



Faculty of Medicine, University of Toronto

**Banting and Best Diabetes Centre**

# **ANNUAL REPORT**

## **JULY 1, 2007 – JUNE 30, 2008**

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## MISSION and BACKGROUND

The Banting and Best Diabetes Centre was established in 1978 as an extra-departmental unit of the Faculty of Medicine at the University of Toronto. **Our mission is to support and advance diabetes research, education, and patient care at the University of Toronto and its affiliated institutions** through funding programs and educational events for diabetes researchers and health care professionals. The programs of the BBDC are supported almost entirely from the income on its endowments. The BBDC has also received generous donations from industry which have funded various research programs, scientists, students, and fellows. The Centre offers several studentships, fellowships, grants, and other support for qualified individuals involved in diabetes research at the University of Toronto.

Past and present directors:

- 1978-1981: Dr. Edward A. Sellers, a personal friend of the co-discoverer of insulin Dr. Charles Best, was the first Director.  
1981-1993: Dr. Charles H. Hollenberg  
1993-2000: Dr. Bernard Zinman  
2000-present: Dr. Daniel J. Drucker

## MESSAGE FROM THE DIRECTOR, DANIEL J. DRUCKER, M.D.

As Yogi Berra is alleged to have said “It’s tough to make predictions, especially about the future”. Hence, perhaps it is safer to begin by reflecting on events of the past twelve months. Last year we envisioned our forthcoming move to our new office on the 12<sup>th</sup> floor of the Eaton Wing at the Toronto General Hospital, contemplated an exhibit devoted to our historical legacy surrounding the discovery of insulin, and announced the hosting of an official IDF Satellite Symposium in Toronto on Recent Advances in Beta-Cell Biology: Scientific and Clinical Implications on October 16-17, 2009. At the BBDC, we can look back with pride at the accomplishments of the past year, and gaze ahead with measured yet realistic enthusiasm at the prospects for 2009-2010. First, the historical legacy of the BBDC, unmatched internationally given the accomplishments of Banting and Best, received a further boost this year with the announcement that Professor Mladen Vranic had been selected for induction to the Canadian Medical Hall of Fame. Professor Vranic, already internationally recognized for his multiple accomplishments and recipient of the 1991 Banting Medal from the American Diabetes Association, is best known for his innovative research career and his outstanding mentorship to dozens of graduate students and research fellows at the University of Toronto. Mladen has been a long time supporter of the BBDC and we are delighted that his enormous contributions to diabetes at multiple levels have been recognized yet again with a prestigious and well-deserved honour.

Although not reflected in the 2007-2008 financial statement, we were pleased to implement over the current 2008-2009 granting cycle the new collaborative BBDC-University Health Network Diabetes Partnership that significantly expands our capacity to support diabetes research, education, clinical care, and joint fundraising. It is worth mentioning several individuals for their leadership in this area: Dr. Gary Lewis, Director of the University of Toronto Division of Endocrinology & Metabolism, and Head of the Endocrine Division at UHN-Mount Sinai Hospitals, spearheaded the initiative envisioning that a BBDC-UHN partnership would accomplish more for UHN and the University than would a more restricted and narrow deployment of efforts and resources. Similarly, Dr. Bob Bell, President and CEO of the University Health Network, together with the support of Dr. Catherine Zahn, Executive Vice-President of UHN, provided key leadership support to ensure the success and implementation of the BBDC-UHN agreement.

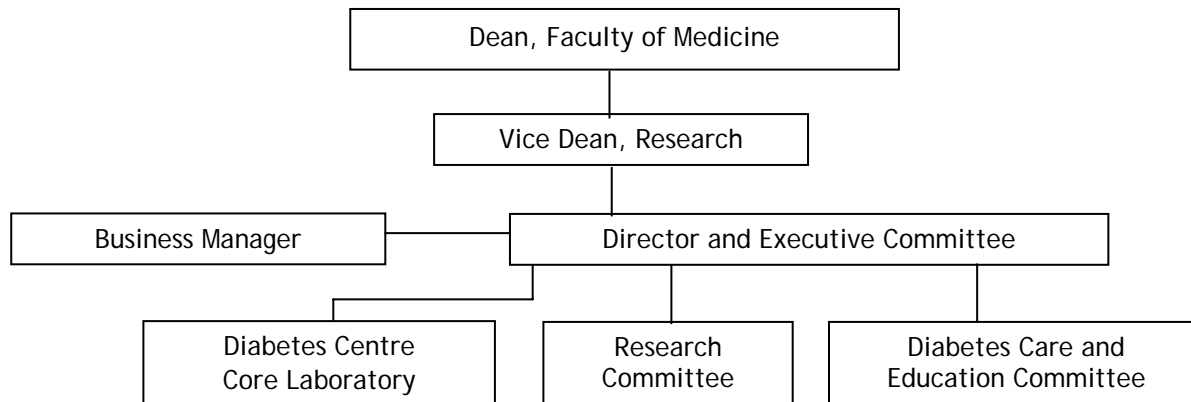
Looking forward to 2009, we are mindful of the wisdom of Joseph who interpreted the dreams of Pharaoh so as to foretell that the years of plenty are often followed by lean years, providing impetus to manage resources wisely over prolonged periods of time. While our funding programs and annual events continued to take place successfully in 2007-2008, unfortunately, we did not predict the instability in financial markets that would adversely impact the

University of Toronto endowment, with direct implications for a reduction in the number and extent of our programs in 2009-2010. Nevertheless, careful readers of this report will understand that diabetes research, education, and teaching are thriving at the University of Toronto and the BBDC will continue to function and support diabetes activities even during times of constrained resources. We are fortunate to have hundreds of dedicated individuals working at multiple levels to understand the challenges of diabetes, and more importantly, to develop innovative and implement practical solutions that can enhance the care and lives of individuals with diabetes. Darwin deserves much credit for his codification of basic, now well-accepted principles that provide a frame work for understanding genetic evolution and survival of different species. We have no shame in selectively adopting key teachings from Darwin, namely protection and support of the younger members of our species to ensure vigorous growth and enhanced prosperity in the future. Given the fiscal constraints imposed upon the BBDC by the current cessation of endowment-related funding from the University of Toronto, the BBDC will re-allocate available funding to focus on supporting summer students, graduate students and postdoctoral fellows during this temporary period of constrained resource availability. While we do not claim the ability to accurately predict the future, the BBDC will do everything it can to ensure that today's generation of aspiring diabetes trainees will find their programs funded to the best of our ability. We have no doubt that in today's low interest, uncertain, and unstable economic environment, ongoing investment in our trainees will continue to pay multiple dividends in the years ahead. We look forward to a productive and rewarding academic year.

Daniel J. Drucker, M.D.

## ADMINISTRATIVE STRUCTURE and COMMITTEES

The administrative structure of the BBDC was established to provide both broad based input and an efficient decision making process. The BBDC administrative structure is as follows:



The Director reports to the Dean, Faculty of Medicine. The Director of the Diabetes Centre and the Executive Committee form the principal decision making body of the Centre. The Research Committee and the Diabetes Care and Education Committee serve as the principal working committees. The Diabetes Core Laboratory provides laboratory, analytical, and technical support to the diabetes investigators on a cost recovery basis.

