



# Department of Psychiatry Newsletter



September 15, 2004 Volume 3 Issue 3

## Update from Department Head **Dr. Athanasios Zis**

### Results of CIHR operating grants competition (June 2004 decisions)

Dr. Ann Marie Craig (Basic Neuroscience) was awarded over \$800,000 to study "Molecular dynamics at the postsynaptic density" for a five year period beginning June 1, 2005, at which point Dr. Craig will be joining the Department as Professor and Canada Research Chair Tier 1.

Dr. Anthony G. Phillips (Basic Neuroscience) received \$530,000 over five years to study "Dopamine and glutamate interactions in relapse to psychostimulant self-administration." Dr. Phillips (Basic Neuroscience) in association with Dr. Lee S. Chong (Neurology) also received \$350,000 over three years to pursue studies into the neural mechanisms underlying response changes to levodopa in Parkinson's Disease.

Dr. Lynn Raymond (Basic Neuroscience) was the recipient of \$540,000 grant over five years to continue her studies on the regulation of NMDA receptors and excitotoxicity.

### Other Awards and Distinctions

Dr. William Honer (Clinical Neuroscience) was appointed Chair, "Behavioural Sciences-B" Committee, CIHR for a three year term beginning July 1, 2004.

Dr. John Ogrodniczuk (Behavioural Science) was honoured with the 2004 Outstanding Early Career Achievement Award from the International Society for Psychotherapy research which was presented this summer at the annual meeting of the Society in Rome.

Dr. Anthony G. Phillips received \$200,000 over two years from the Canadian Psychiatric Foundation (co-funded by AstraZeneca Canada/CIHR RxD/INMHA and CPRF) for a project entitled "Biochemical and Behavioural Characterization of an Animal Model of Schizophrenia Induced by Sensitization".

Dr. Pat McGeer was presented the Henry Wisniewski Award by the Alzheimer's Association at the International Conference on Alzheimer's Disease and Related Disorders held this year in Philadelphia. Dr. McGeer has a long and illustrious career. He began to focus on Alzheimer disease in the early 1980s. He is best known in this domain for developing and testing the hypothesis that inflammation might be contributing to disease progression and that anti-inflammatory agents would have a preventative effect.

### Dr. Adele Diamond, Canada Research Tier 1

Dr. Adele Diamond is joining this fall the Department of Psychiatry as Canada Research Chair, Tier 1 and as Professor, Divisions of Child Psychiatry and Basic Neuroscience. She will hold appointments at the B.C. Research Institute for Children's & Women's Health, Children's & Women's Hospital and the Brain Research Centre. She comes to us from the Shriver Centre (MA, USA) where she served as Director, Centre for Developmental Cognitive Neuroscience and Professor of Psychiatry at the University of Massachusetts. Her recruitment represents a significant achievement for UBC and the Department. To quote one of her external reference letters, "...Dr. Diamond is one of the leading researchers in developmental cognitive science and possibly the best known and best regarded investigator in that field. For the last 20 years she has investigated the development of the prefrontal cortex (PFC) and its contribution to cognition from infancy to childhood, and more recently, into old age. She has been instrumental in distinguishing between types of PFC functions in development, in identifying the regions of PFC cortex that mediate the different types, identifying the neurotransmitters that are implicated, and applying this knowledge to diagnosis and treatment of children with developmental disorders such as PKU, ADHD, and autism. Her tests and theories have been influential in shaping the field of developmental cognitive neuroscience. Indeed, some of her tests, either in original or modified form, are included in the standard test battery, and her ideas are incorporated into most theories of cognitive development".

### Welcome Back

Dr. Peter Reiner will be resuming his role in the Department as Professor (Basic Neuroscience) after a five year leave of absence during which time he was the CEO of Active Pass Pharmaceuticals, a company he founded. He will continue as Chairman of the Board of this company while resuming his regular academic duties and activities.

### Significant New Research Findings

See page 3

### Appointments and Promotions

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## Event Calendar

### 'Frames of Mind'

A Mental Health film series held the 3rd Thursday of each month at the *Pacific Cinémathèque* 7:30 P.M.

