



Baycrest-Berkeley Presents
 The 20th Annual Rotman Research Institute Conference
The Frontal Lobes
 March 22-26, 2010 - Toronto, Canada

Baycrest Enriching Care
 Enhancing Knowledge
 Enlightening Minds



Baycrest is an academic centre
 affiliated with the University of
 Toronto



Metro Toronto Convention Centre, 255 Front Street West, Toronto

Organized by Donald T. Stuss, PhD and Robert T. Knight, MD

THE FRONTAL LOBES: 1990, 2000, AND NOW 2010

The Rotman Research Institute of Baycrest was inaugurated in 1989. Its first conference, held in 1990, focused on one of the strategic research foci of the Institute – the frontal lobes. The three day conference was sold out, with approximately 500 attendees. In 2000, Baycrest joined forces with Berkeley to hold the second Rotman conference on the frontal lobes. This five day scientific meeting was attended by some 850 individuals from 33 different countries. Baycrest/Berkeley are once again joining forces to organize for 2010 the 20th Rotman Research Institute Conference, and its third focusing on the frontal lobes. To celebrate the event, there will be three keynote speakers; over 40 internationally recognized presenters organized into nine thematic areas with all sessions plenary; interactive discussions among presenters and audience; moderated poster sessions; and two trainee awards for each of three poster sessions, for the best posters of that session. The number of attendees this time is uncertain, but space is limited.

PROGRAM

SUNDAY, MARCH 21, 2010

6:00 – 8:00PM Early Registration, Lobby of The John Bassett Theatre, Metro Toronto Convention Centre

MONDAY, MARCH 22, 2010

7:00 – 8:30 Registration and Refreshments

8:30 – 9:00 Welcoming Remarks – **Drs. Robert T. Knight & Donald T. Stuss**

Plus dignitaries

9:00 – 10:00 **Keynote Speaker – Dr. Joaquin Fuster – University of California, Los Angeles**
 Cognitive Functions of the Prefrontal Cortex

SYMPOSIUM 1: Neuroanatomy & Neuropharmacology – H. Barbas & T. Robbins

10:00 – 10:30 **Dr. Amy Arnsten – Yale School of Medicine**

Molecular Modulation of Prefrontal Cortical Networks Subserving Working Memory

10:30 – 11:00 **REFRESHMENT BREAK**

- 11:00 – 11:30 **Dr. Jonathan Wallis – University of California, Berkeley, Helen Wills Neuroscience Institute**
Functional Properties of Single Neurons in Distinct Prefrontal Areas
- 11:30 – 12:00 **Dr. Michael Petrides – McGill University, Montreal Neurological Institute**
Lateral Prefrontal Cortex: Anatomical Input-Output Relations and Functions
- 12:00 – 12:30 **Dr. Trevor Robbins – University of Cambridge, Behavioural & Clinical Neuroscience Institute**
Chemical Modulation of the Fronto-Executive Tool-Box
- 12:30 – 1:00 **Dr. Helen Barbas – Boston University**
Parallel Prefrontal Pathways and Flexible Behavior
- 1:00 – 1:30 QUESTIONS and PANEL DISCUSSION
- 1:30 – 2:30 LUNCH BREAK (not provided)

SYMPOSIUM 2: Frontal Lobe Development – S. Bunge & A. Toga

- 2:30 – 3:00 **Dr. David Lewis – University of Pittsburgh**
Developmental Trajectories of Prefrontal Cortical Circuits
- 3:00 – 3:30 **Dr. Jay Giedd – National Institute of Mental Health**
Adolescent Frontal Lobes: Under Construction
- 3:30 – 4:00 **Dr. Vicki Anderson – Royal Children’s Hospital, Murdoch Childrens Research Institute**
Children’s Frontal Lobes: No Longer Silent?
- 4:00 – 4:30 REFRESHMENT BREAK
- 4:30 – 5:00 **Dr. Silvia Bunge – University of California, Berkeley, Helen Wills Neuroscience Institute**
Changes in Prefrontal Function over Childhood and Adolescence
- 5:00 – 5:30 **Dr. Bradley Schlaggar – Washington University School of Medicine**
Typical and Atypical Development of a Dual-Network Architecture for Top Down Control
- 5:30 – 6:00 QUESTIONS and PANEL DISCUSSION