### EXECUTIVE COMMITTEE

This is the principal decision making body of the Centre established to ensure that the goals of the Centre are appropriately implemented. The Executive Committee provides leadership and representation for the University of Toronto diabetes community. The committee members for the year 2007-2008 are:

- Director:** Dr. Daniel J. Drucker Department of Medicine, Division of Endocrinology & Metabolism\*
- Dr. Patricia Brubaker Department of Physiology\*
- Dr. I. George Fantus Department of Medicine, Division of Endocrinology & Metabolism\*

Dr. Jacqueline James	Department of Medicine, Division of Endocrinology & Metabolism*
Dr. Amira Klip	Department of Biochemistry*
Dr. Gary Lewis	Department of Medicine, Division of Endocrinology & Metabolism*
Dr. Peter Lewis	Department of Biochemistry; Vice Dean, Research*
Dr. Bernard Zinman	Department of Medicine, Division of Endocrinology & Metabolism*

## RESEARCH COMMITTEE

Among its many responsibilities, the Research Committee advises the Executive Committee on new research initiatives to be undertaken by the Centre, and implements the scientific review of the BBDC research competitions. The committee members for the year 2007-2008 are:

<b>Chair:</b> Dr. Patricia Brubaker	Department of Physiology*
Dr. Shelley Boyd	Department of Ophthalmology and Vision Sciences*
Dr. Anthony Hanley	Department of Medicine, Division of Endocrinology & Metabolism*
Dr. Tianru Jin	Department of Medicine; and Department of Laboratory Medicine and Pathobiology*
Dr. Tony Lam	Department of Physiology, and Department of Medicine*
Dr. Bruce Perkins	Department of Medicine, Division of Endocrinology & Metabolism*
Dr. Maria Rozakis-Adcock	Department of Laboratory Medicine and Pathobiology*
Dr. Allen Volchuk	Department of Medicine, Division of Endocrinology & Metabolism*
Dr. Qinghua Wang	Department of Physiology, and Department of Medicine*

## DIABETES CARE AND EDUCATION COMMITTEE

This committee develops and publishes standards for the total health care of diabetic patients in Toronto area hospitals, and communicates these standards to health care practitioners nationally. The Diabetes Care and Education Committee organizes continuing medical education in diabetes for the health care team which is comprised of physicians, nurse educators, dietitians, pharmacists, and other health care professionals. The committee members for the year 2007-2008 are:

<b>Chair:</b> Dr. Jacqueline James	Department of Medicine, Division of Endocrinology & Metabolism*
Miss Jennifer Buccino	Clinical Dietitian, Hospital For Sick Children
Ms. Margaret De Melo	Clinical Dietitian and Diabetes Educator, Toronto Western Hospital
Ms. Jan Glozier	Diabetes Educator, North York General Hospital (Branson Division)
Dr. Jeannette Goguen	Department of Medicine, Division of Endocrinology & Metabolism*
Mr. Henry Halapy	Diabetes Pharmacist, St. Michael's Hospital
Ms. Carolyn Lawton	Nurse Practitioner Diabetes, Sunnybrook Health Sciences Centre
Dr. Kusiel Perlman	Department of Medicine, Division of Endocrinology & Metabolism*
Dr. Baiju Shah	Department of Medicine, Division of Endocrinology & Metabolism*

\* *University of Toronto faculty member*

## MEMBERSHIP

Membership with the BBDC is free and allows individuals to become eligible to apply for the Centre's various funding programs. Membership is now open to individuals involved in full and part-time diabetes research, education, and patient care who are employed at the University of Toronto or one of its affiliated institutions listed below. (E.g. scientists, physicians, nurses, dietitians, pharmacists, and other allied health care professionals.) Postdoctoral fellows, graduate students, undergraduate students, research associates and technicians are not eligible for BBDC membership, however, they are welcome to join our e-mail distribution list.

### Fully Affiliated Institutions

- Baycrest Centre for Geriatric Care
- Bloorview Kids Rehab

### Community Affiliated Institutions

- Bridgepoint Health
- Credit Valley Hospital

- Centre for Addiction and Mental Health
- Hospital for Sick Children
- Mount Sinai Hospital
- St. Michael's Hospital
- Sunnybrook Health Sciences Centre
- Toronto Rehabilitation Institute
- University Health Network (i.e. Toronto General, Toronto Western, and Princess Margaret sites)
- Women's College Hospital
- George Hull Centre for Children and Families
- Hincks-Dellcrest Centre
- Humber River Regional Hospital
- North York General Hospital
- Providence Healthcare
- Royal Victoria Hospital
- Scarborough Hospital
- St. John's Rehabilitation Hospital
- St. Joseph's Health Centre
- Surrey Place Centre
- Toronto East General Hospital
- Trillium Health Centre
- West Park Healthcare Centre

As of June 30, 2008, a total of **148 members** are registered with the BBDC: **107 are U of T faculty involved in diabetes research; 41 are health care professionals involved in diabetes care and education.** Members involved in research are profiled on the BBDC's website in the [Research at the University](#) section. Members involved in care and education are listed in the [Membership \(Care and Education\)](#) section. The Centre also has an expanded **e-mail distribution list** of over 300 contacts, which not only includes our members but also postdoctoral fellows, graduate students, and other individuals with diabetes interests located at other universities and employed by industry. The BBDC members as of June 30, 2008 are:

**BBDC Members Involved in Diabetes Research:**

<u>Last Name</u>	<u>First Name</u>	<u>Affiliation</u>
Adeli	Khosrow	Hospital For Sick Children
Advani	Andrew	St. Michael's Hospital
Azad	Azar	University of Toronto
Backx	Peter	University of Toronto
Baines	Andrew	University of Toronto
Bazinet	Richard	University of Toronto
Belsham	Denise	University of Toronto
Bendeck	Michelle	University of Toronto
Booth	Gillian	St. Michael's Hospital
Boright	Andrew	University Health Network - Toronto General Hospital
Boyd	Shelley	St. Michael's Hospital
Brubaker	Patricia	University of Toronto
Carlen	Peter	University of Toronto
Cheung	Angela	University Health Network – Toronto General Hospital
Cohn	Tony	University of Toronto
Colton	Patricia	University Health Network - Toronto General Hospital
Connelly	Philip	St. Michael's Hospital
Cummins	Carolyn	University of Toronto
Cybulsky	Myron	University Health Network - Toronto General Hospital
Daneman	Denis	Hospital For Sick Children
Danska	Jayne	Hospital For Sick Children
Dhe-Paganon	Sirano	University of Toronto
Diamant	Nicholas	University of Toronto
Donnelly	Sandra	St. Michael's Health Centre
Dosch	Hans-Michael	Hospital for Sick Children
Drucker	Daniel	Mount Sinai Hospital
Elsholtz	Harry	University Health Network - Toronto General Hospital
Fantus	George	Mount Sinai Hospital
Farine	Dan	Mount Sinai Hospital
Feig	Denice	Mount Sinai Hospital

Fox	Ann	Women's College Hospital
Fu	Lei	Sunnybrook Health Sciences Centre
Gaisano	Herbert	University of Toronto
Giacca	Adria	University of Toronto
Gilbert	Richard	St. Michael's Hospital
Gotlieb	Avrum	University of Toronto
Greenwood	Carol	University of Toronto
Grossman	Loren	St. Michael's Hospital
Grynepas	Marc	Mount Sinai Hospital
Halperin	Mitchell	St. Michael's Hospital
Hamilton	Jill	Hospital For Sick Children
Hanley	Anthony	University of Toronto
Hanna	Amir	St. Michael's Hospital
Hughes	Timothy	University of Toronto
Hux	Jan	Sunnybrook Health Sciences Centre
Irwin	David	University of Toronto
Jenkins	David	University of Toronto
Jin	Tianru	University Health Network - Toronto General Hospital
Josse	Robert	St. Michael's Hospital
Kenshole	Anne	Women's College Hospital
Klip	Amira	Hospital For Sick Children
Lam	Tony	University Health Network - Toronto General Hospital
Leiter	Lawrence	St. Michael's Hospital
Leong-Poi	Howard	St. Michael's Hospital
Lewis	Gary	Toronto General Hospital
Lewis	Peter	University of Toronto
Li	Ren-Ke	University Health Network - Toronto General Hospital
Lowe	Julia	Sunnybrook Health Sciences Centre
Lu	Wei-Yang	University of Toronto
Mandelcorn	Mark	University Health Network - Toronto Western Hospital
Matthews	Stephen	University of Toronto
McIntyre	Roger	University Health Network - Toronto Western Hospital
Nathan	Paul	Hospital For Sick Children
Ng	Dominic	St. Michael's Hospital
Norwich	Kenneth	University of Toronto
Ohashi	Pamela	Ontario Cancer Institute
Pace-Asciak	Cecil	Hospital For Sick Children
Palmert	Mark	Hospital For Sick Children
Parker	Thomas	St. Michael's Hospital
Parra	Esteban	University of Toronto at Mississauga
Paterson	Andrew	Hospital For Sick Children
Percy	Maire	Surrey Place Centre
Perkins	Bruce	University Health Network – Toronto General Hospital
Poussier	Philippe	Sunnybrook Health Science Centre
Prud'homme	Gerald	St. Michael's Hospital
Quaggin	Susan	Mount Sinai Hospital
Retnakaran	Ravi	Mount Sinai Hospital
Rocheleau	Jonathan	University of Toronto
Rodin	Gary	University Health Network - Toronto General Hospital
Rovet	Joanne	Hospital For Sick Children
Rozakis	Maria	University of Toronto
Scholey	James	University Health Network - Toronto General Hospital
Sefton	Michael	University of Toronto
Shah	Baiju	Sunnybrook Health Sciences Centre

