

NEUROSCIENCE NEWSLETTER

Volume 26

Number 10

June 2010



Director, UTNP:
Michael G. Fehlings MD, PhD



Director, CPIN:
David R. Hampson, PhD

Planning & Operations: **Alexander A. Velumian, PhD, DSc**

Program Coordinator: **Frazer Howard**

UTNP Administrative Office: **MP 11-315, Toronto Western Hospital**

Collaborative Program in Neuroscience Office:

Rm 904, Leslie Dan Faculty of Pharmacy, University of Toronto

Email: p.neuroscience@utoronto.ca | Telephone: 416-978 8761 Fax: 416-978-8511 | Website: www.neuroscience.utoronto.ca

PROGRAM NEWS

UTNP DISTINGUISHED LECTURESHIP SERIES

Date | June 15, 2010

Time | 4:00pm

Location | TBA

Speaker | **DR. MARSHALL DEVOR**,

Department for Cell and Animal Biology,
Institute of Life Sciences, Hebrew University
of Jerusalem

Title | **On feeling no pain**

Host | Dr. Ze'ev Seltzer



CPIN Students must attend 75% of the Lecture Series each year

VINCE TROPEPE JOINS LECTURE SELECTION COMMITTEE

We are pleased to announce that **Dr. Vince Tropepe** (Cell & Systems Biology) has accepted nomination to the UTNP Distinguished Lectureship Selection Committee. We would like to extend a heartfelt thank you to **Dr. John Peever** (Cell & Systems Biology), who will be stepping down from the committee, for his 5 years of leadership, support and service to the Lectureship Committee.

FACULTY RESEARCH INTERESTS AND KEYWORDS

In the ongoing effort to ensure we profile accurate and up-to-date information on the neuroscience research activities at the University of Toronto, we will be contacting each faculty member by email with the list of keywords and research interest currently associated with them. We would ask that you update and add to this list so that searches will find you appropriately.

EXPLORING BRAINNAVIGATOR

Date | June 8, 2010

Time | 4:00pm

Location | J.J.R. MacLeod Auditorium, Room 2158, Medical Sciences Building, University of Toronto

In partnership with the UTNP, Elsevier will be giving an overview and demonstration of **BrainNavigator**, an online tool for exploring brain structures.

Please [register](#) to reserve your seat today.

More information about BrainNavigator is available on the Elsevier website. [Visit today](#) to see a video, learn about the technology and content, and more.

PROF. RANDY MCINTOSH TO HEAD ROTMAN RESEARCH INSTITUTE

UTNP member **Randy McIntosh**, a respected cognitive psychologist, has been named vice-president (research) at Baycrest, one of the university's partner hospitals, and director of its world-renowned Rotman Research Institute.

More | <http://bit.ly/c80JdQ> [UT News]

PROF. TREVOR YOUNG NAMED PSYCHIATRY CHAIR

Professor Trevor Young has been named Chair of the Department of Psychiatry for a five year term starting September 1, 2010. Prof. Young replaces Dr. Don Wasylenki, who has extended his term until August 31.

More | <http://bit.ly/cn12iL> [Fac. Med. News]

U OF T TEAM DECODES SECRET MESSAGES OF OUR GENES

UTNP member **Ben Blencowe** is part of a UT team of researchers who have developed a program that can decode the messages of our genes. Their paper was featured on the cover of Nature May 5, 2010.

More | <http://bit.ly/dwZIX0> [Toronto Star]

Article | <http://bit.ly/cFQk3T> [Nature]

RECENT PUBLICATIONS

Samoilova M, Weisspapir M, Abdelmalik P, **Velumian AA, Carlen PL**. Chronic in vitro ketosis is neuroprotective but not anticonvulsant. *J Neurochem*. 2010 Feb 15.

Ye H, Jalini S, Zhang L, **Charlton M, Carlen PL**. Early ischemia enhances action potential-dependent, spontaneous glutamatergic responses in CA1 neurons. *J Cereb Blood Flow Metab*. 2010 Mar;30(3):555-65.

