The University of Ottawa
Institute of Mental Health Research (IMHR)

2004 Research Report
This year’s annual research report is the first Research Report in the short history of the IMHR. It highlights some of the Institute’s research activity in 2004. Two of the main parameters that reflect excellence in research include peer-reviewed publications and the competitive research funding obtained. In 2004, our researchers published over 65 peer-reviewed papers. Peer-reviewed funding from national and international agencies was at an all-time high level with IMHR-affiliated projects bringing in $3,452,540. Likewise, industry sponsored funding was also at an all-time high, totaling approximately $2,069,191. The total research funds attracted by IMHR researchers amounted to $5,521,731 – almost tripling of the funding base in three short years! Congratulations to our researchers.

The new Royal Ottawa Hospital currently under construction will include a research tower that will house the University of Ottawa Institute of Mental Health Research (IMHR). This new facility, expected to open in December of 2006, will completely replace the current research space. This new cutting-edge facility will include “Dry Labs” (Clinical Research Space), “Wet Labs” (for bench top cellular, molecular and genetic research), as well as educational and administrative infrastructure. In future, this facility will also house a Brain Imaging Suite and a small animal vivarium. The new site will enable all of the research units to be located in the same general area (three contiguous floors), and foster basic researchers and clinicians to work collaboratively shoulder-to-shoulder. This facility will also help us to continue to attract some of the best clinician-scientists in the field of mental health research.
Table of Contents

1. Papers Published in Peer-Reviewed Journals .......................... 4

2. Invited Addresses ........................................................... 10

3. Resident Research Day Presentations ................................. 12

4. External Funding .............................................................. 16

5. Awards ................................................................. 22
Papers Published in Peer-Reviewed Journals


Invited Addresses

Research Lectures (First Friday Series):

Childhood-Onset Obsessive Compulsive Disorder (OCD): Current Perspectives in Pathophysiology and Treatment
Martine F. Flament, MD, PhD, FRCPC
Research Director, Youth Program, University of Ottawa Institute of Mental Health Research
February 6, 2004

Children’s Mental Health: What Makes Children Vulnerable, and What Protects Them?
Hans-Christoph Steinhausen, MD, PhD
Professor and Chairman, Department of Child and Adolescent Psychiatry
University of Zurich, Switzerland
March 5, 2004

Serotonin in Anxiety: Guilty or Innocent?
Jakov Shlik, MD, PhD, Clinical Director, Anxiety Disorders Program, ROH
April 2, 2004

Progress in the Treatment of Depression in the Last 45 Years: Fact or Fallacy?
Pierre Blier, MD, PhD, Endowed Chair, Mood Disorders Program, University of Ottawa Institute of Mental Health Research
June 4, 2004

Factors Contributing to Treatment Resistance in Depressive Disorders
Robert P. Kraus, MD, FRCPC
Consultant Psychiatrist, Mood Disorders Program ROH
October 1, 2004

Genes Contributing to Attention-Deficit Hyperactivity Disorder and Relationship to Reading Disabilities
Cathy Lynne Barr, PhD
Senior Scientist, Toronto Western Hospital
November 5, 2004

Human Empathy: A Social Neuroscience View
Jean Decety, MA, MS, PhD
Professor and Head of the Social-Cognitive Neuroscience Institute for Learning and Brain Sciences, University of Washington
December 3, 2004
Public Lecture

From Darkness to Light

The Lieutenant Governor of Ontario, The Hon. James K. Bartleman and Dr. Pierre Blier, Endowed Chair, Mood Disorders Research University of Ottawa Institute of Mental Health Research

February 20, 2004
Resident Research Day Presentations

Research Day – December 10, 2004

Oral Presentations
Dr. Brad Booth – To Sleep, Perchance to Scream: CPAP Treatment for Treatment of Obstructive Sleep Apnea and its Effect on Hostility and Aggression in Sex Offenders
Dr. Denis Lawson – Anger and Psychopathology in a Forensic Psychiatric Population
Dr. Susan J. MacNeil – Towards Informed and Effective Psychiatric Outpatient Care at the Ottawa Hospital: A Proposal for Program Evaluation in the Urgent Consultation Clinics
Dr. Veronica McCarthy – A review of Hyperparathyroidism during Maintenance Lithium Therapy
Dr. Joie Zeglinski – A Simple Screening Test for Sleep Apnea