Silverman	Mel	University of Toronto
Steiner	George	University Health Network - Toronto General Hospital
Stewart	Donna	University of Toronto
van der Kooy	Derek	University of Toronto
Volchuk	Allen	University Health Network - Toronto General Hospital
Vranic	Mladen	University of Toronto
Wang	Qinghua	St. Michael's Hospital
Watt	Valerie	University of Toronto
Weisel	Richard	University Health Network - Toronto General Hospital
Wen	Xiao-Yan	Princess Margaret Hospital
Westall	Carol	Hospital For Sick Children
Wheeler	Michael	University of Toronto
Wherrett	Diane	Hospital For Sick Children
Whiteside	Catharine	University Health Network - Toronto General Hospital
Wittnich	Carin	University of Toronto
Wojtowicz	Martin	University of Toronto
Wolever	Thomas	University of Toronto
Woo	Minna	St. Michael's Hospital
Woodgett	James	Mount Sinai Hospital
Yip	Christopher	University of Toronto
Young	Kue	University of Toronto
Zhang	Liang	University Health Network – Toronto Western Hospital
Zinman	Bernard	Mount Sinai Hospital

**BBDC Members Involved in Diabetes Care and Education:**

<b><u>Last Name</u></b>	<b><u>First Name</u></b>	<b><u>Affiliation</u></b>
Brundage	Anna	Women's College Hospital
Buccino	Jennifer	Hospital For Sick Children
Camelon	Kathy	University Health Network – Toronto General Hospital
Chan	Lucia	University Health Network – Toronto Western Hospital
Christo	Carolyn	Women's College Hospital
Cleave	Barbara	Mount Sinai Hospital
Cook	Ann	University Health Network – Toronto Western Hospital
De Melo	Margaret	University Health Network – Toronto Western Hospital
Donat	Diane	University Health Network – Toronto General Hospital
Dumsha	Rose	North York General - Branson site
Feldt	Marsha	Women's College Hospital
Fettes	Ivy	Sunnybrook Health Sciences Centre
Frank	Marcia	Hospital For Sick Children
Fredericks	Celia	Mount Sinai Hospital
George	Susan	University Health Network – Toronto General Hospital
Glozier	Jan	North York General Hospital
Goguen	Jeannette	St. Michael's Hospital
Gucciardi	Enza	University Health Network – Toronto General Hospital
Guilar	Anne	University Health Network – Toronto General Hospital
Halapy	Henry	St. Michael's Hospital
Ho	Rose	University Health Network – Toronto Western Hospital
James	Jacqueline	Mount Sinai Hospital
Jones	Helen	Mount Sinai Hospital
Kelly	Catherine	Women's College Hospital
Kennedy	Angela	Toronto East General Hospital
Lawton	Carolyn	Sunnybrook Health Sciences Centre

Levin	Wendy	Women's College Hospital
Li	Louisa	University Health Network – Toronto Western Hospital
MacCallum	Lori	St. Michael's Hospital
Mak	Kitty	University Health Network – Toronto Western Hospital
Montada-Atin	Tess	St. Michael's Hospital
Murphy	Ann	University Health Network – Toronto General Hospital
Offenheim	Ana	University Health Network – Toronto Western Hospital
Opsteen	Christine	Mount Sinai Hospital
Perlman	Kusiel	Hospital For Sick Children
Sigmond	Marianne	University Health Network – Toronto General Hospital
Silverberg	Jay	Sunnybrook Health Sciences Centre
Walker	Sheila	Sunnybrook Health Sciences Centre
Weiland	Mary	University Health Network – Toronto Western Hospital
Wilson	Jay	Scarborough Hospital
Wong	Rene	University Health Network – Toronto General Hospital

## FINANCIAL REPORT

(Statement of operations for the fiscal year ended June 30, 2008  
with comparative figures for the fiscal year ended June 30, 2007)

	2008	2007
<b>REVENUES</b>		
<b>Unrestricted:</b>		
Carry forward from previous year	229,720	378,029
Endowment income *	446,906	438,137
Donations/miscellaneous revenues	72,950	19,549
<b>Restricted:</b>		
BBDC/Novo Nordisk Studentship endowment fund **	183,813	176,440
Yow Kam-Yuen Scholarship endowment fund **	12,637	11,827
Tamarack Graduate Award endowment fund **	17,386	16,223
BBDC fellowship/personnel fund	14,147	193,547
Archie Sopman endowment fund (University Health Network) ***	38,814	38,800
Other	0	1,200
<b>TOTAL REVENUES</b>	<b>1,016,373</b>	<b>1,273,752</b>
<b>EXPENSES</b>		
<b>Administration:</b>		
Salaries and benefits	107,163	100,485
Office supplies/review expenditures/miscellaneous	17,140	13,651
<b>Educational Functions:</b>		
BBDC Seminar Series	6,707	8,005
Annual Scientific Day	17,470	17,206
Workshop and other educational functions	4,307	3,653
<b>Funding Programs for Trainees:</b>		
Hugh Sellers and BBDC Postdoctoral Fellowships	150,000	179,400
BBDC/Novo Nordisk Studentships **	162,500	166,500
Yow Kam-Yuen Graduate Scholarship in Diabetes Research **	8,500	11,000
Tamarack Graduate Award in Diabetes Research **	17,000	16,000
Charles Hollenberg Summer Studentship Program 2008	35,200	36,000
Trainee Travel Awards	28,322	23,347
Annual Trainee Awards	1,457	1,200
<b>Funding Programs and Support for Faculty:</b>		
Reuben & Helene Dennis Scholar in Diabetes Research	10,000	10,000
New Investigator Awards For Diabetes Research	40,000	40,000
Pilot and Feasibility Grants (biennial program)	48,000	0
Equipment Grants for Diabetes Research (biennial program)	0	90,000
Travel allowance for committee chairs	3,659	1,309
<b>Other Funding Programs:</b>		
Pilot Grants for Innovative Activities Related to Diabetes Education, Management & Care	32,664	0
Archie Sopman Diabetes Research and Education Awards (2008 calendar year) ***	14,000	8,190
Diabetes Educator of the Year Award 2007	2,000	2,000
<b>TOTAL EXPENSES</b>	<b>706,089</b>	<b>727,946</b>
<b>REVENUES LESS EXPENSES</b>	<b>310,284</b>	<b>545,806</b>

\* Endowment income represents investment income distributed by the University's Long-Term Capital Appreciation Pool. The annual endowment income is available to the BBDC for spending and it is expected to increase every year by inflation. Market conditions can also affect future income distribution.

\*\* Ontario Student Opportunity Trust Fund. Revenue amount includes carry forward of unspent endowment income from previous year. Payments made directly to award recipients by Faculty of Medicine Graduate Affairs.

\*\*\* This endowment is held at the University Health Network (UHN). Revenue amount includes carry forward of unspent endowment income from previous years. Payments are made directly to the award recipients by the UHN.

## DESCRIPTION OF FUNDING PROGRAMS and FUNDING DECISIONS

The BBDC's funding programs are only open to BBDC Members (i.e. individuals who are involved in diabetes research, education, or patient care who are employed at the University of Toronto or one of its affiliated institutions.) Specific eligibility requirements are outlined for each program.