Bell SH, Stade B, Reynolds JN, Rasmussen C, Andrew G, Hwang PA, **Carlen PL**. The Remarkably High Prevalence of Epilepsy and Seizure History in Fetal Alcohol Spectrum Disorders. *Alcohol Clin Exp Res*. 2010 Apr 5.

Knight D, Harvey PJ, Iliadi KG, Klose MK, Iliadi N, Dolezelova E, **Charlton MP**, Zurovec M, Boulianne GL. Equilibrative nucleoside transporter 2 regulates associative learning and synaptic function in *Drosophila*. *J Neurosci*. 2010 Apr 7;30(14):5047-57.

Zalay OC, Serletis D, **Carlen PL, Bardakjian BL**. System characterization of neuronal excitability and its relevance to spontaneous seizure-like transitions in a hippocampal network model. *J Neural Eng*. 2010 Apr 19;7(3):36002.

Smith AJ, Sugita S, **Charlton MP**. Cholesterol-dependent kinase activity regulates transmitter release from cerebellar synapses. *J Neurosci*. 2010 Apr 28;30(17):6116-21.

Carmichael NM, **Dostrovsky JO, Charlton MP**. Peptide-mediated transdermal delivery of botulinum neurotoxin type A reduces neurogenic inflammation in the skin. *Pain*. 2010 May;149(2):316-24.

Barash Y, Calarco JA, Gao W, Pan Q, Wang X, Shai O, **Blencowe BJ**, Frey BJ. Deciphering the splicing code. *Nature*. 2010 May 6;465(7294):53-9.

Please send us information regarding recent publications, awards or other achievements from your lab and we will share it with the UT Neuroscience community. Send your notification to the Program office:

p.neuroscience@utoronto.ca

NEW CPIN STUDENTS

We would like to welcome the following students to the Collaborative Program in Neuroscience:

Student Name	Deg.	Department	Supervisor
Laura Feldcamp	PhD	IMS	Albert Wong

NOTICE TO GRADUATING STUDENTS

Please notify the CPIN office upon your graduation to ensure that you will receive the notation "completed Collaborative Program in Neuroscience" on your degree transcript as well as a separate certificate suitable for framing from the CPIN office to indicate that you have completed the program's requirements. Please inform the office of your mailing address and thesis title. If you have transferred from a Master's degree to a PhD, please notify the CPIN office.

U OF T NEUROSCIENCE EVENTS AND SEMINARS

KREMBIL NEUROSCIENCE CENTRE GRAND ROUNDS

Held Thursdays 7:30-8:30am

Main Auditorium, 2 West Wing, Room 401

Toronto Western Hospital

ROTMAN ROUNDS

Winter session is now over. Rotman Rounds will resume in September.

CENTRE FOR BRAIN AND BEHAVIOUR CROSSTALKS

Held the last Thursday of every month 4:00pm

DI Multimedia Room (2810J) 2nd Floor Atrium, Diagnostic Imaging, SickKids Hospital

EPILEPSY JOURNAL CLUB

First Tuesday of every month

Contact Erin Crawford erin.crawford@sickkids.ca for further information

UPCOMING NEUROSCIENCE MEETINGS

ANNUAL BRAIN & BEHAVIOUR DAY

Mark your calendars, the SickKids Centre for Brain and Behaviour Annual Brain & Behaviour Day will take place **Thursday June 3rd, 2010** at The Old Mill, Toronto.

The theme is *Epigenetics and Brain Function*. Confirmed speakers are:

- **Dr. Moshe Szyf**, McGill University Faculty of Medicine, Department of Pharmacology & Therapeutics
- **Dr. Marcelo A. Wood**, Assistant Professor Department of Neurobiology and Behavior - Center for the Neurobiology of Learning and Memory

University of California, Irvine

- **Dr. James Eubanks**, Senior Scientist Division of Genetics & Development Toronto Western Research Institute
- **Dr. Stephen Meyn**, Head Genetics & Genome Biology The Hospital for Sick Children
- **Dr. Michael D. Taylor**, Staff Neurosurgeon, Principal Investigator - The Arthur and Sonia Labatt Brain Tumor Research Centre, Scientist Developmental & Stem Cell Biology
- **Dr. Rosanna Weksberg**, Clinical Geneticist Clinical & Metabolic Genetics The Hospital for Sick Children

Join us starting at 8:00 am for a continental breakfast. The Symposium will begin at 9:00 am and end at 4:30 pm. Because this is a free event, we are asking that attendees submit a cost centre number along with their RSVP confirmation. In past years we have planned food (breakfast and lunch) based on RSVP numbers and unfortunately there have been a significant number of 'no shows' which is a waste of valuable Centre funds. Only RSVP confirmations submitted with a cost centre number will be accepted, and all 'No Shows' will have a fee of \$50.00 CAD charged to their cost centre.

