

# Annual world Congress Of SBMT on Brain, Cord Mapping and Image Guided Therapy

# 9<sup>th</sup>

*Breaking Boundaries of  
Science, Technology, Medicine,  
Art and Healthcare Policy*

**Society for Brain Mapping and Therapeutics - SBMT**

## **THEME: NANO-BIO-ELECTRONICS**

**Metro Toronto  
Convention Centre,  
Toronto, Ontario,  
Canada**

**June  
2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>,  
2012**

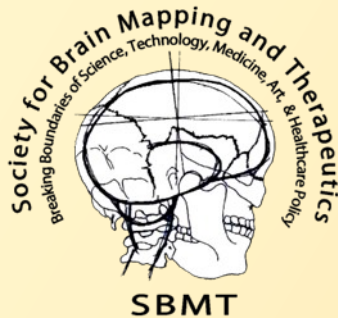


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Science, Technology, Medicine,  
Art and Healthcare Policy*

# Annual world Congress Of SBMT on Brain, Cord Mapping and Image Guided Therapy

# 9<sup>th</sup>

Society for Brain Mapping and Therapeutics - SBMT

## Contents

### INFO

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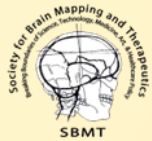
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#### CME ACCREDITATION

The AANS is accredited by the ACCME to provide continuing medical education for physicians. This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the AANS and Society for Brain Mapping and Therapeutics (SBMT). The AANS designates this live activity for a maximum of 18 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

<i>(Mission statement, Educational objectives, Annual world congress, Congress chairs, Charter)</i>	SBMT.....p. 3-4
Continuing Medical Education need assessment .....	p.5
Continuing Medical Education disclosures .....	p.6-7
Society board of directors .....	p.8-9
Program Committee .....	p.10-12
SBMT Letter from the Founder .....	p.13-14
	(Babak Kateb)
SBMT President's address .....	p.15
	(Michael Y. Chen)
SBMT President-Elect's address .....	p.16
	(Michael J. Roy)
SBMT Program .....	p.17-19
Keynote speakers .....	p.20-24
Timetable .....	p.25
Saturday, June 2 - Scientific program .....	p.26-29
Sunday, June 3 - Scientific program .....	p.30-35
Monday, June 4 - Scientific program .....	p.36-43
Oral poster and Posters .....	p. 45-47
Faculty .....	p.47-50
Sponsors & exhibitors .....	p.51
Gala reception - Awards .....	p.52-53
Brain Mapping Foundation remembers .....	p.54
	(Lillian JonesBlack)

[www.worldbrainmapping.org](http://www.worldbrainmapping.org)



## SBMT Mission Statement

SBMT is a non-profit society organized for the purpose of encouraging basic and clinical scientists who are interested in areas of Brain Mapping, engineering, stem cell, nanotechnology, imaging and medical device to improve the diagnosis, treatment and rehabilitation of patients afflicted with neurological disorders.

This society promotes the public welfare and improves patient care through the translation of new technologies/therapies into life saving diagnostic and therapeutic procedures. The society is committed to excellence in education, and scientific discovery. The society achieves its mission through multi-disciplinary collaborations with government agencies, patient advocacy groups, educational institutes and industry as well as philanthropic organization.

## Educational Objectives

Upon completion of the scientific meeting, participants should be able to:

- Identify new findings in brain mapping (BM) & intraoperative surgical planning (ISP) most relevant to their own sub field (i.e. molecular imaging and or biophotonics);
- Describe the effect of the newly developed methods in medical imaging, medical devices, nanotechnology, stem cell/cellular therapy;
- Discuss and design the possible future research and developments in BM, ISP and Nano-Bio-Electronics and assess the possible impact of such research and development on their own clinical and scientific work in the future;
- Describe and assess the latest cutting-edge technological advancement in BM & ISP such as emerging field of nano-bio-electronics (integration of nanotechnology with stem cell/cellular therapy, medical imaging and medical devices);
- Explain ways to build a bridge amongst multiple disciplines;
- Educate the audience about the advancements in other disciplines and explain how such advancements could help them formulate new diagnostics and treatment modalities;
- Discuss and describe governmental agencies, foundations, and industry roles in research and development of the field.

## ANNUAL SBMT WORLD CONGRESS

The Annual World Congress is a multi-disciplinary forum designed to facilitate cross-pollination and dissemination of technological and medical advances and scientific discovery.

The attendees are a mixture of neurosurgeons, radiologists, neurologists, psychiatrists, rehabilitation medicine, cardiologists, oncologists, bioethicists, policy makers, government officials, engineers, physicists, neuroscience, stem cell scientists, Bio-technologists, nano technologists, computer scientists, allied healthcare professionals, healthcare executives, students, post-docs, residents and fellows.

Annual meetings of SBMT are world class scientific events designed to have a significant impact on cross-disciplinary flow of information/ scientific advancements.

### CONGRESS CHAIRS

**Babak Kateb,  
Michael Y. Chen,  
Michael J. Roy,  
Shouleh Nikzad,  
Michael Fehling,  
Sandra Black,  
Andres M. Lozano,  
Carter Snead,  
Michael Yeow**







## CHARTER of SBMT

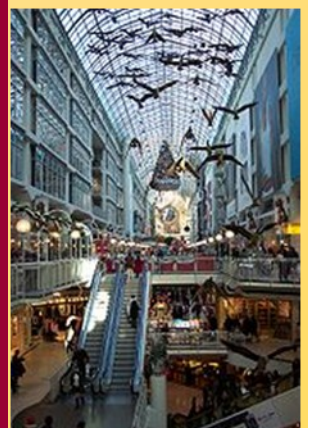
The Society for Brain Mapping and Therapeutics (SBMT) was founded in 2004 to break boundaries in healthcare. The society promotes policies that support rapid, safe, and cost-effective translation of new technology into medicine.

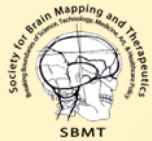
The SBMT globally promotes interdisciplinary research to improve the diagnosis, treatment, and rehabilitation of patients with central nervous system diseases regardless of race, creed, color, national origin, gender, or age.

The SBMT catalyzes interactions between clinical, biological, physical and engineering sciences. The Society builds transdisciplinary and translational consortia which break down traditional barriers that impede application of new technology to medical problems.

Translational research applies cutting edge basic science and advanced technologies to clinical neurosciences. The Society examines emerging disciplines such as nanotechnology, image-guided therapy, stem cell therapy, multi-modality imaging, biophotonics, and biomaterial and tissue engineering for their application to the diagnosis, treatment, and rehabilitation from neurological diseases. The Society seeks to apply these technologies to clinical problems such as brain tumors, stroke, epilepsy, neurodegenerative diseases (Parkinson, Alzheimer, multiple sclerosis and ALS), traumatic brain and spinal cord injuries, autism, post traumatic stress disorder and other psychiatric illnesses.

The Society achieves its goals through meetings, fellowships, publications, international collaborations, consortiums, and policy forums. The SBMT is a nonprofit society which has obtained support from many government agencies (USA, EU and Asia), foundations, and multi-national corporations. The Society maintains its headquarters in West Hollywood, California.





## ***CONTINUING MEDICAL EDUCATION NEED ASSESSMENT***

In recent years astonishing advances have contributed to amazing discoveries and breakthroughs in fields of neurology, neuroscience, neurosurgery, radiology, engineering, computer science, nanotechnology, medical imaging, medical devices and cellular/stem cell therapy.

These scientific advances also have contributed to the large gap of knowledge amongst the scientists in different disciplines. One of the major challenges of 21st century for the scientific community is how to close such gaps of knowledge amongst multiple disciplines.

We have designed the annual meeting of SBMT to address such challenge by bringing together world class experts across multiple disciplines.

Moreover, we have identified a need for progressive integration of nanotechnology, cellular therapy with medical devices and imaging. This is why we have chosen “Nano-Bio-Electronics” as the theme of the 9th Annual world Congress of SBMT in Toronto, Canada.

The purpose of the annual meeting is to create an interactive environment, which foster cross-pollination of ideas and pave the way for birth of new treatment and diagnostic modalities in the field.

For more information please contact:

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5550 Meadowbrook Drive  
Rolling Meadows, IL 60008  
847.378.0500 or 1.888.566.AANS (2267)  
Fax: 847.378.0600  
E-mail: [info@aans.org](mailto:info@aans.org)

### ***CO-CHAIRMEN OF THE CME COMMITTEE***

**Sujit Prabhu**  
Department of Neurosurgery,  
University of Texas

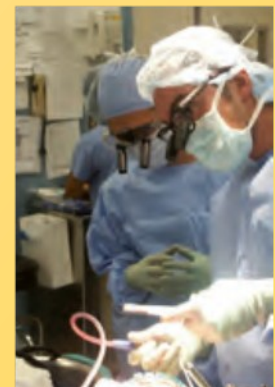
**Bharat Guthikonda**  
University Neurosurgery at  
LSU Health Services Center

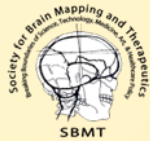
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Dunitz Neurosurgical Institute

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Department of Neurosurgery,  
City of Hope Cancer Center

**Jay Jan Pillai**  
Department of Radiology,  
John Hopkins University  
School of Medicine





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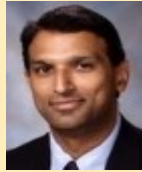




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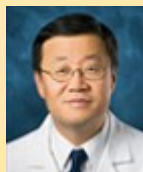
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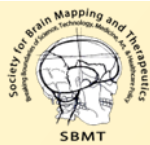
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 Research Scientist, Maxin Dunitz  
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### LEARNING OBJECTIVES:

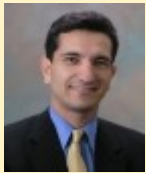
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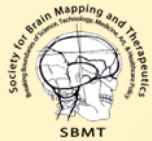
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**Geoffrey Ling**  
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**Martin Pera**  
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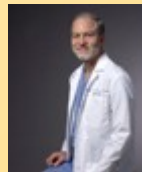
**Aria A. Tzika**  
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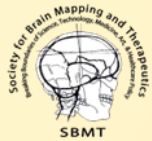
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*Department of Neurosurgery,  
Johns Hopkins University  
School of Medicine*



**Gary K. Steinberg**  
*Professor of Neurosurgery,  
Neurology & Neurological  
Sciences, Stanford Hospitals &  
Clinics*



## LETTER FROM THE FOUNDER

Over the past 9 years, SBMT has successfully brought together a diverse scientific, medical, and engineering community to tackle complex neurological disorders such as brain cancer, brain and spinal cord trauma, and Parkinson's disease. These efforts strived to close the gap of knowledge across disciplines. The society has successfully facilitated unprecedented cross-disciplinary interactions amongst scientific fields. This unique approach has spurred interest in the organization and its growth from the USA to include Canada, Japan, India, France, China, Brazil, Spain, Republic of Georgia, Iran, Israel, Russia, South Korea, Taiwan, Hong Kong, Germany, Sweden, Netherland, Lithuania, Italy and the UK.

We have also chosen the "Nano-Bio-Electronic" theme for our annual meeting in order to shed light on importance of integrating nanotechnology with stem cell/cellular therapy and medical imaging/devices. The organization is also advocating for establishment of National Center for Nano-Bio-Electronics (NCNBE) in order to facilitate such integration in a meaningful ways. This is a new frontier in science, which could help us understand the function of brain and spinal cord that could lead into more effective treatment for neurological disorders and combat related injuries.

SBMT is a grassroots organization with a deep interest in cultivating future leaders from K-12 to the post-graduate training level. We have encouraged formation of student chapters in universities around the world that will train future generations of scientists, physicians, surgeons, and policy makers to take a multidisciplinary approach to solving diff cult issues. The student chapters along with our annual meeting promote the exchange of ideas across the world, bridge cultural boundaries, and contribute to better global and regional healthcare, health policies, and scientific progress. The organization intends to obtain its ACCME accreditation within next 12-18 months, which could enable SBMT establish a process of board certification (Image Guided Therapy Board) and fellowships. The fellowship will be focused on integration of nanotechnology with stem cell/cellular therapy and imaging/medical devices.

The Society has established a new publication in collaboration with PloS-One (world's largest open access Publisher) called NeuroMapping & Therapeutics.

The collection is now accepting papers online at [www.PloSOne.org](http://www.PloSOne.org)



**Babak Kateb**

**Founding Chairman of  
the Board of Directors  
SBMT**

**Founding Chairman of  
the Board of Brain Map-  
ping Foundation**

**Scientific Director of  
Brain Mapping Founda-  
tion and SBMT**

**Research Scientists,  
Maxine  
Dunitz Neurosurgical  
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Special Issue**

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PloSOne NeuroMapping  
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June 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 2012

*Breaking Boundaries of Science,  
Technology, Medicine, Art and Healthcare Policy*

*Society for Brain Mapping and Therapeutics - SBMT*



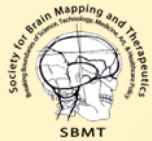
Besides fostering state-of-the-art science and technology, SBMT has established strong collaborative ties with the US Congress and House of Representatives and has been active in educating policymakers about cutting-edge science, technology and medical research. In this regard, we have been proactive in inviting influential public figures and leading policy/news makers to our annual meetings. We also have been active in educating policymakers about the latest science, technology and medicine related to the field of neuroscience.

I would like to congratulate our 9 Award Recipients of this year Drs:

- Colonel Geoffrey S.F. Ling (Humanitarian Award-USA ARMY/DARPA)
- Kirsty Duncan (Pioneer in Healthcare Policy Award-Canada)
- Andres Lozano (Pioneer in Medicine-Canada)
- Antonio DeSalles (Pioneer in Medicine-USA)
- George Paxinous (Pioneer in Medicine-Australia)
- Kevin Lobo (Pioneer in Technology Development-USA)
- Mike Y Chen (Golden Axon Leadership Award)
- Cheryl Rogers (Golden Axon Leadership Award)
- Michael Fehlings (Golden Axon Leadership Award)

I thank the program committee, finance committee, CME committee, publication committee local organizing committee and peer review committee for their hard work. This program could not be possible without generous contributions of our supporters. I hope that you enjoy these remarkable scientific works and can make plans to join us at the 2013 SBMT World Congress in Baltimore Maryland!