1131 Howe Street, Vancouver  
Tickets \$7.50/6.00 at the door or on-line at [www.cinémathèque.bc.ca](http://www.cinémathèque.bc.ca)

### September 16, 2004

"I Shot Andy Warhol"

Director: Mary Harron  
Discussant: Dr. Oliver Robinow

### October 21, 2004

"Le Huitieme Jour" (aka "The Eighth Day")

Director: Jaco Van Dormael  
Discussant: Dr. Robin Friedlander

### November 18, 2004

"Empathy"

Director: Amie Siegel  
Discussant: Dr. Endre Koritar

### Teaching Hospital /Division/Program Education Rounds

Information/details available at :  
[www.psychiatry.ubc.ca/cme/rounds/](http://www.psychiatry.ubc.ca/cme/rounds/)

### Other Activities

### November 4, 2004

Clinical Faculty Meeting & Appreciation  
Dinner 6:00—9:00 p.m.  
University Golf Club  
Info: 604 822-7314

### December 15, 2004

Psychiatry Department Holiday Reception  
& Dinner 6:30—10:00 p.m.  
Cecil Green Park House  
Info: 604 822-7314

Editor - Dr. Harry Karlinsky

Managing Editor - Michelle Purcell

This newsletter is published quarterly as a vehicle to promote communication within the UBC Dept. of Psychiatry as well as with its wider community. Feedback and suggestions for invited submissions can be forwarded to the Editor at [harryk@telus.net](mailto:harryk@telus.net).

**MOOD DISORDERS CENTRE | Dr. Raymond Lam**

The Mood Disorders Centre, a centre of excellence at UBC Hospital and part of the Vancouver Coastal Health Research Institute (VCHRI) and UBC Brain Research Centre, was officially opened on May 25, 2004 by Susan Brice, Minister of State for Mental Health and Addiction Services.

Under the directorship of Dr. Raymond Lam, professor of psychiatry and a key investigator with VCHRI, the Mood Disorders Centre has received approximately \$4.5 million in new research funding from community support. In addition, the centre was recently awarded a chair in depression research from the BC Leading Edge Endowment Fund, one of only 7 provincial chairs announced in the highly-competitive inaugural competition. The Mood Disorders Centre has two major programs: The BC Credit Union Centre for Excellence in Depression Research and Care, and the Bipolar Disorders Program. Supporting both is an active clinical trials program that investigates new medication treatments for people with depression and bipolar disorder. The Mood Disorders Centre aims to collaborate widely with other research groups and to help coordinate mood disorders research and educational activities across the province.

**The BC Credit Union Centre of Excellence**

**in Depression Research and Care**

The depression centre was named for a gift of more than \$1 million to VGH and UBC Hospital Foundation from the BC Credit Union. The gift will support matching funds for the \$2.25 million provincial contribution to the BC Leading Edge Chair for Depression Research. An active search is underway for an internationally-recognized clinician-scientist to fill the chair.

Key clinical research programs include ReChORD (Relief of Chronic or Resistant Depression) that uses an integrated and comprehensive approach for the treatment of chronic depression, including expert medication management, interpersonal group psychotherapy, and occupational therapy. With funding from the VGH and UBC Hospital Foundation, the effectiveness of Re-ChORD is being evaluated in a pragmatic clinical trial in comparison to usual care or medication management only.

Other research programs are actively in-

vestigating seasonal affective disorder, biological and therapeutic effects of light, workplace depression, and electroconvulsive therapy.

**Bipolar Disorder Program**

The Bipolar Disorder Program is led by Dr. Lakshmi Yatham, a world leader in the field of bipolar research and treatment. A key element is a first-episode mania treatment program that is the most comprehensive in the world. Called Systematic Treatment Optimization Program in Early Mania (STOP-EM), it is made possible through unrestricted funding of \$1.5 million from pharmaceutical company AstraZeneca Canada Inc.