Please send your RSVP confirmation and cost centre number to Ms. Susy O'Neill at susy.oneill@sickkids.ca
We look forward to another exciting Brain & Behaviour Day and hope that you will join us.

4TH BALTIC SEA SUMMER SCHOOL ON EPILEPSY

Granavollen, Norway

6 - 11 June 2010

More information and online application (deadline 10 April 2010) can be found at: <http://www.epilepsy-academy.org> or contact Petra Novotny, EUREPA at petra@epilepsy-academy.org

MAC 2010

8th International Conference On Mechanisms Of Anesthesia

June 15-18, 2010

University of Toronto

Toronto, Canada

Website: <http://www.mac2010.org/>

Register: http://www.mac2010.org/?page_id=110

20TH MEETING OF THE EUROPEAN NEUROLOGICAL SOCIETY

Berlin, Germany

19 - 23 June 2010

www.ensinfo.org

14TH ANNUAL MEETING OF THE ASSOCIATION FOR THE

SCIENTIFIC STUDY OF CONSCIOUSNESS

The 14th annual meeting of the Association for the Scientific Study of Consciousness (ASSC14) will be held in Toronto, Canada from **Thursday 24th - Sunday 27th, June 2010**. The Program committee invites proposals for Talks and Posters on any topic relevant to the scientific study of consciousness. http://www.theassc.org/conferences/assc_14/abstract_submission

9TH EUROPEAN CONGRESS ON EPILEPSY

Rhodes, Greece

27 June - 1 July 2010

<http://epilepsyrhodes2010.org/>

Registration now open:

<http://epilepsyrhodes2010.org/registration/registration.html>

"TRIPARTITE SYNAPSES: FROM HYPOTHESIS TO REALITY?"

FENS satellite symposium

July 2, 2010

Amsterdam / The Netherlands

VU University, 8:30 am-5:30 pm

<http://www.tripartitesynapse-satellite.nl>

7TH FORUM OF EUROPEAN NEUROSCIENCE

Amsterdam RAI Convention Center, Amsterdam, The Netherlands

3 - 7 July 2010

Organized by the Federation of European Neuroscience Societies

<http://forum.fens.org/2010>

The latest developments in brain research will be presented at the 7th FENS Forum of European Neuroscience, a meeting with 6000 neuroscientists in the RAI Convention Centre in Amsterdam, The Netherlands.

"NEURON-ASTROCYTE SIGNALING IN THE EPILEPTIC BRAIN"

FENS satellite symposium

July 7, 2010

Amsterdam, The Netherlands

www.neuroglia.eu/files/FENS_Sat_Amsterdam_2010.pdf

SBN 2010 ANNUAL MEETING

Society of Behavioral Neuroendocrinology's 2010 annual meeting

Hilton Toronto, Ontario, Canada

July 18-21, 2010

For more information regarding the SBN 2010 Meeting, including Housing and Toronto Tourism, visit www.sbn.org!

2010 SAN SERVOLO SUMMER SCHOOL – ADVANCED INTERNATIONAL COURSE: FROM BASIC KNOWLEDGE AND CLINICAL TRIALS TO RATIONAL PRESCRIBING IN EPILEPSY

San Servolo, Italy

18 - 29 July 2010

<http://www.epilepsy-academy.org>



12TH INTERNATIONAL FRAGILE X CONFERENCE

Are you Ready?