TUESDAY, MARCH 23, 2010

SYMPOSIUM 3: Systems/Modeling – E. Miller & M. Watanabe

- 8:00 – 8:30 Refreshments
- 8:30 – 9:00 **Dr. Earl Miller – Massachusetts Institute of Technology**
The Prefrontal Cortex, Concepts, Rules and Cognition
- 9:00 – 9:30 **Dr. Masataka Watanabe – Tokyo Metropolitan Institute for Neuroscience**
Executive and Motivational Control of Behavior and the Primate Prefrontal Cortex
- 9:30 – 10:00 **Dr. Xiao-Jing Wang – Yale University School of Medicine, Kavli Institute for Neuroscience**
Neural Circuit Modeling of Complex Prefrontal Functions
- 10:00 – 10:30 REFRESHMENT BREAK
- 10:30 – 11:00 **Dr. Keiji Tanaka – RIKEN Brain Science Institute**
Functional Differentiation among Monkey Prefrontal Areas in Goal-Directed Behavior
- 11:00 – 11:30 **Dr. Daeyeol Lee – Yale University School of Medicine**
Economic Decision Making and Prefrontal Cortex
- 11:30 – 12:00 QUESTIONS and PANEL DISCUSSION
- 12:00 – 1:30 LUNCH BREAK (not provided)

SYMPOSIUM 4: Cognitive Neuroscience – E. Koehler & J. Duncan

- 1:30 – 2:00 **Dr. Etienne Koehler – Laboratoire de Neurosciences Cognitives**
Motivation, Control and the Prefrontal Executive Function
- 2:00 – 2:30 **Dr. John Duncan – MRC Cognition and Brain Sciences Unit**
Mental Programs and the Frontal Lobe

- 2:30 – 3:00 **Dr. John O’Doherty – Trinity College Dublin, Institute of Neuroscience**
The Role of Ventromedial Prefrontal Cortex in Reward-Related Decision Making:
Insights From Model-Based fMRI
- 3:00 – 3:30 REFRESHMENT BREAK
- 3:30 – 4:00 **Dr. Katsuyuki Sakai – University of Tokyo, Graduate School of Medicine**
Network-Based Mechanism of Prefrontal Control
- 4:00 – 4:30 **Dr. Steve Petersen – Washington University School of Medicine**
Identifying Multiple Control Systems Using fMRI and fcMRI
- 4:30 – 5:00 QUESTIONS and PANEL DISCUSSION
- 5:00 – 6:30 MODERATED POSTER SESSION

WEDNESDAY, MARCH 24, 2010

- 7:30 - 8:15 Registration and Refreshments
- 8:15 - 8:30 Poster Awards

SYMPOSIUM 5: Social Neuroscience - D. Tranel & K. Ochsner

- 8:30 – 9:15 Keynote Speaker - **Dr. Giacomo Rizzolatti - University of Parma**
Understanding the Intentions of Others: A Neural Mechanism
- 9:15 – 9:45 **Dr. Dan Tranel - University of Iowa**
Neuroanatomical Correlates of Social and Moral Reasoning
- 9:45 – 10:15 **Dr. Kevin Ochsner - Columbia University**
The Role of Prefrontal Cortex in Empathy and Emotion Regulation: From
Emotion to Cognition and Beyond
- 10:15 – 10:45 REFRESHMENT BREAK
- 10:45 – 11:15 ***Dr. Jason Mitchell, Harvard University**
The role of medial prefrontal cortex in "social" cognition
*please note change in program.
- 11:15 – 11:45 **Dr. Jennifer Beer - University of Texas at Austin**
A Neural Perspective on Positivity Bias in Social Evaluation
- 11:45 – 12:15 QUESTIONS and PANEL DISCUSSION
- 12:15 – 1:30 LUNCH BREAK (not provided)