Clinical Presentations
Dr. A.G. Ahmed – Characteristics of Patients presenting with Dysfunctional Anger
Dr. Luc J. Boulay – Brain Activity in Relation to Emotional Stimuli: An Exploratory fMRI Study in Schizophrenia Patients With and Without Prominent Auditory Hallucinations
Dr. Alan B. Douglass – Multivariate Analysis of Sleep State Misperception
Dr. Susan Farrell – High Risk Behaviour and Coping Style in Homeless Adolescent Males’ and Females’ Adjustment
Ms. Mona Moorhouse – Celiac Disease, Nutrition and Psychiatry
Dr. Paul Roy – Demographic Characteristics and Clinical Outcomes Among First Episode Psychosis Patients: A Prospective Study
Dr. Diana Koszycki – The Stress and Anxiety Clinical Research Unit (SACRU): Overview of Research on Risk Factors for Panic Disorder
Dr. Paul Grof – Bipolar Disorders – misdiagnosed, mistreated and mostly misunderstood entity

Academic Presentation
Dr. Patrice Boyer – The Role of the Hippocampal Formation in the Pathophysiology of Schizophrenia: New Evidences

Poster Presentations
Sex Hormones and Aggression in 100 Convicted Sex Offenders
A.G. Ahmed, MD; Curry S, BA (Hon); Fedoroff P, MD; Bradford J, MD; Dunford J, BA; Litkey J, Criminology Student
The Brockville Risk Checklist; a Pilot Project
A.G. Ahmed M.D. and K. Laprade M.A. (Forensic Program, Brockville)

Altered Layer Distribution of NR2A and NR2B Subunits in the Hippocampal CA1 Region in Mice in Which the Expression of Glycine Transporter Type 1 is Reduced
Jonathan Boyd, PhD student, marzia Martina, Ph.D., Richard Bergeron, M.D., Ph.D.

Adaptive Changes in 5-HT1A and 5-HT2 Receptors in Orbitofrontal Cortex Following Long-Term Administration with Paroxetine
Mostafa El Mansar, PhD, Pierre Blier, MD, PhD

Examining Clinical Complimentarity: A Review of CTO Patients with and without ACTT Involvement
Alison Freeland, MD, FRCPC, Anne Marie O’Brien, MSW, RSW, Susan Farrell, Ph.D., C.Psych.

E-5826, A Novel Stigma Receptor Agonist, Modulates Firing Properties in CA1 Hippocampal Pyramidal Cells
Samantha Halman, MD student, Marie-Eve Beauchemin Turcotte, MSc student, marzia Martina, Ph.D., Xavier Guitar, Ph.D., Richard Bergeron, M.D., Ph.D.

Diurnal Cortisol Changes Associated with Traumatic Experiences
Owen Kelly, Ph.D., Kathy Michaud, M.Sc, Victoria Thorne, M.Sc, Kim Matheson, Ph.D., Hymie Anisman, Ph.D.

Neurotic Introversion and Extraversion: Influence on Severity of Illness and Disability in Patients with Panic Disorder
Diana Koszycki, Ph.D., C. Psych., Ewelina Zaremba, BSc, Murray Weeks, BA, Emma Eaton, Jacques Bradwejn, M.D., FRCPC

Frequency and Correlates of Eating and Weight Disorders in Adolescents: a France-US Comparison
Michèle La Roche, PhD Candidate, Clin. Psych. University of Ottawa, Denise Baillot, MA, Paris ; Derek Auger, University of Ottawa ; Claudia Furino, BA, IMHR ; Hien Nguyen, BSc, IMHR ; Annick Buchholz, PhD, CHEO ; Gary Goldfield, PhD, CHEO ; Katherine Henderson, PhD, CHEO ; Martine Flament, MD, PhD, IMHR

From Proposal to Program : The First Two Years of a Dual Diagnosis Consultation Outreach Team in Eastern Ontario
Donna Lougheed, MD, FRCPC, Susan Farrell, Ph.D., C. Psych.