STOP-EM will provide early and accurate identification and diagnosis, using comprehensive clinical assessment as well as neuropsychology and neuroimaging approaches. Treatment will include pharmacological and psychosocial therapies. "Patients, especially young adults, with bipolar disorder often suffer for years without correct diagnosis or treatment. We want to increase chances of improvement and recovery by diagnosing and treating individuals soon after their first manic episode," says UBC professor of psychiatry Dr. Yatham. Patients aged 14 and older with a current or recent first manic episode can be referred to the program for assessment, treatment and optional participation in the research component of STOP-EM. Researchers will assess social and intellectual functioning, brain structure and chemistry and provide genetic testing. The program will liaise closely with the Early Psychosis Intervention Program. Other research programs include quality of life, cognitive behavioural therapy and psychoeducation, and coordination of a Canadian consortium for the study of bipolar disorder.

*This article was adapted, with permission, from the news release written by Lisa Carver for the Vancouver Coastal Health Research Institute, May 25, 2004.*  
[www.vchri.ca/s/News\\_Releases.asp](http://www.vchri.ca/s/News_Releases.asp)

**To refer patients to chronic depression or first-episode mania programs, please call 604-822-7512 or 604- 822-7325.**

**UNsung HERO AWARDS**

*Editor's note: At the Department of Psychiatry 2004 Annual Clinical Day, the Planning Committee acknowledged two Unsung Heroes selected from the attendees' nominations. The categories for the two awards were:*

- 1) *a community mental health professional who quietly serves his or her community and merits long overdue recognition*
- 2) *an unsung hero from the non-professional community based with extraordinary volunteer service and advocacy in the field of Mental Health.*

**Professional Category**

Dr. Gangadharan Nair (Ganga Nair) was born and raised in Kerala, India. He has his basic medical degree (MBBS) from the University of Kerala. He did his rotating internship in Detroit, Michigan and had his psychiatric training at the University of Michigan and the University of Saskatchewan. He moved to B.C. in 1971 and initially worked at Riverview Hospital. He started his community psychiatric practice in Langley in 1973. He was very much involved and instrumental in starting the Langley Mental Health Centre and the Psychiatric Inpatient Unit at Langley Hospital. He is now the clinical director of Mental Services in Langley. In addition to his FRCP(C), he is also the diplomat of the American board of Psychiatry and Neurology, American Board of Geriatric Psychiatry and the American Board of Addiction Psychiatry. He is involved with the Langley Lions Club and also is a Director of the Langley Stepping Stone Rehabilitation Society. He is married and has two children and one grand daughter.

**Non-professional Category**

Karen O'Shannacery has been a housing advocate for the homeless and disenfranchised for 30+ years in the Downtown Eastside. She is the Executive Director and a founding member of Lookout Emergency Aid Society. Prior to this she worked at a youth hostel and as a crisis centre volunteer. Karen has been extensively involved with the development of a number of special needs resources/services particularly for the seriously mentally ill and others who live with isolating social challenges. Her work includes spearheading the creation of a regional Cold/Wet Weather Strategy and co-founding a provincial shelter network. Karen is dedicated to creating long term solutions for homelessness: affordable housing with adequate support services for those who are most marginalized. Her newest involvement is as a member of the recently formed Regional Committee on Homelessness.



**BREAKING RESEARCH NEWS****Dr. Brian A. MacVicar and Sean J. Mulligan**

*Editor's Note: Recently, Dr. Brian MacVicar (Basic Neuroscience) and his graduate student Sean Mulligan helped clarify the previously unknown role of astrocytes in the regulation of cerebral blood flow. Dr. MacVicar was invited to contribute this article in view of the importance of their findings.*

### **Regulation of cerebral blood vessels by astrocytes: A novel mechanism to modify cerebral blood flow.**

In classic experiments over a hundred years ago Sherrington first showed that cerebral blood flow increased with neural activity. Today changes in cerebral blood flow are imaged as a mechanism to delineate regions of the brain that are activated during complex behaviors and cortical processing. Decreased cerebral blood flow is indicative of some pathological states. For example schizophrenia is associated with decreased blood flow in the frontal cortex. Cerebral blood flow is also modified by neurotransmitters, such as norepinephrine, dopamine and serotonin that are released by afferent fibers and are known to modify astrocyte calcium signaling. However the roles of astrocytes in the regulation of cerebral blood flow was previously unknown.

Astrocytes have long been recognized to be important in the maintenance of normal brain function however clear evidence for their roles has been difficult to obtain. In a recent paper, Mulligan and MacVicar (Nature (2004) 230:195) used a new optical technique, multiphoton laser scanning microscopy coupled with two-photon calcium uncaging, to show how astrocytes control cerebral blood flow.