### ANNUAL TRAINEE AWARDS

Each year undergraduate students, graduate students, and postdoctoral fellows are invited to submit their abstracts for the Annual Trainee Awards competition. To be eligible, the trainee's supervisor must hold a full-time faculty appointment with the University of Toronto and must also be a member of the BBDC. The abstract must be directly related to diabetes research and the trainee must be first author. Abstracts are reviewed by members of the Research Committee. The winners receive gift cards for the University of Toronto Bookstore. The 2007/2008 prize winners are:

<b>Award</b>	<b>Applicant</b>	<b>Supervisor</b>	<b>Abstract Title</b>
1st Prize: \$400 gift card	Jasmine Bahrami	Dr. Daniel Drucker	The Endogenous Murine GLP-2 receptor is Essential for Nutrient Absorption and the Adaptive Mucosal Response to Disorders of Energy Homeostasis
2nd Prize: \$300 gift card	Carol Lam	Dr. Tony Lam	Activation of Hypothalamic Lactate Metabolism and Kir6.2/SUR1-containing K <sub>ATP</sub> Channels Reduce Food Intake and Body Weight
3rd Prize: \$200 gift card	Adriano Maida	Dr. Daniel Drucker	Differential importance of endogenous incretin receptor signaling vs. enhanced incretin action or DDP-4 inhibition for $\beta$ -cell cytoprotection and regeneration in mice
Honourable Mention: \$100 gift card	Hongfang Lu	Dr. Michael Wheeler	Molecular and Metabolic Evidence For Mitochondrial Dysfunction Associated with $\beta$ -cell Failure in a Type 2 Diabetic MKR Mice
Honourable Mention: \$100 gift card	Lina Lauffer	Dr. Patricia Brubaker	Oleylethanolamide increases glucagon-like peptide-1 secretion from intestinal L cells through activation of the GPR119 fatty acid receptor
Honourable Mention: \$100 gift card	Linyuan Wang	Dr. Minna Woo	PTEN Deletion in Pancreatic Beta Cells and Hypothalamus Protects Against the Development of High Fat Induced Type 2 Diabetes in Mice

### ARCHIE SOPMAN DIABETES RESEARCH AND EDUCATION AWARDS 2008

This award is only open to full and part-time University Health Network employees (i.e. employees of Toronto General Hospital, Toronto Western Hospital, or Princess Margaret Hospital). To be eligible, the applicant(s) must be either a staff physician, dietitian, nurse, social worker, pharmacist, scientist, research technician, or clinical trial coordinator who is involved in diabetes research, diabetes education, or diabetes clinical care. The applicant(s) must also be a member of the BBDC. Funding can be used for: 1) Travel to a national or international diabetes meeting, or 2) To support a visiting lecturer in diabetes or metabolic disorders. Applications are reviewed by the BBDC's director. Funding for this program is provided by the Toronto General and Western Hospital Foundation

Archie Sopman endowment fund. The endowment is held at the University Health Network and paid directly to the award recipients. The funding recipients for the 2008 calendar year are:

<b>Applicant</b>	<b>Position and UHN Site</b>	<b>Purpose</b>	<b>Award</b>
Kathy Camelon	Practice Leader, Clinical Nutrition, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000
Lucia Chan	Registered Nurse, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Vivien Cheng Phaik Chou	Registered Nurse, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000
Kathy Cohen	Registered Dietitian, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Ann Cook	Registered Nurse, Diabetes Educator, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Margaret De Melo	Practice Leader, Clinical Nutrition, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Anne Guilar	Clinical Dietitian, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000
Louisa Li	Clinical Dietitian, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Ellen Lam	Registered Nurse, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000
Lorna Lawrence	Clinical Dietitian, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Kitty Mak	Diabetes Nurse Clinician, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000
Ann Murphy	Clinical Dietitian, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000
Mary Weiland	Clinical Dietitian, Diabetes Educator, Toronto Western Hospital	Travel to diabetes meeting	Up to \$1,000
Martha Wright	Nurse Clinician, Diabetes, Toronto General Hospital	Travel to diabetes meeting	Up to \$1,000

### CHARLES HOLLENBERG SUMMER STUDENTSHIP PROGRAM 2008

This program is designed to introduce young undergraduate students to diabetes research. This year the BBDC awarded 15 studentships valued at \$4,800 each to qualified undergraduate and/or medical students to carry out full-time summer research in diabetes. To be eligible, the student's supervisor must hold a full-time faculty appointment with the University of Toronto and must also be a member of the BBDC. The student's stipend is shared by the BBDC and the supervisor(s). Students are required to participate in the program's weekly *Seminar Series* and to present their work at the end of the summer in a workshop format at the *Mini-conference (see page 20) for seminar series and conference program*). Applications are reviewed by members of the Research Committee. The following are the 2008 summer studentship recipients:

<b>Applicant</b>	<b>Supervisor(s)</b>	<b>Title of Research</b>
Anna Amelchenkov	Dr. Peter Backx	Transcriptional regulation of K <sup>+</sup> currents in pancreatic beta-cells
Arash Azin	Dr. Amira Klip	Primary muscle cell cultures to study insulin action
Ramteen Baigi	Dr. Shelley Boyd and Dr. Michael Ward	Potential Synergism Between Erythropoietin and Insulin in the NeuroGlial Retina
Eric Chan	Dr. Mladen Vranic	Effects of Antagonizing Somatostatin on Glucagon Responses to Hypoglycemia
Wing Chee Cheung	Dr. Tony Lam	Metabolic impact of small intestinal nutrient sensing

Pejman R. Giglou	Dr. Michael Wheeler	Substance P modulation of pancreatic insulin secretion in normal and diabetic mice
Jesse Goldmacher	Dr. Carolyn Cummins	Investigating the mechanism of glucocorticoid resistance in LXR-null mice
Meng Li	Dr. Qinghua Wang	Mechanism of insulin action on glucagon secretion in mouse pancreas.
Gordana Maric	Dr. Minna Woo	Investigation of the protective effects of beta-cell specific PTEN ablation in a dexamethasone-induced type 2 diabetes model
Rebecca Mathew	Dr. Donna Stewart	The lived Experiences of Diabetes Self-Management: A Qualitative Analysis of Gender Differences Among Individuals With Type 2 Diabetes
Philip Mok	Dr. I. George Fantus	Role of Thioredoxin-interacting protein in beta-cell apoptosis
Amanda Oliver (June 1-30, 2008)	Dr. Herbert Gaisano	Putative domains within islet beta cell sulfonylurea receptor that binds Syntaxin 1A
Sabreena Sadat	Dr. Dominic Ng	Impact of monogenic low HDL syndrome on glucose and energy homeostasis
Kelvin Tay	Dr. Maria Rozakis Adcock	Insulin receptor signaling networks and diabetes
Dorothy Truong	Dr. Hans-Michael Dosch	Human T cell Responses to Neuronal signals

## DIABETES EDUCATOR OF THE YEAR AWARD 2007

This new award was established in 2005 to recognize diabetes educators who have demonstrated outstanding efforts and achievements in their role as a diabetes educator. One award of \$2,000 is presented each year. This award is meant to recognize those who educate at the patient and community/professional levels. Candidates must be nominated for the award by a health care professional. To be eligible for nomination, the candidate must be a full or part-time diabetes educator or health care professional employed by a University of Toronto-affiliated institution. Nominations are reviewed by members of the Diabetes Care and Education Committee. The 2007 award recipient is:

Nominee	Title
Anna Brundage, RN, BHSc(N), CDE	Diabetes Nurse Educator, Women's College Hospital

## EQUIPMENT GRANTS FOR DIABETES RESEARCH (Biennial Program)

A minimum amount of \$5,000 and a maximum amount of \$30,000 is made available for the one-time purchase of laboratory equipment for diabetes research. To be eligible, the applicant must be a full-time faculty member of the University of Toronto and a member of the BBDC. Those who wish to purchase equipment costing over \$30,000 are required to obtain the remaining funds from other sources before the BBDC releases the funds to successful applicants. Applications are reviewed by members of the Research Committee as well as external reviewers. This funding program is offered every two years. There was no competition held in 2007/2008.