Developmental Changes in the Glutamatergic Neurotransmission of Hippocampal CA1 Pyramidal Cells in Mice with Reduced Glycine Transporter Type 1 Expression
ChunLei Ma, M.D., Marzia Martina, Ph.D., Jonathan Boyd, PhD., Richard Bergeron, M.D., Ph.D.
Victimization and Canadian Homeless Youth
Sue-Ann MacDonal, MSW, Susan Farrell, PhD, C. Psych.

Effects of Nicotine and Ketamine on Self-Reported Arousal, Mood and Physical Symptoms
Judy McIntosh, Ph.D., Anne Millar, B.Sc., Derek Fisher, B.Sc., Crystal Blais, B.A., Vadim Illivtisky, M.D., Ed Horn, M.D., Verner Knott, Ph.D., C. Psych.

Dysregulation in the Suicide Brain: mRNA Expression of Corticotropin Releasing Hormone Receptors and GABA Receptor Subunits in Frontal Cortical Brain Regions
Zul Merali, Ph.D., Lishen Du, Ph.D., Pavel Hrdina, Ph.D., Miklos Palkovits, Ph.D., Gabor Faludi, Ph.D., Michael O. Poulter, Ph.D., Hymie Anisman, Ph.D.

Olanzapine in Children and Adolescents with Asperger’s Disorder
Robert Milin, MD, Jovan Simeon, MD, Sue Batth, MD, Smita Thatte, MD

Evidence Based Primary Prevention Programs for Promoting Mental Health in Children and Adolescents: A Systematic Worldwide Review
Hien Nguyen, BSc, IMHR, Claudia Furino, BA, IMHR, Cathy Cuzner, ROH, Howard Schachter, PhD, CHEO, Martine Flament, MD, PhD, IMHR

Community Treatment Orders: Profile of a Canadian Experience (update)
Ann-Marie O’Brien, MSW, RSW, Susan Farrell, PhD, C. Psych

A Clinician Scientist Model Implementation in the ADHD Team
Philippe Robaey, MD, PhD, Sally Kuehn, PhD, C. Psych, Anne Kerridge, MSW, RSW, Catharine Robertson, MD, FRCPC, Marina Lifshin, MSc, Della McCully, SAS II, Danielle Bogan, CYC, William James, MD

Pilot Psychiatry/Endocrinology Clinic at the Royal Ottawa Hospital
Sharman Robertson, MD

Phosphorylation-Independent Desensitization of Dopamine D1 Receptors by Specific Isoforms of G Protein-Coupled Receptor Kinases
Keyvan Sedaghat, BSc, Mario Tiberi, PhD

Attitudinal Changes Regarding Mental Illness Following the Psychiatric Clerkship
Chrissoula Stavrakaki, MD, Clare Gray, MD, Alison Freeland, MD, Cathy Braidek, MD, Paula Clouter, MA

One Year Follow-Up of Inpatient Children Discharged into Day Treatment or the Community
Smita Thatte, MD, S. Kotsopoulos, MD, S. Walker, MA, H. Silva, MBBS
Combining Antidepressants to Improve Treatment Outcome in Depression
P. Tremblay, MD, H. Ward, MD, C. Hébert, RN, S. Ohara, RN, R. Bergeron, MD, PhD, P. Blier, MD, PhD, Department of Psychiatry, University of Ottawa and University of Florida

Psychiatric Nurse Practitioner: Profile of a Unique Role to Provide Health Care Services to the Homeless Population
Beth Wood, RN, MScN, ACNP (Psychiatry), Susan Farrell, Ph.D., C. Psych
External Funding: Peer-Reviewed & Industry-Sponsored

The IMHR has experienced steadily increased competitive (peer-reviewed) funding over the past four years, from almost $1.4 million dollars in 2001 to over $3.4 million dollars in 2004, and rising. Likewise, industry-sponsored research at the IMHR has also increased substantially from approximately $650,000 in 2001 to well over $2.0 million dollars in 2004. On the whole, the research funding base has almost tripled in this short period (see Table and Figure, below).