SYMPOSIUM 6: Neuropsychology – P. Burgess & J. Grafman

- 1:30 – 2:00 **Dr. Jordan Grafman – National Institute of Neurological Disorders and Stroke**
Cognitive and Neural Bases of Social Belief Systems
- 2:00 – 2:30 **Dr. Paul Burgess – University College London, Institute of Cognitive Neuroscience**
Rostral PFC: Gateway Between Imaginings and Happenings
- 2:30 – 3:00 **Dr. Lesley Fellows – McGill University, Montreal Neurological Institute**
The “why?” of Executive Function: Regional Prefrontal Contributions to Human
Decision Making
- 3:00 – 3:30 REFRESHMENT BREAK
- 3:30 – 4:00 **Dr. Emmanuelle Volle – Institute of Cognitive Neuroscience**
Gateways between patients studies and functional imaging
- 4:00 – 4:30 **Dr. Tim Shallice – SISSA, Trieste; University College London, Institute of Cognitive
Neuroscience**
Fractionating Supervisory Processes
- 4:30 – 5:00 QUESTIONS and PANEL DISCUSSION
- 5:00 – 6:30 MODERATED POSTER SESSION
- 6:30 – 8:30 GALA RECEPTION

THURSDAY, MARCH 25, 2010

- 8:00 – 8:15 Refreshments
- 8:15 – 8:30 Poster Awards

SYMPOSIUM 7: Aging & Prefrontal Function – P. Reuter-Lorenz & C. Grady

- 8:30 – 9:00 **Dr. Ulman Lindenberger – Max Planck Institute for Human Development**
Older Brains Are Not All Alike: Individual Differences in Brain Activation Patterns During Working Memory Performance
- 9:00 – 9:30 **Dr. Monica Fabiani – University of Illinois**
It was the best of times, it was the worst of times: Aging, Individual Differences, and Attention Control
- 9:30 – 10:00 **Dr. Brenda Kirchhoff – University of Missouri**
The Role of Prefrontal Cortex in Age-Related Changes in Strategic Processing
- 10:00 – 10:30 REFRESHMENT BREAK
- 10:30 – 11:00 **Dr. Adam Gazzaley – University of California, San Francisco**
The Aging Brain: Exploring the Crossroads of Memory and Attention
- 11:00 – 11:30 **Dr. Roberto Cabeza – Duke University, Center for Cognitive Neuroscience**
Compensatory Activity in the Aging Brain
- 11:30 – 12:00 QUESTIONS and PANEL DISCUSSION
- 12:00 – 1:30 LUNCH BREAK (not provided)

SYMPOSIUM 8: Psychiatric & Neurological Disorders – B. Miller & C. Carter

- 1:30 – 2:00 **Dr. Cameron Carter – University of California, Davis**
Frontal Cortical Networks, Impaired Cognitive Control and Disorganization in Schizophrenia
- 2:00 – 2:30 **Dr. Helen Mayberg – Emory University School of Medicine**
Tuning Mood Circuits with Deep Brain Stimulation: A New Treatment Strategy for Depression
- 2:30 – 3:00 **Dr. Bruce Miller – University of California, San Francisco, Memory & Aging Center**
Frontotemporal Dementia: Genes, Images and Emotions
- 3:00 – 3:30 REFRESHMENT BREAK
- 3:30 – 4:00 **Dr. Bill Seeley – University of California, San Francisco, Memory & Aging Center**
Selective Neuronal and Network Vulnerability in Frontotemporal Dementia
- 4:00 – 4:30 **Dr. Robert Levenson – University of California Berkeley**
Selfless Cells: Frontotemporal Lobar Degeneration and Emotional Functioning
- 4:30 – 5:00 QUESTIONS and PANEL DISCUSSION
- 5:00 – 6:30 MODERATED POSTER SESSION

