos at which Americans comprise 30-50% of the roughly 130 players.

Following is a description of each award and the top five Valleys in each category:

Windsor opens new Learning Centre



A ribbon cutting ceremony preceded the official opening of Windsor Valley's new Learning Centre for Dyslexic Children on September 18. Children arrived for their free tutoring the next day. The Windsor Learning Centre is the second such Centre in Canada funded and operated by the Scottish Rite. The other Centre is in London. Presiding at the opening ceremonies were (l-r) Ill. Bro. John V. Lawer 33° President Scottish Rite Charitable Foundation, Ill. Bro. Paul Barber 32° Director of the Windsor Learning Centre, Ill. Bro. Orlan J. Weber 33° Sovereign Grand Commander, Ill. Bro. Michael D. H. Farr 33° Grand Prior, Ill. Bro. C. Robert Townshend 33° Lieutenant Grand Commander and Ill. Bro. J. Carl Fairthorne 33° Deputy for Ontario.

Highest average donation

Valleys raise money for the Charitable Foundation in two ways: individual giving and special events. Different Valleys invest varying amounts of effort into both fundraising approaches, and this award acknowledges both. This award divides the Valley's total donation by the total membership to reach an 'average donation' figure. The top five Valleys are:

	Avg donation	Total	Membership
Windsor	\$129.84	\$75,438.76	581
Montreal	58.20	23,220.00	399
London	42.37	66,812.12	1,577
Fraser	31.27	8,225.00	263
Chatham	20.45	5,643.47	276

Highest participation rate

The participation rate award is based on the number of individual donors as a percentage of the total membership. As Foundation President John Lawer said during the awards ceremony: "While we recognize the importance of fundraising events, individual support is something we continue to emphasize as part of our Masonic duty." The top five Valleys are:

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Learning Centre changes Carter's life

Following is a letter sent to the London Learning Centre for Dyslexic Children:

"I write this letter to relate the experiences of my grandson, Carter, who is nine years old. Carter was doing poorly in school, being mouthy with his mother and really worrying his grandpa. Being the product of a broken home, we blamed that for a bit of his behaviour and learning problems. Tutors were hired but nothing seemed to help. Then I learned about the Scottish Rite Learning Centre for Dyslexic Children in London.

"Carter was the first student to begin tutoring in September 2003. He was one of six children. He fought me physically not to go for two trips. These trips are 1.5 hours from Chatham to London each way. After two trips there was no more fighting. He could tell that early that things were easier at school and his self esteem quickly grew.

"Today he is a happy little boy, doing well in school and making his grandpa proud. When I pick him up from school there is scarcely a time when the principal or a teacher does not give me the thumbs up and comment on how well he is doing.

"Talking with other parents, this story is repeated time and time again. The results are so good that we almost feel guilty that our child is being helped while there are so many who need help as well.

"I could go on for pages, I am so ecstatic with the way Carter's life has turned around, but I'll close by telling the best present, the thing that makes all the time and the gasoline worthwhile. Last week Carter said to me 'Grandpa, I started reading Harry Potter.' I had to fight the tears and lost."

2004-2005 Financial Highlights

Statement of capital revenue

	2005	2004
Revenue		
Donations		
Individuals, Lodges and		
Masonic organizations	\$138,972	\$143,138
London Learning Centre donations	96,685	46,682
Other Learning Centre donations	52,085	—
Bequests	112,320	80,331
Capital revenue	<u>\$400,062</u>	<u>\$270,151</u>



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Statement of financial position

	2005	2004
Assets		
Cash and cash equivalents	\$ 472,573	\$ 10,606
Accrued interest	307,000	305,869
GST receivable	1,843	2,692
Prepays	34,503	7,754
	<u>815,919</u>	<u>326,921</u>
Equipment	6,901	13,803
Investments (market value \$12,923,967; 2004 - 12,416,471)	11,815,036	11,414,053
	<u>\$12,637,856</u>	<u>\$11,754,777</u>
Liabilities		
Payables and accruals	\$ 15,487	\$ 5,000
Net assets		
Net assets invested in equipment	6,901	13,803
Unrestricted net assets - Income retained for charitable and benevolent purposes	1,127,855	985,545
Internally restricted net assets - Capital	11,487,613	10,750,429
	<u>12,622,369</u>	<u>11,749,777</u>
	<u>\$12,637,856</u>	<u>\$11,754,777</u>

Foundation gives \$513,398 to grants, awards and bursaries

Each year, the Scottish Rite Charitable Foundation provides grants, awards and bursaries to researchers, graduate students and undergraduate students to help them with their work and education. Major grants of \$35,000 are given for up to three years. In 2004/05, 27 researchers looking into the puzzles of the brain – particularly in children and older adults with Alzheimer's disease – applied for grants. There were 14 applicants for graduate student awards and 10 applications for student bursaries.