## GRADUATE STUDENTSHIPS

### BBDC-Novo Nordisk Studentships:

A collaboration with Novo Nordisk Canada Inc. was established in 1996 to provide long term endowment in support of graduate students who are pursuing a career in diabetes research. As part of the *Ontario Student Opportunity Trust Fund* program (*OSOTF*), the support obtained from Novo Nordisk was matched by equal contributions from the University of Toronto and the Government of Ontario for a total endowment of 4.2 million

dollars. To be eligible for this award, applicants must be registered with the Faculty of Medicine, School of Graduate Studies at the University of Toronto. The student must demonstrate financial need, and must be carrying out studies in diabetes research. The student's supervisor must hold a full-time faculty appointment with the University of Toronto and must also be a member of the BBDC. Applications are reviewed by the Research Committee. This year the BBDC was able to award 11 studentships of up to \$21,000. The following are the 2007/2008 award recipients:

<b>Applicant</b>	<b>Supervisor(s)</b>	<b>Title of Research</b>
Margot Arntfield	Dr. Derek van der kooy	Characterization and expansion of Pancreas-derived Multipotent Precursors
Diana Choi	Dr. Minna Woo	Investigating the role of PTEN in the spontaneous development of type 1 diabetes
Gregory Gaisano	Dr. Michael Wheeler	Metabolic NADPH Production and the Regulation of the Delayed Rectifier Potassium Channels in Beta Cells
Sylvia Ley	Dr. Anthony Hanley	Adipokines and prediction of incident diabetes in an Aboriginal Canadian population
Sandra Pereira	Dr. Adria Giacca	Effects of prolonged free fatty acid elevation on hepatic insulin sensitivity
Katherine Rowland	Dr. Patricia Brubaker	Role of insulin-like growth factor-1 and its receptor in glucagon-like peptide-2-associated intestinal adaptation in diabetes
Meghan Sauvé	Dr. Daniel Drucker	The role of DDP-4 inhibition in the cardiovascular system
Tracy Teodoro	Dr. Allen Volchuk	Examining naturally occurring ATF6 variants and their functional properties in pancreatic beta-cells
Garry Thomas	Dr. George Fantus	Role of Src in the Complications of Diabetes
Linyuan Wang	Dr. Minna Woo	The role of hypothalamic and pancreatic beta cell PTEN in type 2 diabetes models
Jessica Yue	Dr. Mladen Vranic and Dr. Adria Giacca	Mechanism of diminished counterregulation to hypoglycemia: Impact of antagonizing somatostatin receptor type 2

#### **Tamarack Graduate Award in Diabetes Research:**

This graduate scholarship was made possible by a generous private endowment which was matched by equal funding from the University of Toronto and the Government of Ontario under the *Ontario Student Opportunity Trust Fund* program (*OSOTF*). To be eligible for this award, applicants must be registered with the Faculty of Medicine, School of Graduate Studies at the University of Toronto. The student must demonstrate financial need, and must be carrying out studies in diabetes research. The student's supervisor must hold a full-time faculty appointment with the University of Toronto and must also be a member of the BBDC. Applications are ranked and reviewed by the BBDC Research Committee and preference is given to those students whose primary area of study is vascular problems of diabetes. Applications are reviewed by the Research Committee. This year the income earned on the endowment enabled the BBDC to award two studentships of up to \$8,500. The following are the 2007/2008 award recipients:

<b>Applicant</b>	<b>Supervisor</b>	<b>Title of Research</b>
Carol Lam	Dr. Tony Lam	CNS nutrient sensing, food intake and glucose homeostasis
Janice Sarmiento	Dr. Philippe Poussier	Investigating the contribution of allelic variation in PTPN22 to Type 1 Diabetes Susceptibility in the BioBreeding Rat

### Yow Kam-Yuen Graduate Scholarship in Diabetes Research:

This graduate scholarship was made possible by a generous private endowment which was matched by equal funding from the University of Toronto and the Government of Ontario under the *Ontario Student Opportunity Trust Fund* program (*OSOTF*). To be eligible for this award, applicants must be registered with the Faculty of Medicine, School of Graduate Studies at the University of Toronto. The student must demonstrate financial need, and must be carrying out studies in diabetes research. The student's supervisor must hold a full-time faculty appointment with the University of Toronto and must also be a member of the BBDC. Applications are ranked and reviewed by the Research Committee. This year the income earned on the endowment enabled the BBDC to award one \$8,500 studentship. The 2007/2008 award recipient is:

Applicant	Supervisor	Title of Research
Jane Sun	Dr. Tianru Jin	Examination of Crosstalks Between Insulin and Wnt Signaling Pathways

### HUGH SELLERS and BBDC POSTDOCTORAL FELLOWSHIPS

The support of research fellows has been a major priority of the BBDC. Since the inception of the BBDC and through the generosity of the Sellers family, one Hugh Sellers Postdoctoral Fellowship has been awarded annually. Whenever possible, the Centre endeavours to support additional trainees a year if funding is available. This program provides one year of funding for an individual holding an M.D. or Ph.D. who is carrying out full-time diabetes research training at the University of Toronto or one of its fully affiliated institutions. The fellow's supervisor must hold a full-time faculty appointment with the University of Toronto and must also be a member of the BBDC. Stipends approximate those of the CIHR postdoctoral fellowship program. Applications are reviewed by members of the Research Committee plus external reviewers. The following are the 2007/2008 award recipients:

Applicant and Award	Supervisor	Title of Research
Holly Bates Hugh Sellers Fellowship	Dr. Daniel Drucker	The contribution of neuronal GLP-1 and GIP receptor signaling to their effects on glucose homeostasis, energy balance, and behaviour
Roman Iakoubov BBDC Fellowship (September 2007- May 2008)	Dr. Patricia Brubaker	Elucidating the role of atypical Protein Kinase Czeta in free fatty acid induced glucagon-like peptide-1 secretion in vivo
Marie Jeansson BBDC Fellowship	Dr. Susan Quaggin	Crosstalk between podocytes and endothelium in the glomerular filtration barrier
Alexey Podcheko BBDC Fellowship	Dr. Maria Rozakis-Adcock	Role of Plekstrin Homology Domain Interacting Protein 1 (PHIP1) in Prevention and Treatment of Experimental Type 2 Diabetes

### PILOT AND FEASIBILITY GRANTS (Biennial Program)

This program provides funding of up to \$30,000 per applicant, for one year, to enable eligible investigators to explore completely new initiatives in the area of diabetes research. This competition is open to both new and established full-time faculty members of the University of Toronto. The principal applicant must be a full-time faculty member of the University of Toronto and must also be a member of the BBDC. Applications are reviewed and ranked by members of the Research Committee as well as external reviewers. The 2007/2008 award recipients are:

Applicant(s)	Title of Research	Award
Dr. Tony K. T. Lam	Hypothalamic PKC and Hepatic Glucose Production	\$30,000
Dr. Minna Woo and Dr. Ravi Retnakaran	The Role of Erythropoietin in Promoting Pancreatic Beta Cell Survival and Function	\$18,000

## PILOT GRANTS FOR INNOVATIVE ACTIVITIES RELATED TO DIABETES EDUCATION, MANAGEMENT, AND CARE

This program provides funding of up to \$20,000 per applicant for pilot projects which are one to two years in length. Funding is intended to support new research initiatives in the following general areas: 1) Diabetes care delivery; 2) Evaluation of diabetes education programs; and 3) Practical issues in diabetes management. It is designed to encourage new academic research activities from individuals not usually supported by traditional granting processes, specifically, front line health care professionals working at the University of Toronto-affiliated hospitals or working with U of T-affiliated academics. Applications are reviewed by members of the Diabetes Care and Education Committee. The following are the 2007/2008 award recipients:

Applicants	Title of Research	Award
Margaret DeMelo Lina Medeiros Valerie Tarasuk Dr. Donna Stewart	Food Insecurity in Canadians with Diabetes Mellitus	\$20,000
Dr. Rene Wong Dr. Robert Silver	Can Continuity of Care Online Simulations in Diabetes Management (COCOS-DM) Improve Residents' Knowledge in the Longitudinal Management of Patients with Diabetes?	\$12,664

## REUBEN & HELENE DENNIS SCHOLAR IN DIABETES RESEARCH and NEW INVESTIGATOR AWARDS FOR DIABETES RESEARCH (Biennial Programs)

These awards were established to support new University of Toronto diabetes research faculty. The New Investigator Awards provide funding of \$20,000 per year for two years, and the Dennis Scholar Award provides \$10,000 per year for two years. To be eligible, the applicant must be involved in diabetes research and must be a principal investigator who holds a full-time academic appointment with the University of Toronto. Faculty are eligible for this funding normally within **five** years of their first faculty appointment. Applications are reviewed and ranked by members of the Research Committee as well as an external reviewer(s). The recipients of these two-year awards are:

### Reuben & Helene Dennis Scholar in Diabetes Research

Applicant	Title of Research	Award
Dr. Gillian Booth	Gender-related differences in diabetes susceptibility: the relative contribution of social, environmental and lifestyle factors	\$10,000 for 2006/2007 \$10,000 for 2007/2008