FRIDAY, MARCH 26, 2010

- 8:00 – 8:15 Refreshments
- 8:15 – 8:30 Poster Awards

SYMPOSIUM 9: NeuroRehabilitation – M. D'Esposito & I. Robertson

- 8:30 – 9:00 **Dr. Torkel Klingberg – Karolinska Institute**
Development and Plasticity of Neural Basis for Working Memory
- 9:00 – 9:30 **Dr. Lars Nyberg – Umea University**
Training Executive Functions in Adulthood and Aging: Effects of Fronto-Striatal Brain Systems and Dopaminergic Neurotransmission
- 9:30 – 10:00 **Dr. Art Kramer – University of Illinois, Beckman Institute**
Physical Activity and Cognitive Training Effects on Mind and Brain
- 10:00 – 10:30 REFRESHMENT BREAK
- 10:30 – 11:00 **Dr. Mark D'Esposito – University of California, Berkeley**
Remediating Frontal Lobe Dysfunction: From the Bench to the Bedside
- 11:00 – 11:30 **Dr. Ian Robertson – Trinity College Dublin**
Attention and Arousal in Neurorehabilitation
- 11:30 – 12:00 QUESTIONS and PANEL DISCUSSION
- 12:00 – 1:00 **Keynote Speaker – Dr. Robert T. Knight – University of California, Berkeley**
Review of the Meeting and the Future

Please note 5-minute Q&A periods will take place after each presentation.

CALL FOR POSTERS

Posters are invited on research which directly relates to the topic of the conference. Submissions must be made on the prescribed forms and must be prepared in exact accordance with instructions. For additional information please visit the conference web-site at www.rotman-baycrest.on.ca and **click on the conference link and then on conference posters**. Please note – the top two posters of each session will be chosen for an award as determined by the Conference Poster Selection Committee.

To obtain the necessary application forms contact:

E-mail: posters@rotman-baycrest.on.ca
Phone: 416-785-2500 ext.2918
Fax: 416-785-2474
Mail: Rotman Research Institute
Attention: Laura Wong-Ribeiro
3560 Bathurst Street,
Toronto, Ontario M6A 2E1 Canada

Deadline for submissions is November 16, 2009.

All submissions will undergo blind peer review. Reviewer decisions will be announced by Friday, December 11, 2009 in order to meet the registration early-bird deadline.

REGISTRATION INFORMATION

For all information, including fees, please refer to the conference registration form or visit our web-site at www.rotman-baycrest.on.ca and click on the conference link.

On-line registration is available at our secure site provided by Peopleware Inc.
www.peopleware.net/0056

Space is limited, so register early! Registration options will be for the entire week, for first 3 days or last 3 days of the conference.

CANCELLATION POLICY

Refunds will only be made on cancellations received prior to February 28, 2010.

All refunds will be subject to an administrative charge of \$75 (\$50 for student registrations).

CONFERENCE INFORMATION

LOCATION

The conference is being held at the Metro Toronto Convention Centre, 255 Front Street West, in the heart of downtown Toronto.

The centre is easily accessible by public transit (subway, bus or streetcar). Parking is available at the Centre as well as a number of local lots - www.mtcc.ca

FORMAT

There will be three special keynote Speakers. The Conference will consist of five days of formal presentations by leading researchers from around the world. The program is broken down into specific symposia centered on a common theme.

Questions and Panel Discussions - at the end of each session, the speakers will convene into a panel and respond to questions from the audience. As well, 5-minute Q&A periods will take place after each presentation. Speakers will be requested to disclose to the audience any real or apparent conflict(s) of interest that may have a direct bearing on the subject matter of this program.

Poster Sessions - Posters will be available for viewing during the refreshment and lunch breaks. There will be formal Moderated Poster Sessions at the end of the day on:

-Tuesday, March 23, 2010 which will include posters on the topics from Monday & Tuesday

-Wednesday, March 24, 2010

-Thursday, March 25, 2010 which will include posters on the topics from Thursday & Friday.

Please note – the top two posters of each session will be chosen for an award as determined by the Conference Poster Selection Committee.