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry</th>
<th>Peer-Reviewed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>653205</td>
<td>1396908</td>
<td>2050113</td>
</tr>
<tr>
<td>2002</td>
<td>1150924</td>
<td>1725955</td>
<td>2876879</td>
</tr>
<tr>
<td>2003</td>
<td>1137357</td>
<td>2712408</td>
<td>3849765</td>
</tr>
<tr>
<td>2004</td>
<td>2069191</td>
<td>3452540</td>
<td>5521731</td>
</tr>
</tbody>
</table>

IMHR Funding 2001-2004

![Graph showing IMHR Funding 2001-2004]
Grants and contracts awarded in 2004 include the following:

Note:  
CIHR:  Canadian Institutes of Health Research  
UMRF:  University Medical Research Fund  
SSHRC:  Social Sciences and Humanities Research Council of Canada  
NSERC:  Natural Sciences and Engineering Research Council of Canada  
CRC:  Canadian Research Chairs  
OIT:  Ontario Innovation Trust  
CFI:  Canadian Foundation for Innovation  
OMHF:  Ontario Mental Health Foundation  
CAMH:  Centre for Addiction and Mental Health

Project Title:  Behavioral and neurochemical responses to acute, subchronic, and chronic intermittent stressors in relation to depression: Moderation by genetic and early life events  
PI:  Anisman, H.  
Co-Investigators:  Merali, Z.; Poulter, M.  
Funding Agency:  CIHR  
Funding Amount:  $695,950  
Duration:  2004-09

Project Title:  Identifying the facilitators and obstacles to overcoming homelessness  
PI:  Aubry, T.  
Co-Investigators:  Farrell, S.  
Funding Agency:  SSHRC  
Funding Amount:  $100,000  
Duration:  2004-06

Project Title:  Treatment-resistant depression and 5HT1A receptor gene polymorphism  
PI:  Bisserbe, J-C  
Co-Investigators:  Kraus, R.; Albert, P.  
Funding Agency:  UMRF  
Funding Amount:  $69,998  
Duration:  2004-06

Project Title:  Improving the treatment of major depression: The bench to the bedside approach  
PI:  Blier, P.  
Co-Investigators:  n/a  
Funding Agency:  Canada Research Chairs  
Funding Amount:  $600,000  
Duration:  2004-007

Project Title:  Elucidation and optimization of the mechanisms of action of antidepressant treatments using electrophysiological recording techniques in animals and application of the results to the clinical setting  
PI:  Blier, P.  
Co-Investigators:  n/a  
Funding Agency:  CFI  
Funding Amount:  $124,812  
Duration:  2004-05
Project Title: Elucidation and optimization of the mechanisms of action of antidepressant treatments using electrophysiological recording techniques in animals and application of the results to the clinical setting
PI: Blier, P.
Co-Investigators: n/a
Funding Agency: OIT
Funding Amount: $124,812
Duration: 2004-05

Project Title: Risperidone augmentation of SSRIs in depression: A noradrenergic action?
PI: Blier, P.
Co-Investigators: n/a
Funding Agency: Janssen Pharma
Funding Amount: $175,500
Duration: 2004-05

Project Title: Effectiveness of the dual serotonin norepinephrine reuptake inhibitor venlafaxine in depressed patients
PI: Blier, P.
Co-Investigators: Bisserbe, J-C; Kraus, R.
Funding Agency: Wyeth Pharma
Funding Amount: $540,401
Duration: 2004-05

Project Title: Assessment of augmentation strategies to optimize the therapeutic response to mirtazapine in major depression
PI: Blier, P.
Co-Investigators: Bergeron, R.; Bisserbe, J-C; Kraus, R.
Funding Agency: Organon Pharma
Funding Amount: $164,600
Duration: 2004-05

Project Title: Effect of sustained administration of escitalopram on the 5-HT system in heterozygous mice for the 5-HT transporter, SCT-TX-15000
PI: Blier, P.
Co-Investigators: n/a
Funding Agency: Forest Lab, Inc
Funding Amount: $166,251
Duration: 2004-05