Respectfully



## SBMT President's Address

*Dear SBMT meeting participants,*

As president of the Society for Brain Mapping and Therapeutics (SBMT), I welcome you to Toronto and I am pleased that you are able to attend the 9th annual meeting. Obviously, we have re-branded and dispensed with IBMISPS (International Brain Mapping and Intraoperative Surgical Planning Society), a name both memorable and forgettable at the same time. Deeper changes also occurred within the organization. These details are not interesting, but notably, I am very grateful and proud of the unprecedented participation by members of the board of directors during this last year.

First and foremost, the crowning achievement of our efforts is this conference. Once again, I am reminded of the uniqueness of the multidisciplinary nature of this meeting which provides highly fertile ground for cross-pollination. The program this year is rich and robust, and the work being presented pushes the boundaries of the science. In fact, as a testament to quality of the science being performed by members of our society, a delegation of nine members including Canadian Member of the Parliament, Dr. Kirsty Duncan and Vice Admiral Adam M. Robinson, Jr. (former surgeon general of the Navy) was recently invited to the United States Congress to provide briefings on current advances and future therapies for degenerative neurological diseases, traumatic brain injury, post traumatic stress disorder and malignant brain tumors.

Although the work being performed by individuals of the society is impressive, the hallmark of success will be collaborations that yield impactful results. These interactions become more frequent as the SBMT's network continues to grow. In this last year, we have made strategic partnerships with American Academy of Neurology, American Association of Neurological Surgeons, the International Society for Magnetic Resonance Medicine and the Society for Stem Cell Biology and Therapy. Further, the international reach of the society is increasing as evidenced by the location of this conference, the satellite symposium that will occur in France later this year, and the proposed site for the 2014 meeting, which is Melbourne, Australia.

To facilitate collaboration amongst our members, we are pleased to announce that the new SBMT journal will soon be released as the PlosOne Neuromapping and Therapeutics collection. Additionally, SBMT now has presence on social media venues such as Facebook and Twitter, though admittedly the utility of this is still evolving. Another avenue of collaboration and mutual benefit has been the textbook, Nanoneurosurgery, edited by Heiss and Kateb, of which the majority of chapters were contributed by society members.

I have great hopes for the future of SBMT and foresee that ultimately collaborations generated by the society will result in groundbreaking results. In closing, I thank the Founder and the Board of the Directors for giving me the honor of serving as the president of SBMT this year. Thank you for your continuing support.

Sincerely,

Mike Y. Chen, MD, PhD

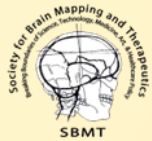
Assistant professor

Section head, the malignant brain tumor program

City of Hope

President of SBMT





## **SBMT - President-Elect's Address**

*Dear SBMT meeting participants,*

As President-Elect, I am pleased to welcome you to our Annual Meeting of the Society of Brain Mapping and Therapeutics, our first under that name, though our 9<sup>th</sup> since our inauguration as the International Brain Mapping and Intra-Operative Surgical Planning Society. We remain true to our roots, as an all-inclusive organization founded on the firm belief that we can create a sum that is far greater than any of its parts, bringing together many disciplines, specialties, and nationalities to focus on injuries and illnesses that affect the brain. This meeting more than any other represents a renewal and rebirth of the society, and all of you are vital to the future of the society as we continue to branch out into a new host nation, Canada, new directions, and new applications of technologies.

Our society is the offspring of a fruitful research collaboration involving NASA (the National Aeronautics and Space Administration) so collaborations are nothing new, but in the past year we have taken this to a new level, as SBMT is jointly sponsoring an educational course with the American Academy of Neurology, and has also established key partnerships with both the American Association of Neurological Surgeons, who is co-sponsoring this meeting, and the International Society for Magnetic Resonance Imaging in Medicine, which has endorsed this meeting. Just last week, SBMT held The First Annual Brain Mapping Day at the U.S. Congress, with 8 members of the society presenting the results of some of their groundbreaking work, and culminating with a scintillating speech by Kirsty Duncan, Member of the Canadian Parliament and Associate Professor of Health Studies at the University of Toronto. The Honorable Ms. Duncan, who we will honor at this meeting with the 2012 Pioneer in Healthcare Policy Award, is sponsoring legislation to establish 2014 as The Year of the Brain in Canada. SBMT will work with her and key legislators to sponsor similar legislation in the U.S. as part of an international effort to promote research to find superior methods for diagnosing, treating, and ultimately curing, the epidemic of brain diseases facing an aging world population. This September, the SBMT will hold its first satellite symposium in France, as we continue to break down borders between nations and disciplines to enable us to better address brain disease. A paramount example of our efforts to explore new external frontiers is the plan to hold the 11<sup>th</sup> Annual SBMT Meeting in Australia in 2014, while a scan of the program at this year's meeting makes it obvious how well our members are pushing internal frontiers in their research.



To maintain the vitality of the organization, and to continue to grow in size, scope, influence, and impact, I ask that each of you not only return for the 2013 meeting in Baltimore, but bring at least two or three colleagues with you. Every meeting we have had has involved provocative, thoughtful, and eye-popping examples of cutting-edge research, from finding better ways to define the anatomy and physiology of the brain, to demonstrating that it is possible to manipulating an artificial limb solely with the power of one's brain. I know that you will all be stimulated by the research you see and hear about in Toronto this weekend. Please carry forward the torch lit by that enthusiasm through our Satellite Symposium in France, our next Brain Mapping Day at the U.S. Congress, and on to an even more robust meeting in Baltimore next year!

Sincerely,

Michael J. Roy,  
Colonel, Medical Corps, U.S. Army,  
President-elect of SBMT





## SBMT Program

Nano-Bio-Electronics Consortium (NBEC): The Purpose of the NBEC is to facilitate integration of nanotechnology, Stem cell and cellular therapy with Medical Devices and imaging. This consortium will impact global biomedical science and healthcare delivery through national and international partnerships with governments, universities and leading industry. The following are elements of the Consortium:

### 1 - Scientific Meetings

This includes national meetings, international meetings, and world congress. The world congress is the society's annual meeting that invites prominent scientists and clinicians from all over the globe. Scientific Meetings are broken down into three categories:

SCIENTIFIC EXHIBITS & POSTERS	SPECIAL FOCUS SESSIONS	STUDENT FUNDING OPPORTUNITIES
Basic and Clinical Research in image guided therapy. Novel research and development in brain mapping and intra-operative surgical planning. Clinical trials Bio-Ethics	Governmental Regulation Government Education Patient Advocacy Healthcare Policy Funding Opportunities	Graduate and Post Graduate Interdisciplinary Fellowships Student Travel awards University Student chapters mentorship programs Scholarships for undergraduate students studying neurological disorders

### 2 – Student Chapters

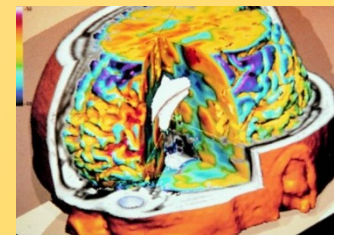
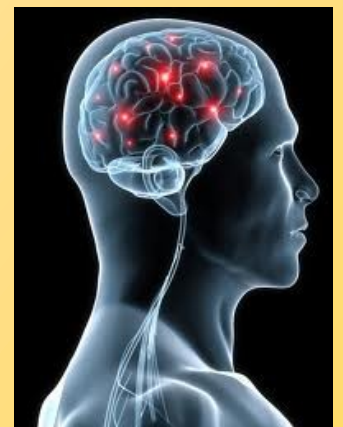
The student chapters are organized to promote and encourage multi-disciplinary research across disciplines. Universities with Student Chapters qualify for student travel award starting 2012.

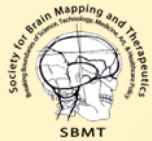
### 3 – Fellowships

SBMT fellowships are focused on interdisciplinary training of neurosurgeons, neurologists, radiologists and rehabilitation physicians, neuroscientists and engineers on diseases that has major Social impact such as Traumatic brain and spinal cord injuries, neuro-oncology and neurodegenerative diseases. The fellowships are design to apply state-of-the-art research through the study of biomedical science and cutting edge technologies to clinical problems. These scholarship are awarded to masters students, pre-doctoral, and post-doctoral fellows.

### 4 – Visiting Scholars Program

Visiting scholars program facilitates exchange of scientific investigators and policy experts with other countries and institutions through participating SBMT centers. The goal of the visiting scholar program is to develop collaborations between physical and biological sciences and address major policy issues relevant to the society.





## 5 - World Congresses

*The list of previous Annual World Congresses organized in the last eight years:*

- 2011 - San Francisco, CA, USA
- 2010 - USUHS, Bethesda, Maryland, USA
- 2009 - HARVARD Medical School, Boston, MA, USA
- 2008 - UCLA California Nano-system Institute, LA, CA, USA
- 2007 - Washington DC, USA
- 2006 - Clairmont-Ferrand, France
- 2005 - Pasadena, CA, USA
- 2004 - USC Keck School of Medicine, CA, USA

### **SBMT Annual Meeting Organizers Encourage Cross-Disciplinary Subjects:**

- Image guided systems
- Neurovascular coupling and Perfusion imaging
- ISP & Image guided surgery (OR of the future)
- BM and ISP in Stereotactic Radiosurgery (proton Therapy, Novalis, Tomo-therapy, Varian system, Xknife, gamma knife and cyberknife technologies will be compared and contrasted)
- Molecular and cellular imaging including: the use of nanoparticles for stem cell and T-cell imaging
- Neuro Anatomy and histopathology in brain mapping
- Nanoscience, genomics, computational informatics genetics in brain mapping
- Rehabilitation Medicine (e.g. TBI, Stroke, Spinal Cord Injury)
- Novel imaging techniques for TBI and PTSD (eg. DTI, PET, SPECT)
- NeuroImaging for Psychiatric Diseases (eg. PTSD, Autism, Schizophrenia)
- Nanoscience, genomics, computational informatics genetics in brain mapping
- Neurophysiology (EEG, MEG, Evoked Potentials, EMG/NCS, ESM)
- Functional brain mapping (fMRI, PET, SPECT, Intrinsic Signal Optical Imaging)
- Brain Mapping and Intra-operative Surgical Planning using Endoscopy
- Biophotonic techniques for Brain Mapping
- Multi-modality imaging techniques
- Ultrasound Imaging
- Magnetic Resonance Spectroscopic Imaging
- High-field and low-field magnetic resonance
- High-field and low-field MRI, MR Spectroscopic Imaging, micro MRI
- Magneto encephalographic
- Transcranial Magnetic Stimulation
- Cerebral White Matter Mapping and Imaging, (eg. Diffusion Tensor Imaging) Neural Prosthesis & Robotics (Human Brain machine Interface technology)
- Minimally invasive therapy for traumatic brain injury (TBI) imaging modalities for detecting mild/mod TBI, micro-TBI
- Socioeconomic, Ethical, and Healthcare issues related to the brain mapping and intra-operative surgical planning
- Healthcare Policy, Ethics and Regulatory affairs

## 6 – Seed Grants

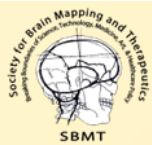
SBMT, in partnership with Brain mapping Foundation and other foundations is planning to provide seed grants to encourage cross-disciplinary collaboration. The purpose of these grants is to bridge physical and biological sciences and encourage cross disciplinary collaboration.

## 7 – Industry Partners

SBMT encourages support from private industry and provides industry with a forum to present their latest advances. The society recognizes the role of industry in translating cutting-edge research and technology into the market. SBMT is currently partnering with more than 100 multinational corporations.







## 8 – Society Publications

The Society has successfully published 3 special issues with NeuroImage. We have reached out to more than 50,000 scientists worldwide through our partnership with Elsevier in the last several years. Recently, SBMT partnered with PloSone publishing giant to launch special Collection /publication called: NeuroMapping and Therapeutics ([www.PloSone.org](http://www.PloSone.org) <<http://www.plosone.org/>>) PloSone is one of the largest Open access Publishers in the world. We anticipate that we reach out to a larger audience of scientists through our partnership with PloSone and surpass our outreach in last several years.



## 9 – Government Relationships

The society works actively with the representatives of various governments to leverage its resources and focus attention on healthcare issues through interdisciplinary collaborations. In the past SBMT scientific activities have been supported by government institutions such as UCLA-CNSI, TATRC, DVBIC, Canadian Research Council, NINDS, NCI and NIBIB.



## 10 – Healthcare Policy

In 2008 SBMT introduced formation of Science, Technology, Medicine and Law-Healthcare Policy (STML-Hub) to the US Congress and house of representative in order to establish a center for introducing technological and scientific advancements to the policy makers. The organization hoped that through this hub we could educate policymakers about the state-of-the-art science. This could help policy makers identify technologies, which could save cost, increase efficiency and better healthcare delivery. SBMT is now working on a proposal to establish National Center for Nano-Bio-Electronics. The center will be focused on integration of nanotechnology, stem cell and cellular therapy and medical imaging/devices for the purpose of rapidly providing solutions for the wounded warriors and civilians with neurological disorders such as PTSD and TBI.



## 11 – Outreach Program

Outreach programs including woman and minority in sciences and community awareness of new technology, science and medical advancements. This includes high school and college educational programs run through student chapters worldwide.

## 12 – Global Physician and Scientists (GPS)

GPS is a humanitarian program, which is focused on mobilizing physicians, scientist and surgeons to serve for few weeks in the poor and rural areas of the United States and abroad. This program will collaborate with industry and government officials and will use the national and international SBMT centers as bases of operations. The program is designed to not only help alleviate healthcare disparities by bringing world class physicians to the poor areas but also help improve local economy through micro and neuroEconomics.





## KEYNOTE SPEAKERS

Commodore H.W. Jung joined the Canadian Forces in 1981. He completed his medical training at the University of Toronto and the Toronto East General and Orthopaedic Hospital.

In 1985, as a Lieutenant(N), Commodore Jung was posted to CFB Esquimalt, serving both on the base and on HMCS PROVIDER as the ship's Medical Officer. Posted to Germany, he served as Base Surgeon in Lahr and Baden. In 1990, then-Lieutenant-Commander Jung was the Senior Medical Officer to the Canadian Air Task Group (Middle East) Qatar, serving through the air campaign of the 1991 Persian Gulf War.