A major difficulty in understanding the roles for astrocytes was the difficulty in selectively stimulating astrocytes. Neurons are surrounded by astrocytes which outnumber neurons by 10 to one. Astrocytes have processes that contact and surround all the blood vessels in the brain. Experimental protocols that involve either electrical activation or transmitter application stimulate both neurons and the surrounding astrocytes. For this reason Mulli-

gan and MacVicar developed two photon uncaging in combination with two photon laser scanning microscopy to selectively activate calcium signals in astrocytes. In two photon experiments a high energy infrared laser beam is used instead of low-energy visible spectrum lasers. The laser beam is directed at single identified astrocytes in brain slices to cause the release of calcium from a photosensitive compound called caged calcium. This is called two photon uncaging. The changes in calcium are monitored using two photon laser scanning microscopy to observe calcium sensitive dye signals. This new technique also uses a high-energy infrared laser to provide remarkably clear images within brain tissue. Using these techniques it is possible to selectively activate astrocytes in brain slices. Mulligan and MacVicar asked the question: what happens to cerebral blood vessels when calcium increases in the adjacent astrocytes? The answer was surprising. When calcium increased in the astrocyte process that contacted the blood vessel Mulligan and MacVicar observed that the blood vessel constricted. The magnitude and extent of the constriction was dependent upon both the magnitude of the calcium signal in astrocytes and the number of the processes that participated in the calcium signal. They also observed that norepinephrine induced a calcium signal in astrocytes that preceded the constriction of cerebral blood vessels. This constriction induced by norepinephrine was blocked by preventing the increase in calcium in astrocytes with a calcium chelator. The mechanism by which astrocytes induced vascular constrictions involves multiple enzymatic pathways. The calcium increase in astrocytes activates phospholipase A2 which increases arachidonic acid formation. Arachidonic acid is membrane permeable and diffuses into the adjacent vascular smooth muscle cells where it is converted into 20-hete a potent vasoconstrictor.

Therefore calcium increases in astrocytes causes vasoconstriction which will potentially reduce cerebral blood flow. This is a previously unknown mechanism for control of the

cerebrovasculature and the regulation of cerebral blood flow. Mulligan and MacVicar propose that the autoregulation of cerebral blood flow will be modified by astrocytes. Autoregulation is the mechanism for maintaining constant cerebral blood flow over a wide range of blood pressures. Norepinephrine is known to increase the pressure range for autoregulation. The vasoconstriction caused by astrocyte calcium signals will be important in modification to all of autoregulation by norepinephrine. Astrocyte calcium signals are also evoked by stroke and the spreading depression associated with migraines. Calcium increases in astrocytes may contribute to the disruptions of the cerebral vasculature observed during ischemia and migraines. Astrocyte calcium signaling offers a novel therapeutic target for treatment of cerebrovasculature disorders.

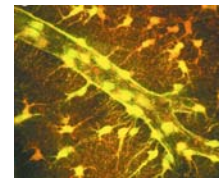


Figure 1. Two-photon laser scanning microscopic image of live astrocyte surrounding a blood vessel in a brain slice. The astrocytes were stained with a calcium indicator dye, rhod-2 and were expressing green fluorescent protein for identification. The processes of astrocytes called endfeet contact and surround a small arteriole.

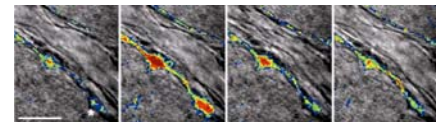


Figure 2. Increased calcium in astrocyte endfeet cause a subsequent constriction of an adjacent blood vessel. The four panels show the progressive increase of calcium in astrocytes (colour coded with blue to red indicating increasing calcium). Following the peak of calcium in the astrocyte the adjacent small arteriole constricts then relaxes.