Project Title: Electrophysiological exploration of the antidepressant potential of Wf-516 on the serotonin and Norepinephrine systems
PI: Blier, P.
Co-Investigators: n/a
Funding Agency: Mitsubishi Pharma
Funding Amount: $84,375
Duration: 2004-2005

Project Title: Randomized trial on the efficacy of meditation-based stress reduction program and cognitive behavior therapy in the treatment of generalized social anxiety disorder: A pilot study.
PI: Bradwejn, J.
Co-Investigators: Koszycki, D.; Shlik, J.
Funding Agency: UMRF
Funding Amount: $34,363
Duration: 2004-05
Project Title: REM sleep density and HPA dysregulation in bipolar disorder  
PI: Douglass, A.  
Co-Investigators: Grof, P.  
Funding Agency: UMRF  
Funding Amount: $34,100  
Duration: 2004-05

Project Title: The evolution of bipolar disorder in youths at risk: A prospective longitudinal study of the clinical course of illness and associated changes in neurocognitive functioning and gene expression among the offspring of well-characterized bipolar parents.  
PI: Duffy, A.  
Co-Investigators: Kutcher, S.; Grof, P.; MacQueen, G.; Alda, M.; Young, T.  
Funding Agency: CIHR  
Funding Amount: $510,000  
Duration: 2004-09

Project Title: A prospective study of neurocognitive functioning among adolescents at high risk for bipolar disorder  
PI: Duffy, A.  
Co-Investigators: Grof, P.; Milin. R.; Alda, M.; MacQueen, G.  
Funding Agency: OMHF  
Funding Amount: $149,560  
Duration: 2004-06

Project Title: Quetiapine maintenance treatment in early onset bipolar spectrum disorders: An open prospective longitudinal study of the effectiveness of quetiapine monotherapy in preventing relapse and minimizing neurocognitive dysfunction among adolescents manifesting bipolar spectrum disorders.  
PI: Duffy, A.  
Co-Investigators: Milin, R.; Grof, P.  
Funding Agency: AstraZeneca  
Funding Amount: $1,039,500  
Duration: 2004-07

Project Title: Validation of risk assessment tools for individuals with problematic sexual behaviour and developmental delay.  
PI: 2004-07  
Co-Investigators: Curry, S.; Richards, D.; Griffiths, D.; Bradford, J.  
Funding Agency: CIHR  
Funding Amount: $100,000  
Duration: 2004-05

Project Title: Human rights and health self-advocacy training for people who have intellectual disabilities: A multisystemic, interdisciplinary approach.  
PI: Feldman, M.  
Co-Investigators: Owen, F.; Griffiths, D.; Tardif, C.; Tarulli, D.; McQueen-Fuentes, G.; Sales, C.A.; Fedoroff, P.  
Funding Agency: CIHR  
Funding Amount: $292,216  
Duration: 2004-07
Project Title: Correlates of eating and weight disorders in a community-based adolescent population: Investigating an integrative biopsychosocial model.
PI: Flament, M.
Co-Investigators: Henderson, K.A.; Buchholz, A.; Goldfield, G.
Funding Agency: UMRF
Funding Amount: $34,777
Duration: 2004-05

Project Title: A multicentre, randomized controlled trial of negative ion generation versus light-emitting diode phototherapy for seasonal affective disorder.
PI: Horn, E.
Co-Investigators: Knott, V.; Telner, J.; Moorhouse, M.; Bhatla, R.
Funding Agency: Litebook Co
Funding Amount: $83,687
Duration: 2004-05

Project Title: Children at risk for panic disorder
PI: Koszycki, D.
Co-Investigators: Bradwejn, J.; Flament, M.
Funding Agency: UMRF
Funding Amount: $33,793
Duration: 2004-05

Project Title: Children at risk for panic disorder
PI: Koszycki, D.
Co-Investigators: Bradwejn, J.; Flament, M.
Funding Agency: CIHR
Funding Amount: $214,509
Duration: 2004-07