July 21 To 25, 2010

Detroit, Michigan

Ain't No Mountain High Enough

Hosted by the [Fragile X Association of Michigan](http://www.fragilex.org)

- Discover the latest research by some of the world's leading Fragile X experts
- Learn new techniques, behavioral interventions and coping strategies
- Connect with researchers clinicians, educators, psychologists and parents
- Get the support you need
- Start a new lifelong friendship and reconnect with old friends
- Sample the best of Motown, including a visit to the historic Henry Ford Museum

More information:

<http://www.fragilex.org/html/conference2010/index.php>

XIX BIENNIAL MEETING OF THE INTERNATIONAL SOCIETY FOR EYE RESEARCH

ISER 2010, the XIX Biennial Meeting of the International Society for Eye Research, will take place in Montreal, Canada,

July 18-23, 2010.

The Biennial Meeting brings together leading clinicians and vision researchers from all over the world with the aim of stimulating and promoting international research cooperation. Symposia address topics with broad, interdisciplinary interest and are balanced with plenary lectures and poster sessions. Researchers from around the world share their latest findings, technical expertise and

experience making this a much-anticipated international event.

For more information:

<http://www2.kenes.com/iser/Pages/Home.aspx>

NINETEENTH ANNUAL INTERNATIONAL COMPUTATIONAL NEUROSCIENCE CONFERENCE CNS*2010

July 24 - July 30, 2010

San Antonio, Texas, USA

<http://www.cnsorg.org>

Abstract Submission Website:

<Http://Www.Cnsorg.Org/2010/Submission.Shtml>

Early Meeting Registration Open: January 15, 2010

(<http://www.cnsorg.org> or

<https://www.regonline.com/CNS2010>)

CNS*2010 will be held in San Antonio, Texas, USA July 24-30th, 2010.

The meeting will kick off with a day of tutorials and an evening

welcome reception on July 24th. The main meeting of CNS*2010 will take place from Sunday July 25th-Wednesday July 28th, including a special Symposium, "Twenty years of computational success", on the afternoons of July 26th-27th. These events will be followed by two days of workshops on July 29-30th (Thursday-Friday).

The main meeting will be held in the historic Sheraton Gunter Hotel in central San Antonio, one block from San Antonio's Famous River Walk. San Antonio is home to several universities including the University of Texas Health Science Center - San Antonio and the University of Texas San Antonio, which are both sponsoring CNS*2010. As is traditional, the CNS banquet will be an interesting and culturally themed event, hosted at Sundance Ranch on July 28th.

Submissions can include experimental, model-based, as well as more abstract theoretical approaches to understanding neurobiological computation. We especially encourage research that mixes experimental and theoretical studies. We also accept papers that describe new technical approaches to theoretical and experimental issues in computational neuroscience or relevant software packages.

Invited Speakers:

Miguel Nicolelis, Duke University, USA, Frontiers of Computational Neuroscience Lecturer

Vivian Mushahwar, University of Alberta, Canada

Jonathan Wolpaw, Wadsworth Center and SUNY, USA

Abstract Submission:

Submissions to the meeting will take the form of a formatted abstract.

Submission instructions and submission website are at

<http://www.cnsorg.org/2010/submission.shtml>.

Awards:

Limited number of travel grant awards, based on abstract review, will be available to students. See instructions for requesting travel awards at www.cnsorg.org. Recipients of travel grants will be notified by May 5, 2010.

Student posters presented at CNS*2010 will also be judged for cash prizes awarded at the meeting.

Please check www.cnsorg.org periodically for announcement of additional categories of awards for postdoctoral fellows.

6TH LATIN AMERICAN CONGRESS ON EPILEPSY (6° CONGRESO LATINOAMERICANO DE EPILEPSIA)

Cartagena, Columbia

1 - 4 August 2010

<http://www.epilepsiacartagena2010.org/>

4TH MIGRATING COURSE ON EPILEPSY

Serock, Poland

15 - 22 August 2010

More information and online application (deadline 1 February 2010) can be found at: <http://www.epilepsy-academy.org> or contact Petra Novotny, EUREPA at petra@epilepsy-academy.org

12TH EUROPEAN CONFERENCE ON EPILEPSY AND SOCIETY

Porto, Portugal

25 - 27 August 2010

<http://www.epilepsyandsociety.org/>

14TH CONFERENCE ON INTRACRANIAL PRESSURE AND BRAIN MONITORING

September 12–16, 2010

Tubingen Germany

On behalf of the International Advisory Board we would like to welcome all international clinicians and scientists from the field to focus on an intensive week of knowledge-exchange at the old and famous University of Tuebingen, located in the geographical heart of Europe.