During his five-year tenure at Canadian Forces Europe, he was a member of the NATO Tactical Evaluators. Upon returning to Canada in 1993, he attended French language training in Ottawa. This was followed by a tour as a medical Detachment Commander at NDHQ Medical Inspection Room.

In 1995, he was posted to Air Command Headquarters in Winnipeg. During his tenure at Air Command, he assumed multiple roles that included the posts of the Command Flight Surgeon and A1 Medical Operations. In the summer of 1997, he was posted to Maritime Forces Pacific Headquarters in Esquimalt as the Maritime Pacific Surgeon. In July 2000 as a Captain(N), Commodore Jung was appointed Maritime Command Surgeon and Medical Advisor to the Chief of Maritime Staff at NDHQ. Commodore Jung was appointed to the Order of Military Merit in 2001.

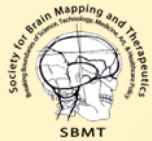
Subsequently, Commodore Jung assumed responsibilities as Director Health Services Operations, then as Director Health Services Personnel and later as Deputy Surgeon General at the Canadian Forces Health Services Group HQ. Commodore Jung was also the principle officer responsible for achieving Canadian Medical Association recognition of Physician Assistants as a health care professional in Canada.

Commodore Jung was promoted to his current rank in June 2009 and appointed Surgeon General, Commander of the Canadian Forces Health Services Group and Queens Honorary Physician.

Commodore Jung completed his Masters of Arts in Leadership from the Royal Roads University in 2005. He is a graduate of National Securities Studies Program at the Canadian Forces College.



**Commodore H. W.  
Jung, OMM, CD  
SURGEON GENERAL /  
COMMANDER CF  
HEALTH SERVICES  
GROUP**



## KEYNOTE SPEAKERS

Vice Admiral Nathan is the 37th surgeon general of the Navy and chief of the Navy's Bureau of Medicine and Surgery.

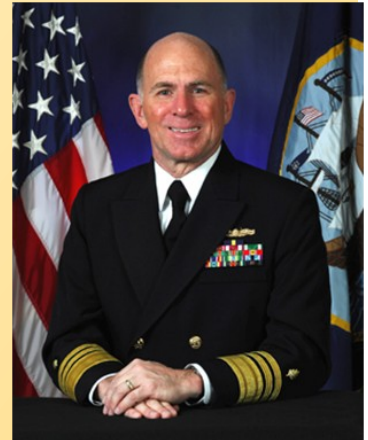
Nathan received his Bachelors of Science from Georgia Tech and his M.D. from The Medical College of Georgia in 1981. He completed Internal Medicine specialty training in 1984 at the University of South Florida before serving as the Internal Medicine Dept Head at Naval Hospital Guantanamo Bay, Cuba. In 1985 Nathan transferred to Naval Hospital, Groton, Connecticut as leader of the Medical Mobilization Amphibious Surgical Support Team. In 1987, Nathan transferred to Naval Medical Center San Diego as Head, Division of Internal Medicine with additional duty to the Marine Corps, 1st Marine Division.

In 1990 he served as a Department Head, Naval Hospital Beaufort, South Carolina before reporting to Naval Clinics Command, London, U.K. where he participated in military-to-military engagements with post-Soviet Eastern European countries. In 1995, he was assigned as specialist assignment officer at the Bureau of Naval Personnel, providing guidance to over 1,500 U.S. Navy Medical Corps officers. In 1998 he accepted a seat at the Joint Industrial College of the Armed Forces located in Washington, D.C., graduating in 1999 with a Masters in "Resourcing the National Strategy." Nathan went on to serve as the Fleet Surgeon, Forward Deployed Naval Forces, Commander, U.S. 7th Fleet, aboard the flagship USS Blue Ridge (LCC 19), out of Yokosuka, Japan. In 2001, he transferred as Deputy Commander, Navy Medical Center Portsmouth, Va.

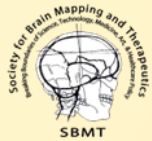
In 2004 Nathan assumed command of Naval Hospital Pensacola with additional oversight of 12 clinics in 4 states where he oversaw Navy medical relief efforts following hurricanes Ivan, Dennis, and Katrina. Despite all facilities receiving crippling blows; his command still garnered the TRICARE/DOD award for "highest patient satisfaction in a medium sized facility". In June 2006, he transferred as the Fleet Surgeon to the commander, U.S. Fleet Forces Command, instrumental in organizing the Fleet Health Domain integration with the Fleet Readiness Enterprise while providing medical global force management. In 2007, Nathan was assigned as Commander, Naval Medical Center Portsmouth and Navy Medicine Region East with command of over 18,000 personnel and an operating budget exceeding \$1.2 billion.

Nathan also served as Commander, Walter Reed National Military Medical Center and Navy Medicine, National Capital Area where he was the Navy component commander to the largest military medical integration and construction project in DOD history.

Nathan is board certified and holds Fellow status in the American College of Physicians and the American College of Healthcare Executives. He also holds an appointment as Clinical Professor of Medicine at the Uniformed Services University of the Health Sciences. He is a recipient of the American Hospital Association "Excellence in Leadership" award for the Federal Sector. Nathan's personal awards include the Distinguished Service Medal (1); Legion of Merit (5); Meritorious Service Medal (2); Navy Commendation Medal, and Navy Achievement Medal (2).



**Vice Admiral  
Matthew L. Nathan**



## KEYNOTE SPEAKERS

Kirsty Duncan is a Canadian medical geographer and current MP for the Liberal Party of Canada in the Toronto riding of Etobicoke North.

After graduating from Kipling Collegiate Institute in 1985 as an Ontario Scholar, Duncan studied Geography and Anthropology at the University of Toronto. She then entered graduate school at the University of Edinburgh in Scotland, and completed a Ph.D. in geography in 1992

From 1993 to 2000, Duncan taught meteorology, climatology, and climate change at the University of Windsor. In 1992, as she became increasingly aware of the increasing probability of a global flu crisis, she was led to investigate the cause of the similar 1918 Spanish flu pandemic, saying, "I was horrified we didn't know what caused [Spanish flu], and also knew that if we could find fragments of the virus, we might be able to find a better flu vaccine"

Though at the time she "knew nothing about influenza", she began what she called a "six-month crash course in virology". Eventually, she began searching for possible frozen samples of lung and brain tissue that might contain the virus. Her initial thoughts led her to think of Alaska, as it contains large areas of permafrost, which would leave the viruses intact, but the search proved fruitless.

Eventually, after several years of searching, Duncan learned of seven miners who had died from the Spanish flu and were buried in the small town of Longyearbyen, Norway, an area that would contain permafrost. She then began assembling a team of scientists to accompany her. After several more years of preparation, which involved garnering various permissions to perform the exhumations, the ground survey began in 1998. However, the samples were not viable, as the bodies were not in the permafrost, and the expedition was ultimately proved a disappointment.

In 2003, Duncan wrote a book about her expedition, entitled *Hunting the 1918 Flu: One Scientist's Search for a Killer Virus*. Published by the University of Toronto Press, it details Duncan's process and the expedition itself. After the book's publication, Duncan began speaking about pandemics, which led her to begin teaching corporate social responsibility at the University of Toronto's Rotman School of Management. In 2008, Duncan published a second book, *Environment and Health: Protecting our Common Future*.

Duncan was an adjunct professor teaching both medical geography at the University of Toronto and global environmental processes at Royal Roads University, and served on the Intergovernmental Panel on Climate Change, an organization that won the 2007 Nobel Prize with Al Gore.



**Kirsty Duncan**  
**Member Parliament**





## KEYNOTE SPEAKERS

Kevin Lobo took his new role as Group President, Orthopaedics for Stryker in June 2011. Kevin has responsibility for Stryker's Reconstructive (Recon), Trauma and Extremities, Craniomaxillofacial (CMF), Joint Preservation, and Orthobiologics business units and is based in Mahwah, NJ. Kevin also shares responsibility for the newest division of Stryker, Performance Solutions, with Tim Scannell, Group President, MedSurg. Performance Solutions is dedicated to delivering services and systems that enable healthcare providers to achieve their clinical, operational and financial performance goals.

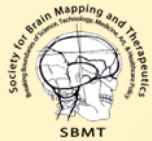
Kevin's diverse career of 24 years spans multiple industries, including health-care. He began his career in 1987 in auditing at KPMG and Unilever Canada, and strengthened his business acumen through Finance roles at Kraft Canada starting in 1992. In 1995, he joined Rhone-Poulenc Canada, and progressed over the next eight years through VP Finance roles in Canada and the US, before moving to Paris as the Worldwide Corporate Controller of the chemical spin-out of Rhone-Poulenc, Rhodia. Kevin's international experience continued in 2001 when he became VP/General Manager Specialty Phosphates EMEA, based in London, UK. This was a turnaround role, where he reversed multi-million dollar losses.

Building on this strong foundation, Kevin joined Johnson & Johnson at McNeil Consumer Healthcare as CFO in 2003. In 2004 he took on expanded responsibilities as CFO of Ortho Women's Health & Urology and General Manager of McNeil Canada. Kevin continued to build his leadership portfolio in 2005 when he became President of Johnson & Johnson's Medical Products Canada based in Toronto. In this role, he led J&J's Canadian medical device businesses (Depuy, Cordis, Ethicon and Ethicon Endo-Surgery). This position led him to his most recent role in 2006, when he became President of Ethicon Endo-Surgery Inc., a \$4 Billion business with more than 5000 employees, headquartered in Cincinnati. During his time at Ethicon Endo-Surgery, Kevin led the business to develop a stronger customer focus, above-market sales growth, and top-ranking employee engagement scores.

Kevin has been active in local communities as a board member for Chambers of Commerce, United Way and community arts organizations. Kevin, his wife, Shazie, and their two teen-age children, Sara and Seth, are avid travelers, and active in their community and athletics. They have recently relocated to Wyckoff, NJ. Kevin holds a Bachelor of Commerce from McGill University, and a Master of Business Administration from the University of Toronto.



**Kevin Lobo**  
**Group President,**  
**Orthopaedics**  
**Stryker Corporation**



## KEYNOTE SPEAKERS

Paxinos' The Rat Brain in Stereotaxic Coordinates, is ranked among the 50 most cited items in the entire Web of science and has attracted over 30,000 citations.

Dr. George Paxinos paved the way for future neuroscience research by being the first to produce a three-dimensional (stereotaxic) framework for placement of electrodes and injections in the brain of experimental animals, which is now used as an international standard. He was a member of the first International Consortium for Brain Mapping, a UCLA based consortium that received the top ranking and was funded by the NIMH led Human Brain Project.

Dr. Paxinos has been honored with more than nine distinguished awards throughout his years of research, including: The Warner Brown Memorial Prize (University of California at Berkeley, 1968), The Walter Burfitt Prize (1992), The Award for Excellence in Publishing in Medical Science (Assoc Amer Publishers, 1999), The Ramaciotti Medal for Excellence in Biomedical Research (2001), The Alexander von Humbolt Foundation Prize (Germany 2004), and more. With 35 published research books, 115 refereed journal articles, 2 reviews, 25 book chapters and 13 CDROMs, he is currently President of the Australian Neuroscience Society and the IBRO World Congress of Neuroscience.

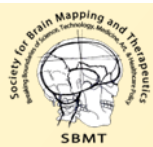
Author of:

Rat Brain in Stereotaxic Coordinates, 6e (hardback)  
Atlas of the Developing Mouse Brain at E17.5, P0 and P6  
Atlas of the Developing Rat Nervous System, 3e  
Atlas of the Human Brain, 3e  
Atlas of the Human Brainstem  
The Chick Brain in Stereotaxic Coordinates  
The Human Nervous System, 2e  
The Rat Brain in Stereotaxic Coordinates - The New Coronal Set, 5e  
The Mouse Brain in Stereotaxic Coordinates, 3e  
The Mouse Brain in Stereotaxic Coordinates, 2e, Compact Version  
Mouse Brain in Stereotaxic Coordinates, 3e, Compact Version  
Chemoarchitectonic Atlas of the Mouse Brain  
The Chemoarchitectonic Atlas of the Rat Brain, 2e



**George Paxinos**  
Prince of Wales Medical Research Institute  
and The University of  
New South Wales,  
Sydney, Australia





# 9<sup>th</sup> Annual World Congress of SBMT on Brain, Spinal Cord Mapping and Image Guided Therapy

June 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 2012

Breaking Boundaries of Science,  
Technology, Medicine, Art and Healthcare Policy