### New Investigator Awards for Diabetes Research

Applicant	Title of Research	Award
Dr. Esteban Parra	Application of admixture mapping to identify type 2 diabetes susceptibility genes.	\$20,000 for 2006/2007 \$20,000 for 2007/2008
Dr. Allen Volchuk	Examining Anti-Diabetic Properties of Oleanolic Acid in Pancreatic $\beta$ -cells	\$20,000 for 2006/2007 \$20,000 for 2007/2008

## TRAINEE TRAVEL AWARDS

The Trainee Travel Awards are available to postdoctoral fellows and graduate students conducting diabetes research in the laboratory of a University of Toronto faculty member and BBDC member. Trainees are eligible for a Travel Award of up to \$1,000 (CAD) each to defray the expense of attending a national or international meeting. The trainee

must be presenting a first-author abstract which has been accepted for presentation at the meeting. Applications are reviewed by members of the Research Committee. The 2007/2008 award recipients are:

<b>Applicant</b>	<b>Supervisor</b>	<b>Abstract Title(s)</b>
Abdullah Alguwaihes	Dr. Baiju Shah	There Is No Association Between Level of Education and Health Care System Utilization by Diabetic Patients
Jasmine Bahrami	Dr. Daniel Drucker	The Endogenous Murine GLP-2 receptor is Essential For Nutrient Absorption and the Adaptive Mucosal Response to Disorders of Energy Homeostasis
Holly Bates	Dr. Mladen Vranic and Dr. Stephen Matthews	Adaptation to Intermittent Stress Partially Preserves Beta-cell Mass Through Mechanisms Independent of Food Intake
George Bikopoulos	Dr. Maria Rozakis-Adcock	Ex vivo transcriptional profiling of human pancreatic islets following chronic exposure to monounsaturated fatty acids
Danna Breen	Dr. Adria Giacca	Insulin Inhibits Atherosclerotic Plaque Formation in Apolipoprotein E Knockout Mice
Madhu Chari	Dr. Tony Lam	CNS Glucotoxicity and Nutrient Sensing
Diana Choi	Dr. Minna Woo	The essential in vivo role of Fas in pancreatic beta cells
Ya-Chi Huang	Dr. Herbert Gaisano	NADH desensitize $\alpha$ -cell KATP channel contributes glucose-inhibited glucagon release
Roman Iakoubov	Dr. Patricia Brubaker	Retrograde intracolonic infusion of free fatty acids as a novel approach to directly stimulate GLP-1 release by rat intestinal L-cells in vivo
Shuhei Ishikura	Dr. Amira Klip	Rabs 8A and 14, but not Rab8B are Required for GLUT4 Translocation in L6 Muscle Cells
Alexandra Koshkina	Dr. Amira Klip	Filamin involvement in insulin action
Elida Lai	Dr. Allen Volchuk	Role of Endoplasmic Reticulum Stress in Palmitate-Induced Apoptosis in Pancreatic Beta-Cells
Carol Lam	Dr. Tony Lam	Activation of Hypothalamic Lactate Metabolism and Kir6.2/SUR1-containing K-ATP Channels Reduce Food Intake and Body Weight
Lina Lauffer	Dr. Patricia Brubaker	Oleoylethanolamide increases glucagon-like peptide-1 secretion from intestinal L cells through activation of GPR119 fatty acid receptor
Andrew Lee	Dr. Maria Rozakis-Adcock	Identification of a Novel Cytoskeletal Protein That Binds and Regulates IRS1 Signalling in Muscle Cells
Sylvia Ley	Dr. Anthony Hanley	Adipokines and Incident Type 2 Diabetes in an Aboriginal Canadian Population: The Sandy Lake Health and Diabetes Project
Adriano Maida	Dr. Daniel Drucker	Differential importance of endogenous incretin receptor signaling vs. enhanced incretin action or DPP-4 inhibition for beta-cell cytoprotection and regeneration in mice
Elodie Masson	Dr. George Fantus	TxNIP-deficient Mice are Resistant to Streptozotocin-induced Diabetes
Abigale Miller	Dr. Khosrow Adeli	Dietary cholesterol induces chronic LXR activation leading to dyslipidemia and development of an insulin resistant state: Evidence for synergistic interaction with dietary fat and fructose
Andrei Oprescu	Dr. Adria Giacca	In vivo Salicylate Treatment Prevents Beta-Cell Dysfunction Induced by Prolonged Lipid Infusion: A

		Potential Role for Inflammation in Beta-Cell Lipotoxicity
Mirjana Pavlic	Dr. Gary Lewis	<ol style="list-style-type: none"> <li>1. The effect of acute hyperinsulinemia on hepatic and intestinal lipoprotein production in humans in fed state</li> <li>2. Triglyceride-rich lipoprotein-associated apolipoprotein CIII production is stimulated by plasma free fatty acids in humans</li> </ol>
Alexey Podcheko	Dr. Maria Rozakis-Adcock	Identification of a WD-40 Repeat-containing Isoform of PHIP as a Novel Regulator of Beta-cell Growth and Survival
Qiaozhu Su	Dr. Khosrow Adeli	Co-translational misfolding and endoplasmic reticulum accumulation of apolipoprotein B induced hepatic insulin resistance
Simon Smukler	Dr. Derek van der Kooy	The Adult Mouse And Human Pancreas Contain Insulin-Expressing Multipotent Stem Cells
Jane Sun	Dr. Tianru Jin	Canonical Wnt and mTOR Signalling Pathways are Both Involved in Insulin-Stimulated Cell Proliferation and c-myc Expression in Intestinal Epithelia
Tracy Teodoro	Dr. Allen Volchuk	Oleanolic Acid Enhances Insulin Secretion and Content in INS-1 Pancreatic Beta Cells
Linyuan Wang	Dr. Minna Woo	PTEN Deletion in Pancreatic Beta Cells and Hypothalamus Protects Against the Development of High Fat Induced Type 2 Diabetes in Mice
Victor Wong	Dr. Patricia Brubaker	Glucagon-like Peptide-1 Regulates R-Spondin-1/canonical Wnt Signaling in the beta-cell
Changting Xiao	Dr. Gary Lewis	High dose salicylate does not improve insulin sensitivity but it does improve first phase insulin response in the presence of chronically elevated plasma free fatty acids in overweight and obese, non-diabetic men

## EDUCATIONAL ACTIVITIES OF THE CENTRE

### BBDC SEMINAR SERIES (In conjunction with City-wide Endocrine Rounds)

An ongoing responsibility of the Centre is to invite researchers to present their work on diabetes research at our Seminar Series. To ensure a broad audience, seminars have been incorporated into the University of Toronto City-wide Endocrine Rounds which are held every Friday morning at 8 a.m. at the Mount Sinai Hospital. This year's presentations were as follows:

**BANTING AND BEST DIABETES CENTRE, UNIVERSITY OF TORONTO  
SEMINAR SERIES 2007-2008**

**In conjunction with City-wide Endocrine Rounds  
8:00 – 9:00 a.m.**

**Mount Sinai Hospital, Lebovic Building  
60 Murray Street, 3<sup>rd</sup> Floor Conference Room**

<b>Friday, November 2, 2007</b> <i>(Sponsored by Merck Frosst Canada Ltd.)</i>	A History of Incretin Research <b>Michael Nauck, MD, PhD</b> Professor of Medicine, Diabetes Centre Bad Lauterberg, Germany
<b>Friday, December 14, 2007</b>	Molecular and Neural Mechanisms of Leptin Action <b>Martin G. Myers, Jr., MD, PhD</b> Associate Professor of Medicine and Physiology University of Michigan Medical School
<b>Friday, January 25, 2008</b>	Fatty Acids and Pancreatic Beta-cell Function <b>Vincent Poitout, PhD</b> Associate Professor of Medicine University of Montréal
<b>Friday, April 18, 2008</b>	Regeneration of the Pancreatic Beta Cells: The Role of Pancreatic Progenitors <b>Susan Bonner-Weir, PhD</b> Senior Investigator, Joslin Diabetes Center Associate Professor of Medicine, Harvard Medical School