The ICP-conference has traditionally been a platform where clinicians from Neurosurgery, Neurology and Intensive Care Medicine meet basic scientists from all possible areas of intercept with the brain, a span that ranges from electric engineers to physicists, and from mathematicians to molecular biologists. We are trying hard to make the conference affordable regarding the "money to scientific benefit ratio" and ask you to contribute to the success of the conference by presenting your latest research related to our topics.

<http://www.icp2010.eu/>

2ND GLOBAL SYMPOSIUM ON THE DIETARY TREATMENTS

FOR EPILEPSY AND OTHER NEUROLOGICAL DISORDERS

Edinburgh, Scotland

October 5-8th 2010.

Although the ketogenic diet has been used in the treatment of epilepsy for almost 100 years, it is now 15 years since the story of Charlie, who, after failing numerous anti-epileptic drugs became seizure free and drug free on the ketogenic diet and brought awareness of the possible effects of the diet to a wider population. There is now no question of agreement to its efficacy, not only in epilepsy but also now widening to other neurological conditions. Research into basic mechanisms of action and implementation has also escalated; the number of publications on pubmed about research into the ketogenic diet has risen from <20 in 1996 to >110 in 2008

The first Symposium was held in Phoenix, Arizona in April 2008. This was attended by over 200 participants from varied backgrounds including epilepsy and dietetics. Much discussion was undertaken, and it was agreed that progress would be sufficient to bring individuals together once again in 2010.

For further information:

<http://site.matthewsfriends.org/index.php?page=global-symposium-2010>

THE 10TH INTERNATIONAL CONFERENCE ON ALZHEIMER'S & PARKINSON'S DISEASES (AD/PD 2011)

Explore New Horizons and Emerging Disease Modifying Therapies

SAVE THE DATE!

MARCH 9-13, 2011

We are pleased to announce the 10th International Conference on Alzheimer's & Parkinson's Diseases (AD/PD 2011), which will be held in Barcelona in 2011.

This conference will feature a diverse, multi-disciplinary scientific program covering the most recent research and discoveries in etiology, neurobiology, diagnosis, imaging, treatment and therapy.

FUNDING ANNOUNCEMENTS

FOX FOUNDATION FOR PARKINSON'S RESEARCH, MICHAEL J. (MJFF) : Rapid Response Innovation Awards - Edmond J.

Safra Core Program for PD Research. To promote testing of novel hypotheses, funding from our Rapid Response Innovation Awards program quickly supports high-risk, high-reward projects with little to no existing preliminary data, but potential to significantly impact our understanding or treatment of PD. **Deadline for Applications: Continuous.**

AUTISM SPEAKS : *Pilot Grants*: Autism Speaks invites grant applications from investigators to conduct research pilot studies into the causes, diagnosis, treatment, prevention and cure of autism spectrum disorders. Deadline for LOI: May 27, 2010. *Trailblazer Grants*: The Trailblazer Award mechanism will support highly novel “out of the box” autism-relevant research that addresses significant roadblocks or that can open new avenues to understanding the causes, diagnosis, subtyping, prevention, treatments, and cure of autism spectrum disorders. The Trailblazer Award mechanism is designed to fund small investigator-initiated high risk/high impact projects that are potentially transformative. Examples of good fits are: 1) projects that may be too risky for regular research mechanisms, including the Autism Speaks pilot study research grants, and/or 2) studies that are time-sensitive in their ability to leverage an exceptional opportunity for conducting highly innovative and relevant ASD research. **Deadline: Rolling Submissions (see RFA).**

POSITIONS AVAILABLE

UNIVERSITY OF TORONTO & AFFILIATED INSTITUTIONS

CIHR Strategic Training Program in
Biological Therapeutics



CIHR PRE- AND POST DOCTORAL FELLOWSHIP OPPORTUNITIES

We are pleased to announce the availability of Canadian Institutes of Health Research-funded graduate student and Post Doctoral Fellowships for our “CIHR Strategic Training Grant in the Development of Biological Therapeutics”.