Society for Brain Mapping and Therapeutics - SBMT

## Timetable

	Day 1 (Saturday, June 2nd, 2012)	Day 2 (Sunday, June 3rd, 2012)	Day 3 (Monday, June 4th, 2012)
7:00 AM	Registration Desk Open	Registration Desk Open	Registration Desk Open
7:45 AM	<b>Welcome and SBMT vision: (Hall 701)</b>		
8:00 AM	<b>B. Kateb (Founding Chairman of the Board of SBMT)</b>		
8:15 AM	<b>Program overview: (Hall 701)</b> <b>M. Chen (8th President of SBMT) and M. Roy (President Elect of SBMT)</b>	<b>Keynote Speaker (Hall 701)</b> Kirsty Duncan Member of the Canadian Parliament	<b>Keynote Speaker (Hall 701)</b> George Paxinos Pioneer in Medicine Award recipient of SBMT
8:30 AM	<b>Keynote Speaker (Hall 701)</b> Commodore Hans W. Jung Surgeon General of the Canadian Forces	<b>Keynote Speaker (Hall 701)</b> Kevin Lobo Orthopedics Group President, Stryker Corporation	Coffee Break & Poster Viewing
8:45 AM			****Breakfast is provided to first 30 workshop attendees
9:00 AM	<b>Keynote Speaker (Hall 701)</b> Admiral M. Nathan Surgeon General of the US Navy	Coffee Break & Poster Viewing	<b>14 - Scientific Session (Hall 714)</b> <b>Novel AD Therapies (Alzheimer's)</b>
9:15 AM		<b>6 - Scientific Session (Hall 714)</b> <b>Spine session 1: Advanced imaging and therapeutics for spinal cord injury</b>	Chair: M. Koronyo-Hamaoui / 2. D. Feinstein / 3. S.A. Frautschy / 4. H.L. Weiner / 5. G. Bitan
9:30 AM	Coffee Break & Poster Viewing	Chair: M. Fehlings 1. J. Cohen-Adad / 2. J.P. Johnson / 3. N. Boulis / 4. A. Nagy / 5. M. Fehlings / 6. L. McKerracher	<b>15 - Scientific Session (Hall 716)</b> <b>Spine session 2: Advanced imaging and therapeutics for spinal conditions</b>
9:45 AM		<b>7 - Scientific Session (Hall 716)</b> <b>Neuro-Degenerative Disorders</b>	Chair: M. Fehlings 1. M. Shochet / 2. W.M. Erwin / 3. P. Stroman / 4. R. Menon
10:00 AM	<b>1 - Scientific Session (Hall 701)</b> <b>Military Medicine 1</b>	Chair: S.E. Black 1. P. Vemuri / 2. S.E. Black / 3. M.M. Adamson & A.C. Rosen / 4. I. Aubert / 5. B. Stefanovic /	Coffee Break & Poster Viewing
10:15 AM	Chair: M. Roy 1. G. Ling / 2. M. Roy / 3. D. Perl / 4. D. Moore / 5. J. Yu / 6. W.W. Cheatham		<b>16 - Scientific Session (Hall 714)</b> <b>Brain Implants and Neuromodulation</b>
10:30 AM			Chair: A. Lozano* 1. A. Lozano / 2. A.A.F. De Salles* / 3. J. Daskalakis / 4. R.E.W. Chen
10:45 AM	Panel Discussion/ Q&A		* Recipient of Pioneer in Medicine award of SBMT
11:00 AM		Lunch Break	<b>17 - Scientific Session (Hall 716)</b> <b>Multimodality Brain Mapping</b>
11:15 AM			Chair: J.J. Pillai 1. J.J. Pillai / 2. M.S. Shiroishi / 3. T.P. Roberts / 4. A. Horska
11:30 AM			
11:45 AM	Lunch Break		Lunch Break
12:00 PM			
12:30 PM			
12:45 PM			
1:00 PM			
1:15 PM	<b>3 - Scientific Session (Hall 714)</b> <b>Neurotrauma 2 - Program at the tip of the Spear</b>	<b>8 - Scientific Session (Hall 714)</b> <b>Brain Policy</b>	<b>9 - Scientific Session (Hall 716)</b> <b>Biophotonics</b>
1:30 PM	Chair: Y. Wang 1. T. Degraha / 2. M. Besemann / 3. Y. Wang / 4. G. Reger / 5. A. Aiken	Chair: K. Duncan 1. J. Aubin / 2. V. Foran / 3. B. Greenberg / 4. I. Jabalpurwala / 5. W. E. Reichman	Chair: W. Grundfest 1. D. Farkas / 2. W. Grundfest / 3. Q. Fang / 4. N. Prakash
1:45 PM	Panel Discussion/ Q&A	Coffee Break & Poster Viewing	Coffee Break & Poster Viewing
2:00 PM		<b>10 - Scientific Session (Hall 714)</b> <b>Neuro-Ophthalmology 1</b>	<b>11 - Scientific Session (Hall 716)</b> <b>Nano-Bio-Electronics/ Stemcells</b>
2:15 PM		Chair: B. Burt 1. B. Burt / 2. J. Zhang / 3. R. Nickells / 4. R. Schinder /	Chairs: B. Kateb & J.T.W. Yeow 1. J.T.W. Yeow / 2. P. Kim / 3. F. Gu / 4. M. Foldvari / 5. J. Berlin
2:30 PM	Coffee Break & Poster Viewing	Coffee Break & Poster Viewing	Coffee Break & Poster Viewing
2:45 PM	<b>4 - Scientific Session (Hall 714)</b> <b>Military Breakout 1: Traumatic Brain Injury</b>		
3:00 PM	Chair: K. Green 1. K. Green / 2. M. Risling / 3. J. Lu / 4. R. Diaz-Arrista / 5. W. Schneider		
3:15 PM			
3:30 PM			
3:45 PM			
4:00 PM	Panel Discussion/ Q&A		
4:15 PM			
4:30 PM			
4:45 PM			
5:00 PM			
5:15 PM			
5:45 PM - 6 PM			





## SCIENTIFIC PROGRAM

### Day One Saturday, June 2nd, 2012

7:00-7:45 AM

**Congress Registration**

7:45-8:15 AM

#### **Welcome and SBMT Vision: (Hall 701)**

**Babak Kateb,**  
Founding Chairman of the Board of SBMT

8:15-8:30 AM

#### **Program Overview: (Hall 701)**

**Michael Y. Chen,**  
8th President of SBMT  
&  
**Michael J. Roy,**  
President Elect of SBMT

**Scientific Sessions**  
are 90 minutes (5 presentations of 15 minutes + 5 minutes of Q&A)

8:30-9:00 AM

#### **Keynote Speaker (Hall 701)**

**Commodore Hans W. Jung,**  
Canadian Surgeon General; Commander,  
Canadian Forces Health Services Group

9:00-9:30 AM

#### **Keynote Speaker (Hall 701)**

**Admiral M. Nathan,**  
Surgeon General of the US NAVY

9:30-9:45 AM

**Coffee Break & Poster Viewing**

#### **1 - Military Medicine 1 (Hall 701)**

**Session Chair: Michael J. Roy**

9:45-10:00 AM

#### **Direct Cortical Control of a Prosthetic Arm**

**Geoffrey Ling,**  
Program Manager, DSO, DARPA, Arlington,  
VA Colonel, Medical Corps, U.S. Army,  
Chair of Department of Neurology, USUHS, Baltimore, MD

10:00-10:15 AM

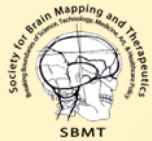
#### **Early Identification of PTSD and Postconcussive Syndrome after Military Deployment**

**Michael J. Roy,**  
Colonel, Medical Corps, U.S. Army,  
Director, Division of Military Internal Medicine Professor of Medicine,  
Uniformed Services University of the Health Sciences

10:15-10:30 AM

#### **Traumatic Brain Injury, Shell Shock and Post-Traumatic Stress Disorder in the Military - Past, Present and Future**

**Daniel Perl,**  
Director, Military Brain Injury Studies (MILBIS),  
Uniformed Services University of the Health Sciences



## **Day One      Saturday, June 2nd, 2012**

**10:30-10:45 AM      Developing a Central Nervous System Inter-Species Blast Scaling Function Using a Virtual Test Environment**

**David Moore,**  
 Associate Professor of vascular Neurology,  
 Tulane University School of Medicine Visiting Scientists, MIT, MA, USA

**10:45-11:00 AM      Nanoprodrugs for traumatic brain injury**

**John S. Yu,**  
 Professor and Vice chair, Director, Brain Tumor Center of Excellence, Cedars-Sinai Medical Center, Los Angeles, CA

**11:00-11:15 AM      Engaging With US Navy Medicine In Medical Research & Development**

**Wayman Wendell Cheatham,**  
 Special Assistant for Medical Research to The Navy Surgeon General & Director,  
 Navy Medicine Research and Development,  
 Bureau of Medicine and Surgery, US Navy, Washington, DC, USA

**11:15-11:30 AM      Panel Discussion/Q&A**

**11:30-1:00 PM      Lunch Break**

**1:00-4:00 PM      Medtronic Workshop (Hall 715B)**

Introduction to Medtronic StealthViz(tm) Advanced Visualization and Planning Software (Workshop Hall)

## **2 - Neurotrauma 1 - New Therapeutics (Hall 716)**

**Session Chair: Rocco A. Armonda**

**1:00-1:15 PM      Hand Transplantation using a Novel Cell-Based Immuno-modulatory Protocol**

**W P Andrew Lee,**  
 Milton T. Edgerton, MD, Professor and Chairman of Department of Plastic and Reconstructive Surgery,  
 Johns Hopkins University School of Medicine.

**1:15-1:30 PM      Cortical Reorganization, Phantom Limb Pain, and Mirror Therapy**

**Annie Chan,**  
 Director of Traumatic Brain Injury programs at the U.S. Bureau of Navy Medicine and Surgery.

**1:30-1:45 PM      Wartime Cerebrovascular Injuries: Delayed Vasospasm and Traumatic Psuedoaneurysms**

**Rocco A. Armonda**  
 Neurosurgery Consortium at National Naval MEDCEN and Walter Reed Army MEDCEN

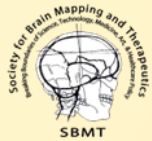
**1:45-2:00 PM      Advanced Nanostructured Bioactive Interfaces for Endovascular Cerebral Aneurysm Closure**

**Jean Paul Allain**  
 Perdue

**2:00-2:15 PM      Sustained Release Intracranial Drug Delivery for Traumatic Brain Injury**

**Robert Loch MacDonald,**  
 Scientist in the Keenan Research Centre of the Li Ka Shing Knowledge Institute of St. Michael's Hospital  
 Professor, Surgery/Neurosurgery, University of Toronto  
 Division Head, Neurosurgery, St. Michael's Hospital  
 Keenan Endowed Chair, Surgery, St. Michael's Hospital

**2:15-2:30 PM      Panel Discussion/Q&A**



## **Day One      Saturday, June 2nd, 2012**

### **3 - Neurotrauma 2 - Program at the tip of the Spear (Hall 714)**

#### **Session Chair: Yushan Wang**

- 1:00-1:15 PM      Assessment and treatment of the unrelenting Comorbidity state of Combat related TBI and PTSD: The NICOE experience.**  
**Thomas DeGraba,**  
National Intrepid Center of Excellence (NICOE)
- 1:15-1:30 PM      Clinical Guidelines for the Care of Persisting Symptoms after Mild Traumatic Brain Injury**  
**Markus Besemann,**  
Canadian Forces Health Service, Mental Health Division, Canada
- 1:30-1:45 PM      Neurodegeneration and astrogliosis in blast induced traumatic brain injury**  
**Yushan Wang,**  
Defence R&D Canada Suffield, Defence Scientist, Canada
- 1:45-2:00 PM      Activation of Combat Trauma Memories Using Virtual Reality**  
**Greg Reger,**  
T2, Madigan Army Medical Center
- 2:00-2:15 PM      The Canadian Institute for Military and Veteran Health Research: A New Network for Canada**  
**Alice Aiken,**  
Director, Canadian Institute for Military and Veteran Health Research
- 2:15-2:30 PM      Panel Discussion/Q&A**
- 2:30-2:45 PM      Coffee Break & Poster Viewing**

### **4 - Military Breakout 1: Traumatic Brain Injury (Hall 714)**

#### **Session Chair: Ken Green**

- 2:45-3:00 PM      From the Battlefield to the Beltway - Saved by War - Practical Translational Research**  
**Ken Green,**  
Commander (DC) USN  
Associate Director for Research Operations Integration  
Naval Medical Research and Development Center-Frederick  
Ft. Detrick
- 3:00-3:15 PM      Studies on blast induced brain injury in rats**  
**Marten Risling,**  
Professor, Karolinska Institute, Sweden
- 3:15-3:30 PM      Blast induced traumatic brain injury in experimental models**  
**Jia Lu,**  
DSO National Laboratories, Singapore
- 3:30-3:45 PM      MRI Biomarkers of Traumatic Brain Injury: Lessons for the next generation of clinical trials**  
**Ramon Diaz-Arrastia,**  
CNRM Director of Clinical Research





## **Day One      Saturday, June 2nd, 2012**

**3:45-4:00 PM      Detecting, Visualizing and Imaging of Traumatic Brain Injury with High Definition Fiber Tracking**  
**Walt Schneider & David Okonkwo,**  
UPMC

**4:00-4:15 PM      Panel Discussion/Q&A**

### **5 - Military Breakout 2: The Cutting Edge (Hall 716)**

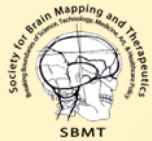
#### **Session Chair: Admiral Robinson**

**2:45-3:00 PM      The Effect of Defined Single Pulse Shock Waves on Brain Tissue**  
**Thomas Sawyer,**  
Defence R&D Canada Suffield, Defence Scientist, Canada

**3:00-3:15 PM      Parietofrontal connectivity mediating learning control of oscillatory brain activity in a brain-machine interface paradigm**  
**Leo Cohen,**  
chief of the Human Cortical Physiology Section, NINDS

**3:15-3:30 PM      Integrating Heterogeneous Brain Measurements for the Diagnosis and Treatment of Neurological Disorders**  
**Nirmal Keshava,**  
Draper Labs, Cambridge, MA

**3:30-3:45 PM      Panel Discussion/Q&A**



**9<sup>th</sup> Annual World Congress of SBMT on Brain, Spinal Cord Mapping and Image Guided Therapy**  
**June 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 2012**  
*Breaking Boundaries of Science,  
 Technology, Medicine, Art and Healthcare Policy*

*Society for Brain Mapping and Therapeutics - SBMT*

**Day Two**

**Sunday, June 3rd, 2012**

**7:00-8:00 AM**

**Opening Registration Desk**

**8:00-8:30 AM**

**Keynote Speaker (Hall 701)**

**Kirsty Duncan,**  
 Member of the Canadian Parliament

**Scientific Sessions**

**are 90 minutes (5 presentations of 15 minutes + 5 minutes of Q&A)**

**8:30-9:00 AM**

**Keynote Speaker (Hall 701)**

**Kevin Lobo,**  
 Orthopedics Group President, Stryker Corporation

**9:00-9:15 AM**

**Coffee Break & Poster Viewing**

**6 - Spine session 1: Advanced imaging and therapeutics for spinal cord injury (Hall 714)**

**Session Chair: Michael Fehlings**

**9:15-9:30 AM**

**DTI imaging of the spinal cord**

**Julien Cohen-Adad,**  
 Research Fellow, Harvard Medical School  
 Massachusetts General Hospital Department of Radiology