**BBDC and T.G.R.I. DIABETES INVESTIGATOR SEMINAR SERIES**

These monthly seminars provide an opportunity for Toronto General Research Institute (TGRI) diabetes investigators associated with the BBDC to exchange diabetes research data. The meetings are usually held on the first Friday of each month from 12 to 1 p.m. at the Toronto General Hospital. Unlike the BBDC Seminar Series, this seminar series is only attended by the BBDC Director, the BBDC-associated investigators. The BBDC gratefully acknowledges support of this seminar series by **Merck Frosst Canada**. This year's presentations were as follows:

**BBDC and TGRI  
DIABETES INVESTIGATOR SEMINAR SERIES 2007-2008  
12:00 to 1:00 p.m.  
MaRS/Toronto Medical Discovery Tower  
101 College Street (East Tower)  
4<sup>th</sup> Floor, Seminar Room 4-204**

<b>Date</b>	<b>Presentation</b>	<b>Location</b>
Friday, October 5, 2007	Dr. George Fantus	Toronto Medical Discovery Tower, 4 <sup>th</sup> Floor Seminar Room 4-204
Friday, November 2, 2007	Dr. Tianru Jin	Toronto General Hospital, 200 Elizabeth St., Eaton Wing, First Floor Classroom 1E-441
Friday, December 7, 2007	Dr. Daniel Drucker	Toronto Medical Discovery Tower, 4 <sup>th</sup> Floor Seminar Room 4-204
January – <b>NO SEMINAR</b>	----	----

Friday, February 1, 2008	Dr. Gary Lewis	Toronto Medical Discovery Tower, 4 <sup>th</sup> Floor Seminar Room 4-204
Friday, March 7, 2008	Dr. Tony Lam	Toronto Medical Discovery Tower, 4 <sup>th</sup> Floor Seminar Room 4-204
Friday, April 4, 2008	Dr. Allen Volchuk	Toronto Medical Discovery Tower, 4 <sup>th</sup> Floor Seminar Room 4-204
Friday, May 2, 2008	Dr. David Irwin	Toronto Medical Discovery Tower, 4 <sup>th</sup> Floor Seminar Room 4-204

### CHARLES HOLLENBERG SUMMER STUDENTSHIP PROGRAM: SEMINAR SERIES AND MINI-CONFERENCE 2008

Summer Studentship recipients and their supervisors are required to participate in the Summer Studentship Program which consists of a weekly *Seminar Series* and a *Mini-conference*. The weekly seminars are held throughout June and July. Each seminar includes a 40 to 45 minute presentation prepared by the supervisor, followed by a 5 to 10 minute presentation by the summer student which outlines the project and indicates how his/her project fits into the overall goals of the lab. All students have the opportunity to present their work at the end of the summer in a workshop format at the half-day Mini-conference. Students are required to submit a one-page abstract for the conference program. The BBDC would like to thank **Dr. Allen Volchuk** for coordinating the 2008 Summer Studentship Program. This year's weekly Seminar Series schedule and Mini-Conference program are as follows:

<b>CHARLES HOLLENBERG SUMMER STUDENTSHIP PROGRAM - 2008</b> <b>WEEKLY SEMINAR SERIES</b> <b>4:00 - 5:00 p.m.</b> <b>MaRS Centre, 101 College Street</b> <b>East Tower, 4<sup>th</sup> Floor, Seminar Room 4-204</b>		
<b>Date</b>	<b>Speakers</b>	<b>Title</b>
Monday, June 2, 2008	Dr. G. Fantus and Philip Mok	The pathogenesis of the chronic complications of diabetes
Monday, June 9, 2008	Dr. Q. Wang and Meng Li	Intra-islet insulin action and insulin resistance
Monday, June 16, 2008	Dr. C. Cummins and Jesse Goldmacher	LXRs and hepatic glucose metabolism
Monday, June 23, 2008	Dr. M. Vranic and Eric Chan	Mechanisms of inadequate counterregulatory responses to hypoglycemia in diabetes
Monday, June 30, 2008	<b>Holiday</b>	-
Monday, July 7, 2008	Dr. M. Wheeler and Pejman Raeisi-Giglou	Glucose sensing by the pancreatic beta-cell and role of the incretins
Monday, July 14, 2008	Dr. D. Stewart/Dr. E. Gucciardi and Rebecca Mathew	Sex differences in adults with type 2 diabetes who attend a diabetes education centre
Monday, July 21, 2008	Dr. P. Backx and Anna Amelchenkov	TBA
Monday, July 28, 2008	Dr. M. Woo and Gordana Maric	Molecular mechanisms of beta-cell apoptosis

**CHARLES HOLLENBERG SUMMER STUDENTSHIP PROGRAM - 2008**  
**MINI-CONFERENCE**  
**1:00 – 5:15 p.m.**  
**Monday, August 11, 2008**  
**MaRS Centre, 101 College Street**  
**East Tower, 4<sup>th</sup> Floor, Seminar Room 4-204**

<b>1:00 – 1:25 p.m.</b>	Students to load presentations onto computer in seminar room.
<b>1:25</b>	<b>Introduction: Dr. Allen Volchuk, Program Coordinator</b>
<b>1:30</b>	<b>Rebecca Mathew (Dr. Donna Stewart)</b> The Lived Experiences of Diabetes Self-Management: A Qualitative Analysis of Gender Differences among Individuals with Type 2 Diabetes Mellitus
<b>1:45</b>	<b>Philip Mok (Dr. George Fantus)</b> The role of Txnip in nephropathy using a streptozotocin-induced diabetic mouse model
<b>2:00</b>	<b>Ramteen Baigi (Dr. Shelley Boyd and Dr. Michael Ward)</b> Synergistic Effect of Epo and Insulin on cell survival in R28 retinal progenitor cells
<b>2:15</b>	<b>Meng Li (Dr. Qinghua Wang)</b> Determining the mechanism of insulin action on glucagon secretion by <i>ex vivo</i> mouse pancreas perfusion
<b>2:30</b>	<b>Grace Cheung (Dr. Tony Lam)</b> Activation of Upper Intestinal CCKA Receptors Suppresses Hepatic Glucose Production
<b>2:45</b>	<b>Dorothy Truong (Dr. Hans-Michael Dosch)</b> Increased NK1R Expression Levels in T cells of Type 1 Diabetics and First Degree Relatives
<b>3:00</b>	<b>Arash Azin (Dr. Amira Klip)</b> A Novel Link Between Innate Immunity and Insulin Resistance in Skeletal Muscle
<b>3:15</b>	<b>Refreshment Break</b>
<b>3:30</b>	<b>Pejman Raeisi Giglou (Dr. Michael Wheeler)</b> Substance P (SP) and its role on Insulin modulation
<b>3:45</b>	<b>Anna Amelchenkov (Dr. Peter Backx)</b> Regulation of voltage-dependent K <sup>+</sup> channel expression by Iroquois 3 and 5 transcription factor: Physiological implications on insulin secretion and heart function.
<b>4:00</b>	<b>Jesse Goldmacher (Dr. Carolyn Cummins)</b> Investigating insulin and glucocorticoid signaling in LXR-deficient mice.
<b>4:15</b>	<b>Eric Chan (Dr. Mladen Vranic)</b> Effects of Antagonizing Somatostatin on Glucagon Responses to Hypoglycemia
<b>4:30</b>	<b>Sabreena Sadat (Dr. Dominic Ng)</b> The role of ER stress in LCAT Deficient Mice with resistance to diet-induced obesity
<b>4:45</b>	<b>Gordana Maric (Dr. Minna Woo)</b> Investigation of the role of caspase 8 in myc-induced apoptosis
<b>5:00</b>	<b>Kelvin Tay (Dr. Maria Rozakis Adcock)</b> Pleckstrin homology domain-interacting protein (PHIP) is a novel positive regulator of the JAK-STAT signalling pathway in rat insulin producing $\beta$ -cells