## **UBC Department of Psychiatry 2004 Appointments and Promotions**

### **Promotions:**

#### **Professor:**

Dr. Timothy Murphy, Basic Neuroscience  
Dr. Lynn Raymond, Basic Neuroscience

#### **Clinical Professor:**

Dr. Emlene Murphy, Forensic Psychiatry

#### **Clinical Associate Professor:**

Dr. Peter Chan, Geriatric Psychiatry  
Dr. Arvind Kang, Geriatric Psychiatry  
Dr. Edwin Tam, Clinical Neuroscience

#### **Clinical Assistant Professor:**

Dr. Leon Berzen, Clinical Neuroscience  
Dr. Craig Emes, Adult Psychiatry  
Dr. Maria Geiser, Geriatric Psychiatry  
Dr. David Hutnyk, Adult Psychiatry  
Dr. Shao Hua Lu, Adult Psychiatry  
Dr. Deirdre Ryan, Adult Psychiatry  
Dr. Nathan Schaffer, Adult Psychiatry  
Dr. Maureen Whittal, Behavioural Science

#### **New Faculty Appointments:**

#### **Honorary Clinical Professor:**

Dr. Paul Termansen, Behavioural Science

#### **Clinical Assistant Professor:**

Dr. Arthur Sullivan, Behavioural Science

#### **Clinical Instructor:**

Dr. Raymond Au, Adult Psychiatry  
Dr. Jehannine Austin, Clinical Neuroscience  
Dr. Ellen Becker, Child & Adolescent Psychiatry  
Dr. David Bond, Adult Psychiatry  
Dr. Tricia Bowering, Adult Psychiatry  
Dr. Balaraju Katta, Adult Psychiatry  
Dr. Anson Koo, Adult Psychiatry  
Dr. Sheila Nolan, Geriatric Psychiatry  
Dr. Michael Passmore, Geriatric Psychiatry  
Dr. Brian Scarth, Adult Psychiatry  
Dr. Megan Sherwood, Adult Psychiatry  
Dr. Agnes To, Adult Psychiatry  
Dr. June Ye, Adult Psychiatry

## UPCOMING CME EVENTS

Register on-line: [www.cme.med.ubc.ca](http://www.cme.med.ubc.ca)

### The New Genetics - Implications for Mental Disorders Clinical Neurosciences 2005 Conference:

February 25 - 26, 2005

SFU at Harbour Centre

The human genome project is complete, and we are now in the era of applied genetics. Comprehension of the role of genetic factors in mental disorders is advancing rapidly. The public is optimistic about molecular advances in medicine, but at the same time concerned about the implications of genetic research. The 2005 Clinical Neurosciences Conference will bring together international and local experts on genetics to discuss both molecular findings and the societal consequences of the new genetics. This will be an excellent opportunity for practitioners and members of the community to hear the latest research, and enter into a dialogue on the implications of this research.

This popular conference, now in its third year, will appeal to Psychiatrists, Psychologists, General Practitioners, Mental Health Professionals, and others with an interest in this area.

#### Featured Speakers:

**Dr. Veronica Pearson**, Professor, Department of Social Work and Social Administration,  
The University of Hong Kong

**Dr. James Kennedy**, Professor of Psychiatry, University Toronto, and Director,  
Neuroscience Research Department, Centre for Addictions and Mental Health (CAMH)

**Dr. Dolores Malaspina**, Professor of Clinical Psychiatry, College of Physicians and  
Surgeons, Columbia University, and Head, Laboratory of Clinical Neurobiology, New York  
State Psychiatric Institute.

For more information, please see [www.cme.med.ubc.ca](http://www.cme.med.ubc.ca)

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### Hidden in Plain Sight: Depression and Anxiety Related to Pregnancy and Postpartum, PMS and Menopause

October 22, 2004

UBC Robson Square

Featuring speakers from the Reproductive Mental Health Program at BC Women's Health Centre and St. Paul's Hospital, this new conference features an afternoon program for physicians and a morning program for service providers. The Reproductive Mental Health Program works to promote the best possible mental health for the women of British Columbia and their families during their reproductive years and beyond.

#### Topics include:

- ☆ Supporting women experiencing Depression, Anxiety, or Obsessive Compulsive Disorders during pregnancy or the postpartum period
- ☆ Psychotropic Medications in Pregnancy and Lactation
- ☆ Non-Pharmacotherapeutic Treatment During Pregnancy and Postpartum
- ☆ Female Specific Mood Disorders from Menses to Menopause

Learn, excel, innovate  
**For life.**

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