Lunch Breaks – please note that all registrants are expected to make their own arrangements.

CONFERENCE OBJECTIVES

By the end of the conference, participants will be able to:

- identify the anatomy and pathophysiology of frontal lobe function and dysfunction
- recognize the value of neuropharmacological, neurophysiological and neuroimaging assessment and treatment procedures
- identify the expression of frontal lobe function and dysfunction across maturational stages
- recognize the breadth of frontal lobe functions, from cognitive to emotional
- differentially diagnose frontal lobe dysfunctions in neurological and psychiatric disorders
- critically evaluate the rehabilitation of frontal lobe dysfunctions.

WHO SHOULD ATTEND

The conference will be of interest to researchers, clinicians, academics, postdoctoral fellows, residents, and graduate students in the areas of clinical, cognitive and neuro -psychology, neurology, psychiatry, family medicine, rehabilitation and related disciplines.

CHILD DAY CARE SERVICES

We will be providing a free on-site Day Care Centre operated by Improv Care Services for Children www.improvcare.ca. In order to secure a spot for your child you must pre-register and complete the necessary child care profile forms which will be e-mailed to you.

Please note the following:

SPACE IS VERY LIMITED - CONTACT US BEFORE NOVEMBER 16, 2009

We can accommodate children from the age range of 2 to 12 years old.

Morning and afternoon snacks will be provided for your child; however, there will be no lunch provided. Therefore, you must pick up your child from the centre during the lunch hours. The child care centre will be closed during the lunch hour.

For additional information, please contact Paula Ferreira at Tel # (416) 785-2500, ext. 2363.

Individual child care services for all ages can be also arranged at a cost for individuals through the Improv Care Services for Children. You can contact Dahla MacKenna directly at dahla@improvcare.ca to book your child care. Please allow at least three week's notice in order to plan ahead. Babysitting services can also be arranged via the InterContinental Hotel concierge at (416) 597-1400, ext. 4082.

CONFERENCE HOTEL

Accommodation is being provided at the InterContinental Centre Hotel which is connected to the Convention Centre at 225 Front Street West. Available group room rates are for regular rooms \$209, Junior Suite \$259 and Club InterContinental \$279 (single or double) + all applicable taxes.

Reservations must be made directly with the hotel using the reservation form, or by phone. Please note that the group rate is available until the cut-off date **FEBRUARY 19, 2010** **OR** until the group block is full, whichever occurs first. Please book early to avoid disappointment quoting the event code: "BAY" or "20th Annual Rotman Research Institute Conference".

Tel#: (416) 597-1400 for local reservations or 1-800-422-7969, Fax (416) 597-8106.
Location: 225 Front Street West, Toronto, Ontario M5V 2X3, website: www.ictc.ca

ACCREDITATION AND CONTINUING EDUCATION CREDITS

Information for physicians and psychologists will be posted on our web-site soon.

SPONSORSHIPS

The Conference Planning Committee is pleased to offer these categories of sponsorship for organizations that wish to support the conference.

GOLD SPONSORSHIP: \$15,000

SILVER SPONSORSHIP: \$10,000

BRONZE SPONSORSHIP: \$5,000

If you are interested in becoming a supporter for The Frontal Lobes Conference, please contact Paula Ferreira, at Tel# (416) 785-2500, ext. 2363 or pferreira@baycrest.org

THE PLANNING TEAM

Scientific Program and Conference Co-Chairs:

Robert T. Knight, MD

Donald T. Stuss, PhD

Scientific Program: all chairs of the different symposia.

Conference Planning:

Paula Ferreira, Conference Coordinator, Baycrest

Jean Lazarus, Director, Research Operations, Baycrest

Laura Wong-Ribeiro, Administrative Secretary, Rotman Research Institute, Baycrest.

Thanks to all the other administrative staff and students of Baycrest and the Rotman Research Institute for their assistance.

For further information

Please contact Paula Ferreira at Tel # (416) 785-2500, ext. 2363 or at pferreira@baycrest.org

Conference website: www.rotman-baycrest.on.ca