In total, \$513,398 was allocated to grants, awards and bursaries for 2005/06. Of this, \$418,398 went to the major research grants; \$85,000 to graduate students awards; and \$10,000 to student bursaries. Following are the recipients.

New Grants

Dr. **Michael Strong**, at the Robarts Research Institute in London, Ontario, will examine the role of brain cells called microglial cells in connection with some of the changes that take place in the brains of patients with Amyotrophic Lateral Sclerosis, often called Lou Gehrig's Disease.

Dr. **Howard Mount**, of the University of Toronto's Centre for Research in Neurodegenerative Diseases, will use genetically-engineered mice to examine the role of certain energy-producing molecules in the brain, and their role in the type of dementia associated with Parkinson's Disease.

Dr. **Brian Christie**, at the Department of Psychology, University of British Columbia, will examine genetic changes connected to Fragile-X Syndrome, the most common cause of inherited mental retardation, and their effects on the structure of a specific area in the brain.

Dr. **Lionel Carmant**, at Montreal's Sainte-Justine Hospital Research Centre, will examine the consequences of prolonged fever-induced seizures in the brains of developing infants.

Renewal of Grants for 2nd year

Dr. Isabelle Aubert, Sunnybrook Hospital, Toronto
Dr. Albert Wong, Centre for Addiction and Mental Health, Toronto
Dr. Margaret Fahnestock, McMaster University, Hamilton
Dr. Jane Rylett, University of Western Ontario, London

Renewal of Grants for 3rd year

Dr. Patrick Cossette, Centre Hospitalier de l'Université de Montréal
Dr. Richard Dyck, University of Calgary
Dr. Nicolaas Verhoeff, Baycrest Centre for Geriatric Care, Toronto
Dr. Jessica Ann Brian, Hospital for Sick Children, Toronto

New Graduate Student Awards

(\$10,000 maximum per year for up to 2 years)

Pearl Behl, Sunnybrook Hospital, University of Toronto
Jason Belkas, Hospital for Sick Children, Toronto
Daniela Fenili, University of Toronto
Amy Desrocher, University of Western Ontario
Nancy Salmon, Dalhousie University
Christine Valiquette, University of Montreal

Renewal of Awards for 2nd year

Joyce Clouston-Carson, Wilfred Laurier University, Waterloo
Lana Depatie, McGill University
Brennan Eadie, University of British Columbia

College Bursary Recipients

Dennis C. Bruggs, Kwantlen University, Surrey, BC
Community Support Worker
Janice Gaunt, Saskatchewan Institute A&T, Regina,
Nursing Education
Michelle Down, Red River College, Winnipeg,
Disability and Community Support Worker
Shanna Scott, Red River College, Winnipeg,
Disability and Community Support Worker
Chantelle Soulsby, Niagara College, Welland,
Special Education Assistant

Windsor Valley *continued from page 1*

	Participation rate
Windsor	14.83%
Victoria	14.24
Sudbury	11.59
Kamloops	11.54
London	10.91

By way of comparison, the national participation rate in 2004-05 was 5.4%, down from 6.6% in 2003-04. The Foundation's minimum target is a national 10% participation rate.

Largest increase in donation

Sometimes, we just have to go for the big figure, and this is the category. This category is simply the greatest increase in total donation in 2004-05 compared with 2003-04.

The top five Valleys are:

	Increase	2004-05	2003-04
Windsor	\$38,526.96	\$75,438.76	\$36,911.80
London	25,917.27	66,812.12	40,894.85
Montreal	21,110.00	23,220.00	2,110.00
Hamilton	12,841.91	33,894.01	21,052.10
Toronto	7,626.87	31,357.29	23,730.42

The energy factor: Shining a new light on dementias

Dr. Mount's research received first year funding this year.