Project Title: An open-label study of the efficacy and safety of Risperdal long-acting microspheres (Risperdal ConstaTM) administered once monthly in adults with schizophrenia or schizoaffective disorder. (extension phase)
PI: Labelle, A.
Co-Investigators: Bourget, D.; Habib, R.; Tessier, P.
Funding Agency: Janssen-Ortho
Funding Amount: $52,000
Duration: 2004-06

Project Title: Father-adolescent interactional patterns associated with adolescent depression: An examination of attachment and communication within the dyad.
PI: Manion, I.
Co-Investigators: Demidenko, N.; Lee, C.; Duffy, A.
Funding Agency: OMHF
Funding Amount: $138,220
Duration: 2004-06

Project Title: The cumulative impacts of everyday discrimination: Compromised neuroendocrine functioning and vulnerability to stress-related psychopathology
PI: Matheson, K.
Co-Investigators: Anisman, H.; Foster, M.
Funding Agency: CIHR
Funding Amount: $325,542
Duration: 2004-07
Project Title: Peptidergic mediation/modulation of stress response  
PI: Merali, Z.  
Co-Investigators: n/a  
Funding Agency: NSERC  
Funding Amount: $355,250  
Duration: 2004-09

Project Title: Motivational enhancement and substance abuse prevention: Evaluating the First Contact-Revised Program for co-morbid youth.  
PI: Milin, R.  
Co-Investigators: Skilling, T.; Wekerle, C.; Goldstein, A.  
Funding Agency: UMRF  
Funding Amount: $23,250  
Duration: 2004-05

Project Title: Junior Faculty Research Award  
PI: Milin, R.  
Co-Investigators: n/a  
Funding Agency: UMRF  
Funding Amount: $30,000  
Duration: 2004-06

Project Title: L’évaluation des préférences sexuelles à l’aide de la vidéo-oculographie en immersion virtuelle auprès d’un échantillon de sujets agresseurs sexuels d’enfants et d’adolescents.  
PI: Renaud, P.  
Co-Investigators: Proulx, J.; Rouleau, J.; Bradford, J.; Fedoroff, P.  
Funding Agency: CIHR  
Funding Amount: $250,623  
Duration: 2004-08

Project Title: Clinical and biogenetic characteristics of treatment response to SSRI in patients with anxiety disorders  
PI: Shlik, J.  
Funding Agency: UMRF  
Funding Amount: $29,990  
Duration: 2004-05

Project Title: Clinical and biogenetic characteristics of treatment response to SSRI in patients with anxiety disorders  
PI: Skilling, T.  
Co-Investigators: Milin, R.; Wekerle, C.; Goldstein, A.  
Funding Agency: CAMH  
Funding Amount: $15,000  
Duration: 2004-06
Awards

The IMHR is very pleased that Dr. Pierre Blier, Director of the Mood Disorders Research Unit, was the recipient of a Tier 1 Canadian Research Chair, in 2004. He is one of a handful of researchers to hold this prestigious award in the field of Mental Health Research. The Canada Research Chairs Program stands at the centre of a national strategy to make Canada one of the world's top five countries for research and development. **Tier 1 Chairs**, tenable for seven years and renewable, are for outstanding researchers acknowledged by their peers as world leaders in their fields.

Chair-holders advance the frontiers of knowledge in their fields, not only through their own work, but also by teaching and supervising students and coordinating the work of other researchers. By helping Canadian universities and their affiliated research institutes and hospitals become world-class centers of research and research training, the Chairs Program contributes to enhancing Canada's competitiveness in the global, knowledge-based economy, improving Canadians' health, and enriching our social and cultural life.

The Chairs Program also seeks to strengthen research excellence in Canada and increase Canada's research capacity by attracting and retaining the best researchers; improve the training of highly qualified personnel through research; improve universities' capacity to generate and apply new knowledge; promote the best possible use of research resources through strategic institutional planning, and through collaboration among institutions and between sectors.

Dr. Blier was also awarded a prestigious Canadian Foundation for Innovation (CFI) grant for the establishment of his laboratory. This funding was in the amount of $124,812, and was matched by a similar grant from the Ontario Innovation Trust (OIT) for total funding of $249,624.