**9:30-9:45 AM**

**Image guided spinal surgery**

**J. Patrick Johnson,**  
 Director of Education and Co-Director of the Spine Stem Cell Research Program, Cedars Sinai Los Angeles, CA

**9:45-10:00 AM**

**Neural stem cells for ALS-clinical application**

**Nick Boulis,**  
 Founder of the Boulis Laboratory, Emory University School of Medicine

**10:00-10:15 AM**

**Non-viral Induced pluripotent stem cells**

**Andres Nagy,**  
 Professor, Department of Molecular Genetics, University of Toronto

**10:15-10:30 AM**

**Combinatorial Strategies for Spinal Cord Injury Using Neural Stem Cells and Bioengineered Approaches**

**Michael Fehlings,**  
 Professor, Department of Surgery, University of Toronto

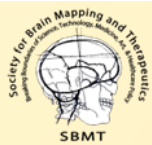
**10:30-10:45 AM**

**Rho inhibition for spinal cord injury: human clinical application**

**Lisa McKerracher,**  
 Adjunct Professor, University of Montreal, Dept of Pathology and Cell Biology  
 Adjunct Professor, McGill University, Department of Neurology

**10:45-11:00 AM**

**Panel Discussion/Q&A**



## **Day Two      Sunday, June 3rd, 2012**

### **7 - Neuro-Degenerative Disorders (Hall 716)**

#### **Session Chair: Sandra E. Black**

- 9:30-9:45 AM      Cognitive Reserve in Alzheimer's Disease**  
**Prashanthi Vemuri,**  
 Assistant Professor of Radiology, College of Medicine, Mayo Clinic Rochester, USA
- 9:45-10:00 AM      Image Guided Therapeutics in the Dementias: Prime Time vs. Pipeline**  
**Sandra E. Black,**  
 Brill Chair in Neurology, University of Toronto,  
 Sunnybrook Health Sciences Centre Bayview Avenue, Toronto, ON
- 10:00-10:15 AM      Neurodegeneration of White Matter in Veterans**  
**Maheen M. Adamson & Allyson C. Rosen**
- 10:15-10:30 AM      MRI-guided focused ultrasound applications for the delivery of therapeutics to the brain**  
**Isabelle Aubert,**  
 Senior Scientist, Alzheimer's research, Sunnybrook Health Sciences Centre, Toronto, Canada
- 10:30-10:45 AM      In situ two photon fluorescence microscopy of beta-amyloid dependent compromise of brain microvascular structure and function in AD**  
**Bojana Stefanovic,**  
 Assistant Professor of Physical Sciences, Sunnybrook Research Institute, Toronto, Canada
- 10:45-11:00 AM      Panel Discussion/Q&A**
- 11:00-12:30 PM      Lunch Break**

### **9 - Biophotonics (Hall 716)**

#### **Session Chair: Warren Grundfest**

- 12:30-12:45 PM      Biophotonic Imaging of Neurostructures, Functions and Mechanisms**  
**Daniel Farkas,**  
 President, International Musculoskeletal Lasers Society  
 Research Professor, Biomedical Engineering, Univ. of Southern California  
 Chairman and CEO, Spectral Molecular Imaging, Beverly Hills CA
- 12:45-1:00 PM      Lifetime fluorescence contrast imaging for characterization of brain tissue**  
**Warren Grundfest,**  
 Professor of Bioengineering & Electrical Engineering  
 The Henry Samueli School of Engineering & Applied Science,  
 Professor of Surgery, David Geffen School of Medicine, University of California, Los Angeles, CA
- 1:00-1:15 PM      Multimodality optical biopsy for in-vivo brain tumor margin detection**  
**Qiyin Fang,**  
 Associate Professor of Engineering Physics  
 Canada Research Chair in Biophotonics  
 McMaster University, Canada
- 1:15-1:30 PM      Somatosensory map plasticity and neurovascular uncoupling after cortical spreading depression**  
**Neal Prakash,**  
 Associate Professor, Director of Neurological Optical Imaging at City of Hope Medical Group  
 Neurologist at Neurological Services of Hawaii





## **Day Two      Sunday, June 3rd, 2012**

**1:30-1:45 PM      Panel Discussion/Q&A**

**1:45-2:00 PM      Coffee Break & Poster Viewing**

### **8 - Brain Policy (Hall 714)**

**Session Chair: Kirsty Duncan**

**12:30-12:45 PM      Advancing the Brain Research Agenda: Perspectives of a Canadian Health Research Funder**  
**Jane Aubin,**  
 Chief Scientific Officer and Vice-President, Research, Canadian Institutes for Health Research

**12:45-1:00 PM      The Case for a National Brain Strategy**  
**Vanessa Foran,**  
 Director, Policy, Partnerships and Government Relations, Neurological Health Charities Canada

**1:00-1:15 PM      Aging demographics and the predictable tsunami of dementia on the horizon. How do we build an effective break-water**  
**Barry Greenberg,**  
 Director, Neuroscience Drug Discovery and Development, University Health Network  
 Director of Strategy, Toronto Dementia Research Alliance

**1:15-1:30 PM      Brain Canada: A New Vision for Canadian Brain Research**  
**Inez Jabalpurwala,**  
 President, Brain Canada

**1:30-1:45 PM      Aligning public policy with support of the client and family**  
**William E. Reichman,**  
 President and Chief Executive Officer, Baycrest

**1:45-2:00 PM      Panel Discussion/Q&A**

**2:00-2:15 PM      Coffee Break & Poster Viewing**

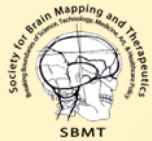
**1:00-3:00 PM      BrainLab Workshop (Hall 715B)**  
 Brainlab iPlan Cranial and iPlan RT Best practices for a joint surgical and SRS approach

### **11 - Nano-Bio-Electronics/Stemcells (Hall 716)**

**Session Co-Chairs: Babak Kateb & John T.W. Yeow**

**2:00-2:15 PM      Biomedical micro/nanodevices**  
**John T.W. Yeow,**  
 Canada Research Chair in Micro/Nanodevices  
 Department of Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada

**2:15-2:30 PM      New research paradigm and the future of surgery**  
**Peter Kim,**  
 Vice President, The Sheikh Zayed Institute for Pediatric Surgical Innovation,  
 Associate Surgeon-in-Chief, Children's National Medical Center, Washington DC



## **Day Two Sunday, June 3rd, 2012**

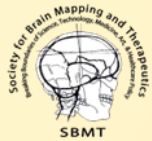
- 2:45-3:00 PM** **Gene therapy and delivery system design for optic nerve regeneration**  
**Marianna Foldvari,**  
 Canada Research Chair in Bionanotechnology and Nanomedicine at the University of Waterloo, Waterloo ON
- 3:00-3:15 PM** **Optimizing Nanoparticles for Brain Tumor Immunotherapy**  
**Jacob M. Berlin,**  
 Assistant Professor, Department of Molecular Medicine, City of Hope

**3:15-3:30 PM** **Panel Discussion/Q&A**

### **10 - Neuro-Ophthalmology 1 (Hall 714)**

**Session Chair: Benjamin Burt**

- 2:15-2:30 PM** **Traumatic optic neuropathy, translational perspectives**  
**Benjamin Burt,**  
 Director of Orbital & Oculoplastic Surgery,  
 Paul L. Foster School of Medicine Texas, Tech University, Texas, USA
- 2:30-2:45 PM** **Genetics of optic nerve regeneration in zebrafish**  
**Jun Zhang,**  
 Research Director and Assistant Professor in the Department of Anesthesiology  
 with joint appointments in the Department of Biomedical Sciences and the Center of Excellence  
 for Neurosciences at Texas Tech University Health Science Center, USA
- 2:45-3:00 PM** **Molecular Pathology of Retinal Ganglion Cell Apoptosis in Glaucoma**  
**Robert Nickells,**  
 Professor of Physiology, UW Comprehensive Cancer Center,  
 Institute on Aging. Eye Research Institute,  
 Department of Ophthalmology Vice Chair of Research, Canada
- 3:15-3:30 PM** **Panel Discussion/Q&A**
- 3:30-3:45 PM** **Coffee Break & Poster Viewing**
- 3:00-5:50 PM** **Oral Posters I (Hall 701)**
- 3:00-3:10 PM** **Non-invasive assessment and treatment of autonomic function using retinal circuitry**  
**Deborah Zelinsky**
- 3:10-3:20 PM** **Electroneurostimulation and Electric Laser Neurostimulation Capabilities in Victims of Vertebral Cerebro-Spinal Injuries**  
**Alexander Toma**
- 3:20-3:30 PM** **T-Lymphocytes Influence Behavioral Deficits in the 6 OHDA Unilateral Lesion Model for Parkinson's Disease**  
**Dwain Morris-Irvin**
- 3:30-3:40 PM** **Spatio-temporal characteristics of multisensory facilitation and inhibition**  
**Yong Hu**



## **Day Two Sunday, June 3rd, 2012**

- 3:40-3:50 PM** **A multimodal imaging study of visual perceptual deficits in schizophrenia: A study of perceptual closure processes.**  
 Pejman Sehatpour
- 3:50-4:00 PM** **Reduced CVR is associated with cortical thinning in patients with sickle cell disease**  
 Jackie Leung
- 4:00-4:10 PM** **Modified biocompatible hydrogels seeded with mesenchymal stem cells improve functional outcome and tissue repair in acute and chronic experimental spinal cord injury**  
 Hejčl Aleš
- 4:10-4:20 PM** **Assessment of NVU potential in presurgical mapping of patients with low grade gliomas**  
 Domenico Zaca
- 4:20-4:30 PM** **MR diffusion tensor imaging applied to the spinal cord of patients with neuropathic pain secondary to herpes poster infection- partial results**  
 Adriano Yacubian Fernandes
- 4:30-4:40 PM** **Diffusion Tensor Imaging of White Matter Abnormalities in Paediatric Epilepsy**  
 Hsiao Piau Ng
- 4:40-4:50 PM** **State-dependent modulation of the default mode network in Alzheimer's Disease**  
 Graeme Schwindt
- 4:50-5:00 PM** **Dynamic spinal networks: How Incomplete SCI patients process sensory information differently than healthy controls**  
 David Cadotte
- 5:00-5:10 PM** **Is Transcranial Direct Current Stimulation (TDCS) a Feasible Add-On Antidepressant Treatment For HIV-Infected Patients?**  
 Eliezer Soto
- 5:10-5:20 PM** **Neocortical high frequency oscillations are associated with frequency-dependent changes in functional connectivity in children with focal epilepsy**  
 George Ibrahim
- 5:20-5:30 PM** **Analysis of potential candidate compounds that may alleviate cellular insulin resistance in immortalized rHypoE-19 hypothalamic neurons.**  
 Jonathan Menchella
- 5:30-5:40 PM** **Differentiating neural networks with interleaved TMS-BOLD imaging**  
 Colleen A. Hanlon
- 5:40-5:50 PM** **Combined functional and structural neuroimaging narrows the gap between functional and organic amnesia.**  
 Hans Markowitsch





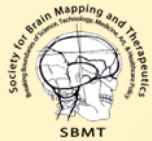
## **Day Two      Sunday, June 3rd, 2012**

### **12 - Neuro-Ophthalmology 2 (Hall 714) Session Chair: Vivek Patel**

- 3:45-4:00 PM      Neuroprotection of plastic bone marrow derived cells for the brain injury**  
**Huanyu Dou,**  
 Assistant Professor Ophthalmology at the TTUHSC, USA
- 4:00-4:15 PM      Advances in Imaging: Revolutionizing Neuro-Ophthalmology**  
**Vivek Patel,**  
 Assistant Professor, University of Ottawa  
 Neuro-Ophthalmology and Adult Strabismus, Canada
- 4:15-4:30 PM      Slow Cortical Potentials of Visual Retinotopic Maps**  
**Hugo Sandoval,**  
 Center of Excellence for Neurosciences, Texas Tech University Health Sciences Center
- 4:30-4:45 PM      Panel Discussion/Q&A**

### **13 - NeuroOncology (Hall 716) Session Chair: Michael Y. Chen**

- 3:45-4:00 PM      Role of the Chromobox Protein CBX6 in the Epithelial Mesenchymal Transition of Glioblastoma**  
**Michael Y. Chen,**  
 8th President of SBMT,  
 Assistant Professor of Neurosurgery, Section Head, Malignant Brain Tumor Program,  
 City of Hope National Cancer Center, Duarte, CA
- 4:00-4:15 PM      Subcortical tracts related to Eloquent Brain Tumors- A Challenge for the Neurosurgeon**  
**Sujit S. Prabhu,**  
 Associate Professor, Department of Neurosurgery, Division of Surgery,  
 The University of Texas MD Anderson Cancer Center,  
 Adjunct Associate Professor, Department of Neurosurgery, Division of Surgery,  
 Baylor College of Medicine, Houston, TX, USA
- 4:15-4:30 PM      Endoscopic Transphenoidal Surgery: The Utility of Intraoperative Navigation and Outcomes in 50 Consecutive Patients**  
**Bharat Guthikonda,**  
 Assistant Professor, Director of Skull Base Research  
 LSU Shreveport Health Science Center  
 Department of Neurosurgery
- 4:45-5:00 PM      Imaging For Targeting in Functional Neurosurgery**  
**Antonio A.F. De Salles,**  
 Professor of Neurosurgery and Radiation Oncology  
 Head of Stereotactic Surgery Section, University of California Los Angeles, Los Angeles, CA
- 5:00-5:15 PM      Panel Discussion/Q&A**



## Day Three Monday, June 4th, 2012

7:00-9:00 AM

### Brain Anatom-e Workshop (Hall 715B)

"Test drive" software which embeds extensively labeled DEFORMABLE ANATOMIC TEMPLATES (DAT) into volume images of your patient. (Workshop Hall)

### Scientific Sessions

are 90 minutes (5 presentations of 15 minutes + 5 minutes of Q&A)