This multi-division University of Toronto program has 14 Principal Mentors and been awarded \$1,800,000 over the next 5 years. In the context of this program, “biological therapeutics” is defined as encompassing nucleic acids such as small interfering RNAs (siRNA), peptides and proteins including antibodies, and viruses and viral vectors. Projects will span the gamut from basic to applied research.

Depending on the research project, Postdoctoral Fellows and graduate students will receive training in bioinformatics, formulation and delivery of nucleic acids and proteins, and the analysis of the metabolism and fate of these macromolecules *in vivo*. Areas of application include neuroscience, cancer, and immunology. Each trainee will have a primary mentor and secondary mentor with whom they spend a minimum of 1 month per year. Our collaborative environment will deepen knowledge and technical skills, promote team oriented research with

colleagues, and increase exposure to cross-disciplinary research in the fields of neuroscience, ophthalmology, cancer, immunology, and drug delivery. Finally, through an industrial internship program, this program will also provide opportunities to work (short-term) with the private sector (pharmaceutical and biotechnology companies) to acquire additional technical skills.

Please see our Website:

http://www.utoronto.ca/biotherapeutics_training/

Please email a CV and *a1 page cover letter outlining your suitability and specific interest in working with one of the 14 mentors to:* biotherapeutics@utoronto.ca

POSTDOCTORAL FELLOW – CAMH

The Addiction Imaging Research Group at the Centre for Addiction and Mental Health (Toronto, Canada) is recruiting a Post-doctoral Fellow (MD and / or Ph.D.) to join the Positron Emission Tomography (PET) brain research centre.

Minimum qualifications are a doctoral degree in a health related field (e.g.: neuroscience, psychology) or MD degree. The successful candidate will have some expertise in computational and statistical methods, and a good working knowledge of brain anatomy. Experience with image analysis will be advantageous, but not required. Good oral and written communication skills are required. The project will focus on a brain PET investigation of the neurochemical events occurring during withdrawal from stimulant drugs.

CAMH is Canada's largest mental health and addiction teaching and research hospital in Canada and is affiliated with the University of Toronto.

Send letter of interest outlining experience and CV to
Isabelle Boileau, Ph.D.

Head, Addiction Imaging Research Group
Centre for Addiction and Mental Health
250 College Street

Toronto, Ontario CANADA M5T 1R8

phone: 416-535-8501, ext. 4918

fax: 416-979-6862

e-mail: isabelle_boileau@camh.net

POSITION FOR A FUNCTIONAL MRI SCIENTIST - THE ROTMAN RESEARCH INSTITUTE, BAYCREST CENTRE UNIVERSITY OF TORONTO

The Rotman Research Institute of Baycrest Centre invites applications for an fMRI physicist position. The successful candidate will engage in a research program on the development and application of structural and functional MRI techniques for neuroscience research. While pursuing an independent research program, he/she will be expected to

collaborate on diverse studies of human cognition and neurological disorders that involve MRI research resources at Baycrest. The candidate must possess a PhD or equivalent and demonstrated experience in MRI. The Rotman Research Institute has a research-dedicated Siemens 3T TIM Trio MRI and fully-equipped electroencephalography and magnetoencephalography laboratories in-house. The successful candidate will play a central role in the coordination and operation of the MRI imaging facility.

Examples of research that a successful candidate would conduct include, but not limited to: development and refinement of MR pulse sequences for neuroimaging, development of MR acquisition tools and paradigms for studies in aging; development of novel methods to process and analyze both functional and structural MRI data. The successful candidate will benefit from the large collaborative neuroimaging community at The University of Toronto, and would be eligible for an academic at the assistant to associate professor level. Applications are encouraged from qualified women and men, members of visible minorities, aboriginal peoples and persons with disabilities. In accordance with Canadian immigration requirements, this advertisement is directed initially to Canadian citizens and permanent residents.