## 19<sup>th</sup> ANNUAL SCIENTIFIC DAY

This annual event which is organized by the Research Committee provides an opportunity for BBDC members to exchange scientific information and ideas, and to assist in the development of collaborative diabetes-related research activities. It also provides a valuable opportunity for BBDC trainees to network and present their research. BBDC postdoctoral fellowship recipients and graduate studentship recipients present posters of their work. The event focuses on the latest diabetes research topics with both clinical and laboratory applications. In addition, the Director of the Centre has an opportunity to review the activities of the BBDC over the past year with the Centre

membership at large. This event is open and free to all BBDC members and their trainees only. The program normally includes one internationally renowned guest speaker as well as University of Toronto faculty equally renowned for their work in diabetes research. The 19<sup>th</sup> Annual Scientific Day was held on **Friday, May 9, 2008** at The Estates of Sunnybrook. We gratefully acknowledge partial support of this event by **Merck Frosst Canada, Eli Lilly Canada, LifeScan Canada, Novo Nordisk Canada, and Bristol-Myers Squibb & AstraZeneca**. The program was as follows:

<b>BANTING AND BEST DIABETES CENTRE          19<sup>th</sup> ANNUAL SCIENTIFIC DAY          Friday, May 9, 2008          Vaughan Estate, The Estates of Sunnybrook          2075 Bayview Avenue, Toronto</b>	
8:30 - 9:00 A.M.	<b>CONTINENTAL BREAKFAST</b>
<b>Chair:</b> Dr. Bruce Perkins	
9:00 - 9:30	NeuroVascular Protection of the Diabetic Visual System <b>Dr. Shelley R. Boyd</b> Assistant Professor*, Department of Ophthalmology & Vision Sciences
9:30 - 10:00	Exercise as a Stimulant of the Hypothalamic-pituitary-adrenal Axis. Unique Stress Adaptations in the Brain, Adrenals, Skeletal Muscle, Adipose and Pancreas <b>Dr. Michael Riddell</b> Associate Professor, Faculty of Health, York University, Toronto
10:00 - 10:30	Differentiation of Embryonic Stem Cells to the Pancreatic Lineage <b>Dr. Gordon Keller</b> Professor*, Department of Medical Biophysics
10:30 - 11:15	<b>POSTER PRESENTATIONS</b>
<b>Chair:</b> Dr. Anthony Hanley	
11:15 - 11:45	The DCCT/EDIC Study: Recent Findings and Implications for Clinical Care <b>Dr. Bernard Zinman</b> Professor*, Department of Medicine
11:45 - 12:15 P.M.	Mechanisms Underlying Fatty Acid-induced Glucagon-like Peptide-1 Secretion <b>Dr. Roman Iakoubov</b> BBDC Postdoctoral Fellowship Recipient 2007-2008
12:15 - 12:25	<b>Director's Report: Dr. Daniel J. Drucker</b> Director, Banting and Best Diabetes Centre
12:25 - 12:35	<b>BBDC Annual Trainee Awards Presentation</b> Dr. Patricia Brubaker, Chair, BBDC Research Committee
12:35 - 1:30	<b>LUNCH</b>
<b>Chair:</b> Dr. Patricia Brubaker	
1:30 - 2:30	<b>Charles Hollenberg Lecture</b> Cellular Mechanisms of Insulin Resistance: Implications for Type Diabetes, Obesity, and Metabolic Syndrome <b>Dr. Gerald I. Shulman</b> Investigator, Howard Hughes Medical Institute Professor of Internal Medicine and Cellular & Molecular Physiology Yale University School of Medicine
2:30	<b>EVALUATION AND ADJOURNMENT</b>

\* University of Toronto

## GRANT WRITING 101 - A WORKSHOP FOR HEALTH CARE PROFESSIONALS WORKING IN DIABETES CARE AND EDUCATION

On Friday, May 23, 2008 the BBDC hosted this interactive, 2-hour workshop for health care professionals working in diabetes care or education on how to write a successful grant application. The workshop was specifically aimed at allied health care professionals who have had limited experience in research development and the process of applying for research funding. Participants were taught the basics of what is considered “research” in diabetes care, and reviewed the requirements of granting agencies when applying for funding. Participants were encouraged to bring their own ideas for grant applications to the workshop. The workshop was co-hosted by Dr. Jacqueline James, Chair of the Diabetes Care and Education Committee and fellow Committee member Dr. Baiju Shah, Endocrinologist, Sunnybrook Health Sciences Centre.

## DIABETES UPDATE

Diabetes Update is a biennial continuing education event which is organized by the Diabetes Care and Education Committee and the Faculty of Medicine Continuing Education staff. This full day event attracts over 600 health care professionals such as physicians, nurses, dietitians and pharmacists from across Ontario and beyond. The program includes guest speakers as well as members of the University of Toronto faculty and is comprised of large plenary lectures followed by smaller, interactive concurrent sessions. The next Diabetes Update will be held on April 3, 2009 at the Metro Toronto Convention Centre.

## CORE LABORATORY

**Director:** Dr. I. George Fantus

The Core Laboratory was established in 1984 to provide analytical and technical support to the University of Toronto diabetes research community. A wide range of research quality assays are provided for investigator initiated clinical/basic research as well as for industry sponsored trials. The Core Laboratory will collaborate with the investigator to establish new assays to carry out and enhance diabetes-related research at the University. A list of the current services provided by the Core Laboratory are provided on the BBDC’s website, [www.bbdc.org](http://www.bbdc.org). In 2001, the Core Laboratory partnered with Pathology and Laboratory Medicine at Mount Sinai Hospital and moved its facilities to that location, although it still remains a part of the BBDC.

## PUBLICATIONS

### WEB SITE: [WWW.BBDC.ORG](http://WWW.BBDC.ORG)

Visitors to our site can view detailed information on all of our funding programs, funding decisions, educational activities, membership, clinical trials at University of Toronto-affiliated hospitals, diabetes research at the University of Toronto, links to international diabetes meetings, and much more. All application forms for BBDC funding programs can be downloaded from the site.

### APPROACH TO THE MANAGEMENT OF DIABETES MELLITUS (Sixth Edition)

The BBDC has been publishing diabetes management guidelines since 1986 as a part of our mandate to promote diabetes education and patient care at the University of Toronto and its affiliated institutions. The publication is available on the home page of our web site [www.bbdc.org](http://www.bbdc.org) in a user-friendly, web-based format. It is a comprehensive guide to the current concepts and management strategies practiced by health care professionals at the University of Toronto and its affiliated teaching hospitals in the care of individuals with diabetes. It provides an outline of standards of care and special topics in diabetes. Where possible, available evidence is used in these

guidelines, however, expert clinical opinion is used to formulate treatment strategies in areas where high level clinical evidence is unavailable. Although not an exhaustive review of the literature, this document is meant to provide practical information to help medical students, residents, physicians, diabetes educators and other health care professionals in the management of individuals with diabetes.

## BBDC NEWSLETTER

The Banting and Best Diabetes Centre distributes a quarterly newsletter entitled **BBDC NEWS** by e-mail to those who have joined our e-mail distribution list. Issues are distributed in September, December, March, and June of each year. The newsletter highlights upcoming BBDC events, funding opportunities, award results, and BBDC seminars. Current and past issues are available on the BBDC's web site [www.bbdc.org](http://www.bbdc.org).

## ACKNOWLEDGEMENTS

The BBDC would like to thank the members of our **Research Committee** and members of our **Diabetes Care and Education Committee** for reviewing applications for the Centre's many funding programs, and for participating in the BBDC's educational events.

We would also like to thank **Dr. Allen Volchuk** for coordinating the 2008 Charles Hollenberg Summer Studentship Program, and **Dr. Baiju Shah** and **Dr. Jacqueline James** for co-hosting our Grant Writing 101 Workshop for Health Care Professionals in May 2008.

As an integral part of the application review process, the BBDC also obtains scientific reviews from University of Toronto faculty who are involved in diabetes-related research. The BBDC would like to thank the following faculty members for acting as our **external reviewers** this past year for various BBDC funding programs: **Dr. Khosrow Adeli, Dr. Richard Bazinet, Dr. Esteban Parra, Dr. Tom Wolever** and **Dr. Minna Woo**.

## SUPPORTERS OF THE BANTING AND BEST DIABETES CENTRE

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The Estate of Reuben & Helene Dennis	The Estate of Archie Sopman
The Estate of Marion Hamilton	Mr. Arthur Spoerri
The Estate of Miriam Neveren	Mr. Stephen Yow Mok Shing
The Estate of Dr. & Mrs. Edward A. Sellers	Novo Nordisk Canada Inc.

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Copies of this and previous annual reports can be obtained from the BBDC's web site [www.bbdc.org](http://www.bbdc.org).