8:00-8:30 AM

### Keynote Speaker (Hall 701)

#### Brain, Behavior and Evolution

**George Paxinos**

Pioneer in Medicine Award recipient of SBMT

8:30-8:45 AM

### Coffee Break & Poster Viewing

### 14 - Novel AD Therapies (Alzheimer's) (Hall 714)

#### Session Chair: Maya Koronyo-Hamaoui

8:45-9:00 AM

#### Monitoring Retinal A $\beta$ plaques in response to AD-immunotherapy

**Maya Koronyo-Hamaoui,**

Assistant Professor of Neurosurgery,  
 Assistant Professor of Biomedical Sciences,  
 Neuroimmunology Laboratory, Maxine-Dunitz Neurosurgical Institute,  
 Cedars-Sinai Medical Center, Los Angeles, CA

9:00-9:15 AM

#### Noradrenergic dysfunction in AD: causes and cures

**Douglas Feinstein,**

Professor, Department of Anesthesiology, University of Illinois, College of Medicine,  
 Research Scientist, Jess Brown VA Medical Center, Chicago, IL

9:15-9:30 AM

#### Dietary curcumin in tauopathies: potential role on Tau clearance pathways in tau transgenic mice

**Sally A. Frautschy,**

Professor, Dept. of Medicine & Neurology, Alzheimer Research Lab  
 Geriatric Research Education and Clinical Center (GRECC),  
 Chief Neurogerontology Veterans Affairs, UCLA, Los Angeles, CA

9:30-9:45 AM

#### Role of the monocyte/microglia axis in the pathogenesis and treatment of Alzheimer's disease

**Howard L. Weiner,**

Robert L. Kroc Professor of Neurology, Harvard Medical School  
 Co Director, Center for Neurologic Diseases, Brigham and Women's Hospital  
 Director, Partners Multiple Sclerosis Center, Brigham and Women's Hospital and  
 Massachusetts General Hospital, Harvard Institutes of Medicine

9:45-10:00 AM

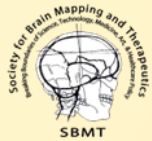
#### Aberrant protein self-assembly as a general target for Alzheimer's disease therapy

**Gal Bitan,**

Associate Professor of Neurology, Department of Neurology David Geffen School of Medicine at UCLA, Los Angeles, CA

10:00-10:15 AM

### Panel Discussion/Q&A



## **Day Three Monday, June 4th, 2012**

### **15 - Spine session 2: Advanced imaging and therapeutics for spinal conditions (Hall 716)**

**Session Chair: Michael Fehlings**

- 9:00-9:15 AM** **Bioengineered strategies for spinal cord repair**  
**Molly Shoichet,**  
Professor, Chemical Engineering & Applied Chemistry, University of Toronto,
- 9:15-9:30 AM** **The intervertebral disc as a unique stem cell niche**  
**W. Mark Erwin,**  
Assistant Professor, Department of Surgery, University of Toronto
- 9:30-9:45 AM** **Functional MR imaging of the human spinal cord**  
**Patrick Stroman,**  
Associate Professor, Diagnostic Radiology & Physics Departments, Queen's University
- 9:45-10:00 AM** **Advanced imaging approaches to study the central nervous system**  
**Ravi Menon,**  
Professor, Department of Medical Biophysics, Medical Imaging, University Western Ontario
- 10:00-10:15 AM** **Panel Discussion/Q&A**
- 10:15-10:30 AM** **Coffee Break & Poster Viewing**

### **16 - Brain Implants and Neuromodulation (Hall 714)**

**Session Chair: Andres Lozano**

- 10:30-10:45 AM** **Adjusting the Activity of Cerebral Circuits in Alzheimer's Disease with Deep Brain Simulation**  
**Andres Lozano,**  
Chairman of Neurosurgery, University of Toronto  
Senior Scientist, Division of Brain Imaging & Behaviour Systems - Neuroscience, Toronto Western Research Institute (TWRI), Toronto Canada
- 10:45-11:00 AM** **Imaging For Targeting in Functional Neurosurgery**  
**Antonio A.F. De Salles,**  
Professor of Neurosurgery and Radiation Oncology  
Head of Stereotactic Surgery Section, University of California Los Angeles, Los Angeles, CA
- 11:00-11:15 AM** **Facilitating Therapeutic Change in the Depressed Brain: New Therapeutic Approaches**  
**Jeff Daskalakis,**  
Associate Professor of Psychiatry and Director of the Brain Stimulation Research and Treatment Program at CAMH, Toronto, Canada
- 11:15-11:30 AM** **Using Transcranial Stimulation for Neurological Therapy**  
**Robert E W Chen,**  
Senior Scientist, Division of Brain Imaging & Behaviour Systems - Neuroscience Toronto Western Research Institute (TWRI), Toronto Canada
- 11:30-11:45 AM** **Panel Discussion/Q&A**





## **Day Three Monday, June 4th, 2012**

### **17 - Multimodality Brain Mapping (Hall 716)**

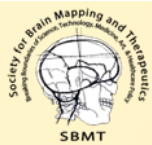
**Session Chair: Jay J. Pillai**

- 10:30-10:45 AM** **BOLD imaging for brain tumor presurgical mapping**  
**Jay J. Pillai,**  
 Director of Functional MRI, Neuroradiology Division,  
 The Russell H. Morgan Department of Radiology and Radiological Science,  
 Johns Hopkins Univ. School of Medicine,  
 Attending Neuroradiologist, The Johns Hopkins Hospital
- 10:45-11:00 AM** **Permeability and Perfusion MRI of Brain Tumors**  
**Mark S. Shiroishi,**  
 Assistant Professor, Division of Neuroradiology,  
 Department of Radiology, Keck School of Medicine, University of Southern California, Los Angeles, California
- 11:00-11:15 AM** **Clinical Magnetoencephalography (MEG)**  
**Timothy P.L. Roberts,**  
 Oberkircher Family Chair in Pediatric Radiology Vice-Chair Radiology  
 Research Children's Hospital of Philadelphia, Professor of Radiology, University of Pennsylvania School of Medicine
- 11:15-11:30 AM** **MRSI in brain tumors: treatment planning and effects of therapy**  
**Alena Horska,**  
 Assistant Professor, Division of Neuroradiology, Russel H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University
- 11:30-11:45 AM** **Panel Discussion/Q&A**
- 11:45-1:15 PM** **Lunch Break**

### **18 - Space Medicine 1 (NASA) (Hall 716)**

**Session Chair: Shouleh Nikzad**

- 1:15-1:30 PM**
- 1:30-1:45 PM** **Ocular and Elevated ICP Problems in Astronauts during Long Duration Space Flight**  
**Rafat Ansari,**  
 Bioscience and Technology Branch,  
 Space Processes and Experiments Division, NASA  
 Glenn Research Center, Cleveland, OHR.
- 1:45-2:00 PM** **Modeling and Simulation of Visual Impairment and Intracranial Pressure (VIIP) in Space**  
**Jerry Myers,**  
 Bioscience and Technology Branch,  
 Space Processes and Experiments Division, NASA  
 Glenn Research Center, Cleveland, OHR.



## **Day Three Monday, June 4th, 2012**

**2:00-2:15 PM**

### **Brain at Work: Overview of Stanford/VA Aviation Longitudinal Study**

**Maheen Mausoo Adamson,**

Clinical Assistant Professor (affiliated)

Psychiatry & Behavioral Sciences, Stanford School of Medicine Stanford CA,

Acting Director of Research,

Director, PhD Fellowship Program War Related Illness and Injury Study Center (WRIISC),  
 Veterans Affairs, Palo Alto Health Care System Palo Alto, CA

**2:15-2:30 PM**

### **Panel Discussion/Q&A**

**2:30-2:45 PM**

### **Coffee Break & Poster Viewing**

## **19 - Neuromodulation and Neuroimaging: Clinical Applications (Hall 714)**

### **Session Chair: Allyson C. Rosen**

**1:15-1:30 PM**

### **Integrating neuroimaging and neuromodulation**

**Allyson C. Rosen,**

VA Palo Alto Health Care System

**1:30-1:45 PM**

### **Prefrontal neuromodulation for depression. The search for a common mechanism**

**Ziad Nahas,**

Professor and Chairperson. Department of Psychiatry American University of Beirut, Lebanon

**1:45-2:00 PM**

### **Using Brain Stimulation to Assess Addiction: TMS-BOLD imaging**

**Colleen A. Hanlon,**

Assistant Professor Department of Psychiatry and Behavioral Sciences, Medical university of South Carolina,  
 USA

**2:00-2:15 PM**

### **Safety, tolerability, and efficacy of dorsomedial prefrontal rTMS for major depression**

**Jonathan Downar,**

Assistant Professor, Department of Psychiatry, University of Toronto

**2:15-2:30 PM**

### **Role of transcranial magnetic stimulation for understanding and promoting functional plasticity in people with multiple sclerosis**

**Lisa Koski,**

Director of the Transcranial Magnetic Stimulation laboratory at the Royal Victoria Hospital, Canada

**2:30-2:45 PM**

### **Neuromodulation and stroke**

**Carolynn Patten,**

Research Scientist-VA Brain Rehabilitation Research Center, University of Florida, USA

**2:45-3:00 PM**

### **Panel Discussion/Q&A**

**3:00-3:15 PM**

### **Coffee Break & Poster Viewing**

**1:15-3:15 PM**

## **Oral Posters II (Hall 717)**

**1:15-1:25 PM**

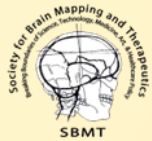
### **Effect of Noisy Galvanic Vestibular Stimulation on Motor Tracking in Parkinson's Disease Subjects On and Off Medication**

**Diana Kim**

**1:25-1:35 PM**

### **Magnetic Resonance Spectroscopy and Diffusion Tensor Imaging in Cervical Myelopathy Patients Following Spinal Decompression Surgery**

**Izabela Kowalczyk**



## **Day Three Monday, June 4th, 2012**

- 1:35-1:45 PM** **Role of the endogenous opioid peptide-mediated system in oriented escape behaviour and fear-induced antinociception elicited by GABAA receptors blockade into medial hypothalamus**  
 Norberto Cysne Coimbra
- 1:45-1:55 PM** **Assessment of NVU potential in presurgical mapping of patients with low grade gliomas**  
 Domenico Zaca
- 1:55-2:05 PM** **Normal Resting State Metabolic Brain Networks Identified Using PCA**  
 Phoebe Spetsieris
- 2:05-2:15 PM** **Correlating MRI and digital histopathology of temporal lobe resections in intractable epilepsy**  
 Maged Goubran
- 2:15-2:25 PM** **Safety and Efficacy of SEEG after Failed Subdural Electrode Implantation**  
 Sumeet Vadera
- 2:25-2:35 PM** **The utility of QEEG in predicting response to and reflecting changes from a new treatment for Brain Injuries**  
 James Halper
- 2:35-2:45 PM** **Integrated Time-resolved Fluorescence and Diffuse Reflectance Spectroscopy Optical Biopsy Instrument**  
 Zhaojun Nie
- 2:45-2:55 PM** **Clinical effects of Neuronavigation guided frameless stereotactic biopsy and CT guided stereotactic biopsy**  
 Masamitsu Nishihara
- 2:55-3:05 PM** **Low-cost, high sensitivity optical imagers for biomedical applications**  
 Darek Palubiak
- 3:05-3:15 PM** **Panicolytic effect of cannabidiol microinjected into the substantia nigra pars reticulata on defensive behavior elicited by GABAA receptor antagonism in the deep layers of the superior colliculus**  
 Norberto Cysne Coimbra
- 3:15-3:30 PM** **Coffee Break & Poster Viewing**

## **20 - Neural Growth, Repair and Regeneration (Hall 714)**

### **Session Chair: Takako Makita**

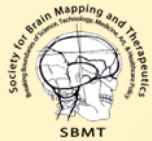
- 3:15-3:30 PM** **Neuro-vascular congruency in axon growth and guidance**  
**Takako Makita,**  
 Assistant Professor, Neuroscience Program, The Saban Research Institute  
 Children's Hospital Los Angeles, University of Southern California Keck School of Medicine
- 3:30-3:45 PM** **Signaling underlying sympathetic nervous system development, function, and disease**  
**Christopher Deppmann,**  
 Assistant Professor Departments of Cell Biology and Biomedical Engineering  
 University of Virginia
- 3:45-4:00 PM** **Network connectivity and the Epileptic Focus**  
**Sam Doesberg,**  
 Department of Diagnostic Imaging, Hospital for Sick Children, Toronto, Canada





## **Day Three Monday, June 4th, 2012**

- 4:00-4:15 PM** **Mapping neurodegeneration and neuroregeneration in adult mouse models: A Hybrid Approach**  
**Steffany A.L. Bennett,**  
 University Research Chair in Neurolipidomics,  
 Director, CIHR Training Program in Neurodegenerative Lipidomics, Neural Regeneration Laboratory, Ottawa  
 Institute of Systems Biology, Department of Biochemistry, Microbiology, and Immunology
- 4:15-4:30 PM** **Moderate microtubule stabilization reduces scarring and causes axonal regeneration after spinal cord injury**  
**Frank Bradke,**  
 Senior Group Leader, Axon Growth and Regeneration,  
 Deutsches Zentrum für Neurodegenerative Erkrankungen e.V. (DZNE)
- 4:30-4:45 PM**  **$\alpha$ -Synuclein Function as a Guide for Developing Novel Neuroprotective Therapies**  
**Ruth G Perez,**  
 Associate Professor of Biomedical Sciences, Center of Excellence for Neurosciences, Paul L Foster School of  
 Medicine, Texas Tech University Health Sciences Center  
 Adjunct Associate Professor of Psychology, University of Texas at El Paso
- 4:45-5:00 PM** **Panel Discussion/Q&A**
- 21 - Neurophysiology/Epilepsy (Hall 716)**
- Session Chair: Carter Snead**
- 2:45-3:00 PM** **Model-based Prediction of Seizures**  
**Steven Schiff,**  
 Center for Neural Engineering, Penn State University, USA
- 3:00-3:15 PM** **Seizure Detection & Deep Brain Stimulation 1**  
**Richard Wennberg,**  
 Kember Neurosciences Center, Division of Neurology Toronto Western Hospital, University of Toronto, Canada
- 3:15-3:30 PM** **Seizure Detection & Deep Brain Stimulation 2**  
**Ivan Osorio,**  
 Department of Neurology, University of Kansas Medical Center, USA
- 3:30-3:45 PM** **High Frequency Oscillation and the Epileptic Focus**  
**Ayako Ochi,**  
 Division of Neurology, Hospital for Sick Children, Department of Pediatrics, University of Toronto, Canada
- 4:00-4:15 PM** **Panel Discussion/Q&A**
- 4:15-4:30 PM** **Coffee Break & Poster Viewing**
- 3:30-5:45 PM** **Oral Posters III (Hall 701)**
- 3:30-3:40 PM** **Interictal and Ictal Spike Detection and Tracking Using Particle Filters**  
**Ryan Anderson**
- 3:40-3:50 PM** **Dendritic cell vaccine-induced immune activity and T cell function elicits ependymal differentiation in gliomas**  
**Christopher Wheeler**
- 3:50-4:00 PM** **Sleep Apnea after Traumatic Brain Injury: Understanding the Impact on Executive Functioning**  
**Tatyana Mollayeva,**