A team at the University of Toronto's Centre for Research in Neurodegenerative Diseases (CRND) will use new tools to shed light on dementia, with a focus on Parkinson's Disease. The cast of characters:

Research team: Headed by Dr. Howard Mount;

Mitochondria: Tiny bodies within cells that generate chemical energy;

Transgenic mice: With a human gene inserted into their DNA, giving them the rodent's equivalent of Parkinson's.

About half of Parkinson's disease victims suffer dementia, connected to accumulation of a brain protein called alpha-synuclein. Now for the first time, transgenic mice producing human alpha-synuclein offer a Parkinson's model to probe changes in the brain associated with the cognitive aspects of Parkinson's disease and what those changes mean.

Dr. Mount suspects that in neurodegenerative disease, enzymes that repair damage to proteins and DNA go into high gear and use up large amounts of high-energy chemicals generated by mitochondria. But if these enzymes are slowed by drugs, can enough cell energy be conserved to offer therapeutic value? As far back as the 1970s, researchers believed such treatments might help slow some dementias. But it didn't always work. One major reason, suggests Dr. Mount: "By the time people show disease symptoms, the disease is already well established." The next step: Find out what's happening before symptoms occur.

"In Parkinson's cases that exhibit dementia there is a correlation between the amount of alpha-synuclein accumulating in two particular brain areas and the occurrence and severity of the dementia," says Dr. Mount. The protein accumulates in the entorhinal cortex, which controls the animal's memory of objects it encounters, and in the amygdala, which controls fear. He believes

behaviour changes appear before any visible changes occur in the brains of test animals.

To test fear behaviour, they put a test mouse in a box and give him a mild electric zap for his amygdala to remember. "When you put him in the box the next day he's going to freeze, expecting the shock," Dr. Mount says. "For the object memory test, we put the mouse in a cage containing a Lego construct and a Hot Wheels toy car. Three hours later we put him back with a different Hot Wheels car but the same Lego. And we measure how much time he spends exploring those objects. The mouse spends more time exploring an unfamiliar object, so we can test how well they remember."

In a pilot project, done with few mice and little money, Dr. Mount showed that there is indeed loss of function in these areas of the mouse brain. "So now we've got an animal that has some motor symptoms we'd associate with Parkinson's and some dementia symptoms we'd associate with Parkinson's and it also has the accumulation of alpha-synuclein."

Now his team will reproduce those results in a large enough number of experiments so that their findings are scientifically validated. Then they'll test the mitochondrial connection. "The next step is to examine the brains of these animals and determine whether, at the stage where they show object memory impairment and fear conditioning disruption and neuromotor problems but no pathology in the brain, are there changes in these energy molecules? Right now, we have some evidence that there are changes in mitochondrial function."

There's more. Brain cells send signals using chemicals, including one called acetylcholine. It jumps from one neuron and binds to another, to send the signal. It is then degraded by an enzyme called a cholinesterase. Researchers have long

known of a connection between the death of cells responsible for making acetylcholine and memory deterioration. So drugs that inhibit cholinesterase and thereby increase the amount of acetylcholine available have been tried as treatments. "Cholinesterase inhibitors have been used on Alzheimer's, with rather limited success," Dr. Mount reports. "It now appears that they may work a little better for Parkinson's dementia."

One such drug that benefits patients with the Parkinson's dementia is rivastigmine. But recent research suggests it boosts energy chemicals in mitochondria. "The revelation that these cholinesterase inhibitors appear to be targeting mitochondria was a surprise," says Dr. Mount. And it begs a question: Does the drug do the patients some good by knocking back the enzymes that degrade the chemical signals of memory? Or does it have an entirely different action, benefiting patients by boosting the energy in cells? Mount wants to find out, so he's planning to administer rivastigmine to his transgenic mice.

First he'll determine if rivastigmine increases mitochondrial function and energy molecule levels in the brains of the mice. Next, they'll test the drug *while blocking the receptors for acetylcholine*. If it still works, "we'll know our drug effect has nothing to do with its inhibition of acetylcholine esterase." That's an exciting possibility.

Why? If drugs like rivastigmine confer benefits through some previously unknown effect on mitochondria, new drugs could be developed to target these tiny energy engines directly.

It's a novel line of research; the kind of early stage investigation that doesn't often win grants from the bigger, national granting agencies. Dr. Mount applauds the Foundation's willingness to get new lines of research started. "We really applaud the Scottish Rite for giving us this opportunity."