Applicants should submit a covering letter describing current research interests and future research goals, a complete C.V., relevant reprints and the names of three potential references to:

Claude Alain, PhD

The Rotman Research Institute

Baycrest Centre for Geriatric Care

3560 Bathurst St, Toronto, Ontario, M6A 2E1

Tel (416) 785-2500, ext 3523; Fax (416) 785-2862

E-mail: calain@rotman-baycrest.on.ca

INTERNATIONAL

CALL FOR A PHD PROJECT FUNDED BY THE EUROPEAN COMMUNITY PROGRAM

SYMBAD <http://symbad.risc.cnrs.fr/>

Development of a new technique for fast multiphoton super-resolution imaging of thick biological samples

Project: The teams "Dynamic of receptor organization in neuronal membranes" and "Quantitative Imaging of the Cell" at the laboratory Cellular Physiology of the Synapse in Bordeaux (France) have one position opening for a PhD student. The PhD project is developed in the framework of European network, SyMBaD (Synapse: from Molecules to higher Brain function And Diseases) and in partnership with

an industrial collaborator. The aim is to set up an innovative fast multiphoton imaging technique which will allow imaging of thick biological samples at the single molecule level. This technique will be applied to study the movement of receptors in live neurons, in brain slices. The setup will be designed to be versatile in order to implement, on the same microscope, multiphoton SPT-PALM (Single Particle Tracking & PhotoActivation Localization Microscopy) and SIM (Structured Illumination Microscopy) techniques.

Scientific Environment: The "Quantitative Imaging of the Cell" is a newly created team, headed by Jean-Baptiste Sibarita, which develops new advanced cellular imaging techniques with the goal to monitor the dynamic of biological compartments at high spatial and temporal resolutions. Other related projects also being developed are FRAP (Fluorescence Recovery After Photobleaching), SPT-PALM (in 2 and 3 dimensions) and SIM. In addition to instrumental development, the team also develops software solutions for image processing and analysis, as well as instrumentation for micropatterning and microfluidics to control cell shape and chemical environment. The team "Dynamic of receptor organization in neuronal membranes", headed by Daniel Choquet, aims at understanding the role of glutamate receptor trafficking in controlling synaptic transmission in health and disease. It has developed and applied in the last decade a series of single molecule tracking approaches to image receptor diffusion in live neurons (e.g. Borgdorff & Choquet, Nature, 2002; Triller and Choquet, Neuron, 2008). Recently, the team has associated imaging and electrophysiological approaches to uncover a new unsuspected role of glutamate receptor fast diffusion in controlling information processing in the brain (Heine & al., Science 2008). The next challenge lies in imaging receptor trafficking in 3D in brain slices and to associate this with the analysis of receptor trafficking in vivo. The industrial collaborator is Amplitude Systèmes, a French company which develops femtosecond oscillator for life science.

Environment: Bordeaux is located in South West of France (3h from Paris by train). This charming town, near the Atlantic Ocean, has a city center which is world heritage of the UNESCO.

Qualification: The candidate should be a non French citizen, and preferentially be originally from one of the European Union countries. He or she should have a physics background and a strong interest in the treatment of biological questions. Important for work in the lab is the ability to build optical

instrumentation, and to write programs that control the setup and automate the data acquisition. Masters or equivalent degree is required.

To apply, send login to the website <http://symbad.risc.cnrs.fr/> and register

In parallel, please send a complete CV, a motivation letter, and the names and addresses of two referees for letters of

recommendation to: Daniel Choquet, daniel.choquet@u-bordeaux2.fr Jean-Baptiste Sibarita, jean-baptiste.sibarita@u-bordeaux2.fr Institut Magendie – UMR 5091 CNRS, Université Bordeaux 2, 146, rue Léo Saignat 33077 Bordeaux cedex, For further details on the Cellular Physiology of the Synapse, please visit our website: <http://www.synapse.u-bordeaux2.fr/equipechoquet.htm>

SUBMISSION & CONTACT INFORMATION

Email: p.neuroscience@utoronto.ca | Fax: 416-978-8511 Attn: Frazer Howard | Submissions to the newsletter must be made by the 25th of the preceding month. Previous issues of the newsletter are posted on our website at: <http://www.neuroscience.utoronto.ca/newsletter>

If you no longer would like to receive this newsletter, please contact p.neuroscience@utoronto.ca with subject line “unsubscribe from UTNP Newsletter”