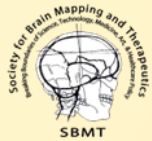


## **Day Three Monday, June 4th, 2012**

- 4:00-4:10 PM** **Neural Precursor Cells Express Trophins Following Transplantation But Remyelination is the Key Mechanism By Which They Augment Functional Recovery Following Rodent Spinal Cord Injury**  
 Gregory Hawryluk
- 4:10-4:20 PM** **EEG spectral topography and functional connectivity in patients with treatment resistant depression after DBS surgery**  
 Mary Pat McAndrews
- 4:20-4:30 PM** **A novel approach to the visualization of lipids and the Alzheimer disease lipidome**  
 Nicolas Valenzuela
- 4:30-4:40 PM** **Statistical Atlasing of MR-Guided Infusions**  
 Andrew Alexander
- 4:40-4:50 PM** **Sexually-Dimorphic Patterns of Cortical Morphology in Children with Alcohol-Related Neurodevelopment Disorder**  
 Meghna Rajaprakash
- 4:50-5:00 PM** **Neural correlates of risk during decision-making in older pilots**  
 Maheen Adamson
- 5:00-5:10 PM** **Clonally expanded CD8+ T cells infiltrate brain and induce neurodegenerative pathology resembling spontaneous Alzheimer's Disease in non-transgenic mice**  
 Christopher Wheeler
- 5:10-5:20 PM** **The Novel Application of eLORETA for analysis of Delta Sleep in Humans: Implications for Research**  
 Tatyana Mollayeva
- 5:20-5:30 PM** **Complex effects of L-dopa on fMRI BOLD responsiveness in Parkinson's Disease**  
 Nazanin Baradaran
- 5:30-5:40 PM** **Retinal vessel width in patients with confluent Periventricular White Matter Hyperintensities (pvWMH) + Alzheimer's disease (AD)**  
 Alexandra Kim

## **22 - Translation and Commercialization (Hall 716)**

- 4:30-4:45 PM**
- 4:45-5:00 PM** **Parimal Nathwani,**  
 Vice President, Commercialization, Life Sciences, MaRS Innovation, Toronto, Canada
- 5:00-5:15 PM** **Portable CT Imaging: From Concept to Changing Medicine**  
**Eric M. Bailey,**  
 CEO, Neureologica
- 5:15-5:30 PM** **John Soloninka,**  
 President & CEO, The Health Technology Exchange
- 5:30-5:45 PM** **Panel Discussion/Q&A**



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### Day Three Monday, June 4th, 2012

5:00-5:30 PM

#### Oral Posters IV (Hall 714)

5:00-5:10 PM

Investigation of Osteoporosis Screening and Correlation of Chronic Cerebral Hyperactivity in Patients with Epilepsy

Brenda Wu

5:10-5:20 PM

Enhanced Resection of Tumors in Broca's Area By Promoting Plasticity With Cortical Stimulation

Juan A. Barcia

5:20-5:30 PM

Diffusion Tensor Imaging Tractography in Cervical Myelopathy'

Yong Hu

5:45-6:00 PM

#### Official Closing Remark (Hall 701)

Michael J. Roy,

9th President of SBMT





## Oral Posters

### Day Two

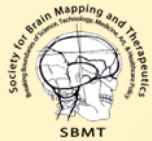
Sunday, June 3rd, 2012

3:00-5:15 PM

Oral Posters I (Hall 717)

Session Chair: John Heiss

- |              |       |  |
|--------------|-------|--|
| 3:00-3:10 PM | OP100 | Non-invasive assessment and treatment of autonomic function using retinal circuitry Deborah Zelinsky   |
| 3:10-3:20 PM | OP101 | Electroneurostimulation and Electric Laser Neurostimulation Capabilities in Victims of Vertebral Cerebro-Spinal Injuries Alexander Toma  |
| 3:20-3:30 PM | OP102 | T-Lymphocytes Influence Behavioral Deficits in the 6 OHDA Unilateral Lesion Model for Parkinson's Disease Dwain Morris-Irvin   |
| 3:30-3:40 PM | OP103 | Spatio-temporal characteristics of multisensory facilitation and inhibition Yong Hu  |
| 3:40-3:50 PM | OP104 | A multimodal imaging study of visual perceptual deficits in schizophrenia: A study of perceptual closure processes. Pejman Sehatpour   |
| 3:50-4:00 PM | OP105 | Reduced CVR is associated with cortical thinning in patients with sickle cell disease Jackie Leung   |
| 4:00-4:10 PM | OP106 | Modified biocompatible hydrogels seeded with mesenchymal stem cells improve functional outcome and tissue repair in acute and chronic experimental spinal cord injury Hejčl Aleš |
| 4:10-4:20 PM | OP107 | Assessment of NVU potential in presurgical mapping of patients with low grade gliomas Domenico Zaca  |
| 4:20-4:30 PM | OP108 | MR diffusion tensor imaging applied to the spinal cord of patients with neuropathic pain secondary to herpes zoster infection- partial results Adriano Yacubian Fernandes        |
| 4:30-4:40 PM | OP109 | Diffusion Tensor Imaging of White Matter Abnormalities in Paediatric Epilepsy Hsiao Piau Ng  |
| 4:40-4:50 PM | OP110 | State-dependent modulation of the default mode network in Alzheimer's Disease Graeme Schwindt  |
| 4:50-5:00 PM | OP111 | Dynamic spinal networks: How Incomplete SCI patients process sensory information differently than healthy controls David Cadotte   |
| 5:00-5:10 PM | OP112 | Is Transcranial Direct Current Stimulation (TDCS) a Feasible Add-On Antidepressant Treatment For HIV-Infected Patients? Eliezer Soto   |



## Day Three

## Monday, June 4th, 2012

1:15-3:15 PM

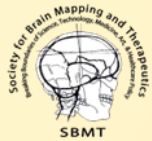
### Oral Posters II (Hall 717) Session Chair: Dwain Morris-Irvin

- |              |       |   |
|--------------|-------|---|
| 1:15-1:25 PM | OP113 | Effect of Noisy Galvanic Vestibular Stimulation on Motor Tracking in Parkinson's Dis-ease Sub-jects On and Off Medication Diana Kim   |
| 1:25-1:35 PM | OP114 | Magnetic Resonance Spectroscopy and Diffusion Tensor Imaging in Cervical Myelo-pathy Pa-tients Following Spinal Decompression Surgery Izabela Kowalczyk   |
| 1:35-1:45 PM | OP115 | Role of the endogenous opioid peptide-mediated system in oriented escape behav-iour and fear-induced antinociception elicited by GABAA receptors blockade into me-dial hypothalamus Norberto Cysne Coimbra                  |
| 1:45-1:55 PM | OP116 | The Montreal Cognitive Assessment (MoCA) and Brain Imaging Metrics: Construct Validation Using Volumetric MRI Benjamin Lam  |
| 1:55-2:05 PM | OP117 | Normal Resting State Metabolic Brain Networks Identified Using PCA Phoebe Spetsieris  |
| 2:05-2:15 PM | OP118 | Correlating MRI and digital histopathology of temporal lobe resections in intractable epilepsy Maged Goubran  |
| 2:15-2:25 PM | OP119 | Safety and Efficacy of SEEG after Failed Subdural Electrode Implantation Sumeet Vadera  |
| 2:25-2:35 PM | OP120 | The utility of QEEG in predicting response to and reflecting changes from a new treat-ment for Brain Injury James Halper  |
| 2:35-2:45 PM | OP121 | Integrated Time-resolved Fluorescence and Diffuse Reflectance Spectroscopy Optical Biopsy Instrument Zhaojun Nie  |
| 2:45-2:55 PM | OP122 | Clinical effects of Neuronavigation guided frameless stereotactic biopsy and CT guided stereo-tactic biopsy Masamitsu Nishihara   |
| 2:55-3:05 PM | OP123 | Low-cost, high sensitivity optical imagers for biomedical applications Darek Palubiak   |
| 3:05-3:15 PM | OP124 | Panicolytic effect of cannabidiol microinjected into the substantia nigra pars reticulata on de-fensive behavior elicited by GABAA receptor antagonism in the deep layers of the superior colliculus Norberto Cysne Coimbra |

### 3:30-5:45 PM Oral Posters III (Hall 717)

#### Session Chair: Christopher Wheeler

- |              |       |   |
|--------------|-------|---|
| 3:30-3:40 PM | OP125 | Interictal and Ictal Spike Detection and Tracking Using Particle Filters Ryan Anderson  |
| 3:40-3:50 PM | OP126 | Dendritic cell vaccine-induced immune activity and T cell function elicits ependymal differen-tiation in gliomas Christopher Wheeler  |
| 3:50-4:00 PM | OP127 | Sleep Apnea after Traumatic Brain Injury: Understanding the Impact on Executive Functioning Tatyana Mollayeva,  |
| 4:00-4:10 PM | OP128 | Neural Precursor Cells Express Trophins Following Transplantation But Remyelination is the Key Mechanism By Which They Augment Functional Recovery Following Rodent Spinal Cord Injury Gregory Hawryluk |
| 4:10-4:20 PM | OP129 | EEG spectral topography and functional connectivity in  |
| 4:20-4:30 PM | OP130 | A novel approach to the visualization of lipids and the Alzheimer disease lipidome Nicolas Valenzuela   |
| 4:30-4:40 PM | OP131 | Statistical Atlasing of MR-Guided Infusions Andrew Alexander  |



## Day Three

## Monday, June 4th, 2012

- 4:40-4:50 PM OP132 Sexually-Dimorphic Patterns of Cortical Morphology in Children with Alcohol-Related Neurodevelopment Disorder** Meghna Rajaprakash
- 4:50-5:00 PM OP133 Neural correlates of risk during decision-making in older pilots** Maheen Adamson
- 5:00-5:10 PM OP134 Clonally expanded CD8+ T cells infiltrate brain and induce neurodegenerative pathology resembling spontaneous Alzheimer's Disease in non-transgenic mice** Christopher Wheeler
- 5:10-5:20 PM OP135 The Novel Application of eLORETA for analysis of Delta Sleep in Humans: Implications for Research** Tatyana Mollayeva
- 5:20-5:30 PM OP136 Complex effects of L-dopa on fMRI BOLD responsiveness in Parkinson's Disease** Nazanin Baradaran
- 5:30-5:40 PM OP137 Retinal vessel width in patients with confluent Periventricular White Matter Hyperintensities (pvWMH) + Alzheimer's disease (AD)** Alexandra Kim

**5:00- 5:30 PM**

### Oral Posters IV (Hall 714)

#### Session Chair:

- 5:00-5:10 PM OP138 Investigation of Osteoporosis Screening and Correlation of Chronic Cerebral Hyperactivity in Patients with Epilepsy** Brenda Wu
- 5:10-5:20 PM P17 Design of  $\beta$ -amyloid aggregation inhibitors from a predicted structural motif.** Dahabada Lopes
- 5:20-5:30 OP109 Diffusion Tensor Imaging Tractography in Cervical Myelopathy'** Yong Hu

## Posters

Author	Topic
Agnieszka Budzyna-Dawidowska,	P1 Is the space for neurofeedback treatment in modern evidence base medicine?
Pramod Butte,	P2 Ultra High Speed Time-Resolved Laser Induced Fluorescence Spectroscopy for In-vivo Brain Tumors Detection
Norberto Cysne Coimbra,	P3 Effect of decreased of the pedunculo pontine tegmental nucleus activity in the development of post-ictal antinociception
Norberto Cysne Coimbra	P4 Role of acetylcholine-mediated neurotransmission within nucleus raphe magnus in the post-ictal antinociception
Norberto Cysne Coimbra	P5 Naloxonazine and Nor-binaltorphimine Microinjections in the Substantia Nigra, Pars Lateralis, Decrease Innate Fear-induced Defensive Reactions Evoked by Electrical Stimulation of the Inferior Colliculus
William Gump,	P6 The Brain As a Black Body: Preliminary Outline of a New Strategy For Modeling Neural Behavior
Alok Gupta,	P7 Unusual indications of Deep Brain Stimulation
Vishnumuthy Shushrutha Hedna,	P8 Role of CT Perfusion in Stroke Mimics





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<b>Yong Hu,</b>	P9	Diffusion Tensor Imaging Tractography in Cervical Myelopathy
<b>Nicolae Adrian Iftimia,</b>	P10	Spinal Cord Mapping for Neuroprosthetics
<b>Dwain Irvin,</b>	P11	T Cells Enhance Stem-Like Properties and Conditional Malignancy in Gliomas
<b>Ali R. Khan,</b>	P12	Surface-based T2 relaxometry for localization in temporal lobe epilepsy
<b>Diana Kim,</b>	P13	Noisy Galvanic Vestibular Stimulation Differentially Modulates EEG Amplitude and Cortico-Cortical Connectivity in Parkinson's Disease and Normal Subjects
<b>Jackie Leung,</b>	P14	Comparison of permeability estimates derived from DCE-MRI and DCE-CT data in a rodent stroke model
<b>Dahabada Lopes,</b>	P15	A key role for lysine residues in amyloid $\beta$ -protein folding, assembly and toxicity
<b>Dahabada Lopes</b>	P16	A Two-Step Strategy for Structure-Activity Relationship Studies of N-Methylated A $\beta$ 42 C-Terminal Fragments as A $\beta$ 42 Toxicity Inhibitors.
<b>Dahabada Lopes</b>	P17	Design of $\beta$ -amyloid aggregation inhibitors from a predicted structural motif.
<b>Allison Needham</b>	P18	Aberrant Sensory Processing in Patients with Tourette's Syndrome and co-morbid ADHD

## FACULTY

**Maheen Mausoo Adamson,** Clinical Assistant Professor (affiliated)

Psychiatry & Behavioral Sciences, Stanford School of Medicine

Stanford CA, Acting Director of Research, Director, PhD Fellowship Program

War Related Illness and Injury Study Center (WRIISC), Veterans Affairs, Palo Alto Health Care System Palo Alto, CA

**Alice Aiken,** Director, Canadian Institute for Military and Veteran Health Research

**Jean Paul Allain,** Purdue

**Rafat Ansari,** Bioscience and Technology Branch, Space Processes and Experiments Division

NASA - Glenn Research Center, Cleveland, OH

**Rocco A. Armonda,** Neurosurgery Consortium at National Naval MEDCEN and Walter Reed Army MEDCEN

**Isabelle Aubert,** Senior Scientist, Alzheimer's research, Sunnybrook Health Sciences Centre, Toronto, Canada

**Jane Aubin,** Chief Scientific Officer and Vice-President, Research, Canadian Institutes for Health Research

**Eric M. Bailey,** CEO, Neureologica

**Peter Bassar,** Senior Investigator Director,

Program on Pediatric Imaging and Tissue Sciences (PPITS) Chief, NIH

**Steffany A.L. Bennett,** University Research Chair in Neurolipidomics, Director, CIHR Training Program in Neurodegenerative Lipidomics, Neural Regeneration Laboratory, Ottawa Institute of Systems Biology, Department of Biochemistry, Microbiology, and Immunology

**Jacob M. Berlin,** Assistant Professor, Department of Molecular Medicine, City of Hope

**Markus Besemann,** Canadian Forces Health Service, Mental Health Division, Canada

**Gal Bitan,** Associate Professor of Neurology, Department of Neurology David Geffen School of Medicine at UCLA

**Sandra E. Black,** Brill Chair in Neurology, University of Toronto, Sunnybrook Health Sciences Centre Bayview Avenue, Toronto, ON

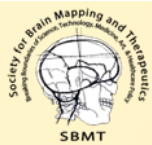
**Nick Boulis** Founder of the Boulis Laboratory, Emory University School of Medicine

**Frank Bradke,** Senior Group Leader, Axon Growth and Regeneration, Deutsches Zentrum für Neurodegenerative Erkrankungen e.V. (DZNE)

**Benjamin Burt,** Director of Orbital & Oculoplastic Surgery, Paul L. Foster School of Medicine Texas, Tech University, Texas, USA

**Mikulas Chavko,** Chief Scientist, US Naval Medical Research Center, Canada

**Michael Y. Chen,** 8th President of SBMT, Assistant Professor of Neurosurgery, Section Head, Malignant Brain Tumor Program, City of Hope National Cancer Center, Duarte, CA



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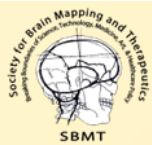
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- Robert E W Chen**, Senior Scientist, Division of Brain Imaging & Behaviour Systems - Neuroscience  
Toronto Western Research Institute (TWRI), Toronto Canada
- Leo Cohen**, Chief of the Human Cortical Physiology Section, NINDS
- Julien Cohen-Adad**, Research Fellow, Harvard Medical School  
Massachusetts General Hospital Department of Radiology
- Jeff Daskalakis**, Associate Professor of Psychiatry and Director of the Brain Stimulation Research and Treatment Program at CAMH, Toronto, Canada
- Thomas DeGraba**, National Intrepid Center of Excellence (NICOE)
- Christopher Deppmann**, Department of Biology, University of Virginia
- Antonio A.F. De Salles**, Professor of Neurosurgery and Radiation Oncology  
Head of Stereotactic Surgery Section, University of California Los Angeles, Los Angeles, CA
- Ramon Diaz-Arrastia**, CNRM Director of Clinical Research
- Adriana Di Polo**, Associate Professor, Department of Pathology and Cell Biology Adjunct Professor, Department of Ophthalmology and the School of Optometry, University of Montreal, Canada
- Sam Doesberg**, Department of Diagnostic Imaging, Hospital for Sick Children, Toronto, Canada
- Jonathan Downar**, Assistant Professor, Department of Psychiatry, University of Toronto
- Huanyu Dou**, assistant professor Ophthalmology at the TTUHSC, USA
- W. Mark Erwin**, Assistant Professor, Department of Surgery, University of Toronto
- Qiyin Fang**, Associate Professor of Engineering Physics  
Canada Research Chair in Biophotonics
- Daniel Farkas**, President, International Musculoskeletal Lasers Society  
Research Professor, Biomedical Engineering, Univ. of Southern California  
Chairman and CEO, Spectral Molecular Imaging, Beverly Hills CA
- Michael G. Fehlings**, Professor of Neurosurgery, Krembil Chair in Neural Repair and Regeneration  
Director Neuroscience Program, Co-Chairman Spinal Program, University of Toronto  
Medical Director, Krembil Neuroscience Centre, Toronto Western Hospital, University Health Network
- Konstantin Feinberg**, Postdoc, Freda Miller Lab, Hospital for Sick Children, University of Toronto, Canada
- Douglas Feinstein**, Professor, Department of Anesthesiology, University of Illinois, College of Medicine,  
Research Scientist, Jess Brown VA Medical Center, Chicago, IL
- Marianna Foldvari**, Canada Research Chair in Bionanotechnology and Nanomedicine at the University of Waterloo,  
Waterloo ON
- Vanessa Foran**, Director, Policy, Partnerships and Government Relations, Neurological Health Charities Canada
- Sally A. Frautschy**, Professor, Dept. of Medicine & Neurology, Alzheimer Research Lab  
Geriatric Research Education and Clinical Center (GRECC),  
Chief Neurogerontology Veterans Affairs
- Ken Green**, Commander (DC) USN  
Associate Director for Research Operations Integration  
Naval Medical Research and Development Center-Frederick  
Ft. Detrick
- Barry D. Greenberg**, Director, Neuroscience Drug Discovery and Development, University Health Network, Director of Strategy,  
Toronto Dementia Research Alliance, Toronto Western Research Institute, Toronto, Canada
- Warren Grundfest**, Professor of Bioengineering & Electrical Engineering  
The Henry Samueli School of Engineering & Applied Science, Professor of Surgery, David Geffen School of Medicine, University of California, Los Angeles, CA
- Frank Gu**, Assistant Professor, University of Waterloo, Waterloo, ON
- Raj K. Gupta**, Deputy Director, DoD Blast Injury Research Program Coordinating Office, Pentagon, USA
- Bharat Guthikonda**, Assistant Professor, Director of Skull Base Research  
LSU Shreveport Health Science Center  
Department of Neurosurgery
- Colleen A. Hanlon**, Assistant Professor Department of Psychiatry and Behavioral Sciences, Medical university of South Carolina, USA





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**John Heiss**, Head, Clinical Unit, Surgical Neurology Branch, NINDS, NIH, Bethesda, MD

**Alena Horska**, Assistant Professor, Division of Neuroradiology, Russel H. Morgan Department of Radiology and Radiological Science, Johns Hopkins University

**Inez Jabalpurwala**, President, Brain Canada

**J. Patrick Johnson**, Spine Center, Department of Neurosurgery, Cedars-Sinai Medical Center, Los Angeles, CA

**Babak Kateb**, Founding Chairman of the Board of SBMT, Scientific Director of SBMT and Brain Mapping Foundation, President of Brain Mapping Foundation, Research Scientists, Department of Neurosurgery, Cedars Sinai Medical Center, Los Angeles, CA

**Nirmal Keshava**, Draper Labs, Cambridge, MA

**Peter Kim**, Vice President, The Sheikh Zayed Institute for Pediatric Surgical Innovation,

**Maya Koronyo-Hamaoui**, Assistant Professor of Neurosurgery, Assistant Professor of Biomedical Sciences, Research Scientist II, Neurosurgery, Maxine-Dunitz Neurosurgical Institute Cedars-Sinai Medical Center, USA

**Lisa Koski**, Director of the Transcranial Magnetic Stimulation laboratory at the Royal Victoria Hospital, Canada

**W P Andrew Lee**, Milton T. Edgerton, MD, Professor and Chairman of Department of Plastic and Reconstructive Surgery, Johns Hopkins University School of Medicine.

**Michael Lim**, Assistant Professor of Neurosurgery, Oncology and Institute of NanoBiotechnology Johns Hopkins Hospital, Baltimore, MD

**COL Geoffrey Ling**, Program Manager, DSO, DARPA, Arlington, VA Colonel, Medical Corps, U.S. Army, Chair of Department of Neurology, USUHS, Baltimore, MD

**Deborah Little**, Associate Professor of Neurology, Ophthalmology, Anatomy, and Psychology Departments of Neurology and Rehabilitation, University of Illinois Medical Center and Jesse Brown VA Medical Center

**Andres Lozano**, Chairman of Neurosurgery, University of Toronto Senior Scientist, Division of Brain Imaging & Behaviour Systems - Neuroscience, Toronto Western Research Institute (TWRI), Toronto Canada

**Jia Lu**, DSO National Laboratories, Singapore

**Robert Loch MacDonald**, Scientist in the Keenan Research Centre of the Li Ka Shing Knowledge Institute of St. Michael's Hospital Professor, Surgery/Neurosurgery, University of Toronto Division Head, Neurosurgery, St. Michael's Hospital Keenan Endowed Chair, Surgery, St. Michael's Hospital

**Takako Makita**, Assistant Professor, Neuroscience Program, The Saban Research Institute Children's Hospital Los Angeles, University of Southern California Keck School of Medicine

**Lisa McKerracher**, Adjunct Professor, University of Montreal, Dept of Pathology and Cell Biology Adjunct Professor, McGill University, Department of Neurology

**Ravi Menon**, Professor, Department of Medical Biophysics, Medical Imaging, University Western Ontario

**Earl Miller**, Director of Strategic Partnerships, MaRS Discovery District, Toronto, Canada

**David Moore**, Associate Professor of vascular Neurology, Tulane University School of Medicine Visiting Scientists, MIT, MA, USA

**Jerry Myers**, Bioscience and Technology Branch Space Processes and Experiments Division NASA - Glenn Research Center, Cleveland, OH

**Andres Nagy**, Professor, Department of Molecular Genetics, University of Toronto

**Ziad Nahas**, Professor and Chairperson. Department of Psychiatry American University of Beirut, Lebanon

**Parimal Nathwani**, Vice President, Commercialization, Life Sciences, MaRS Innovation, Toronto, Canada

**Robert Nickells**, Professor of Physiology, UW Comprehensive Cancer Center, Institute on Aging. Eye Research Institute, Department of Ophthalmology Vice Chair of Research, Canada

**Shouleh Nikzad**, Lead, Advanced Detector Array & Nanoscience Group, Principal Member of Staff, Lead, Strategic Initiative, Gigapixel FPAs NASA/JPL, California Institute of Technology, Visiting Research Associate Prof. of Neurosurgery, USC of Medicine, USA

**Ayako Ochi**, Division of Neurology, Hospital for Sick Children, Department of Pediatrics, University of Toronto, Canada

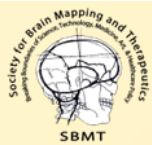
**Ivan Osorio**, Department of Neurology, University of Kansas Medical Center, USA

**Vivek Patel**, Assistant Professor, University of Ottawa Neuro-ophthalmology and Adult Strabismus, Canada

**Carolynn Patten**, Research Scientist-VA Brain Rehabilitation Research Center, University of Florida, USA

**Ruth G Perez**, Associate Professor of Biomedical Sciences, Center of Excellence for Neurosciences, Paul L Foster School of Medicine, Texas Tech University Health Sciences Center Adjunct Associate Professor of Psychology, University of Texas at El Paso





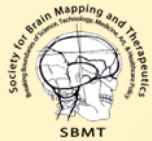
## 9<sup>th</sup> Annual World Congress of SBMT on Brain, Spinal Cord Mapping and Image Guided Therapy

June 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 2012

Breaking Boundaries of Science,  
Technology, Medicine, Art and Healthcare Policy

Society for Brain Mapping and Therapeutics - SBMT

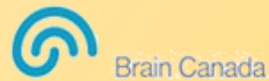
- Daniel Perl**, Director, Military Brain Injury Studies (MILBIS), Uniformed Services University of the Health Sciences
- Jay J. Pillai**, Director of Functional MRI, Neuroradiology Division, The Russell H. Morgan Department of Radiology and Radiological Science, Johns Hopkins Univ. School of Medicine, Attending Neuroradiologist, The Johns Hopkins Hospital
- Shawn Rhind**, Defence R&D Canada Toronto, Defence Scientist, Canada
- Marten Risling**, Professor, Karolinska Institute, Sweden
- Timothy P.L. Roberts**, Oberkircher Family Chair in Pediatric Radiology Vice-Chair Radiology Research Children's Hospital of Philadelphia, Professor of Radiology, University of Pennsylvania School of Medicine
- Cheryl Rogers**, Trade Commissioner, Life Sciences & Medical Devices, Consulate of Canada
- Allyson C. Rosen**, VA Palo Alto Health Care System
- Michael J. Roy**, Colonel, Medical Corps, U.S. Army, Director, Division of Military Internal Medicine Professor of Medicine, Uniformed Services University of the Health Sciences
- Hugo Sandoval**, Center of Excellence for Neurosciences, Texas Tech University Health Sciences Center
- Thomas Sawyer**, Defence R&D Canada Suffield, Defence Scientist, Canada
- Steven Schiff**, Center for Neural Engineering, Penn State University, USA
- Roman Schinder**, Assistant Professor of Ophthalmology, Director Oculoplastics Kings County Hospital Department of Ophthalmology, USA
- Walt Schneider**, UPMC
- Molly Shoichet**, Professor, Chemical Engineering & Applied Chemistry, University of Toronto,
- Reinhard W. Schulte**, Associate Professor, Translational Research Dept. of Radiation Medicine, Loma Linda University Medical Center, Loma Linda, CA
- Sherif S. Sherif**, Associate Professor, Dept. of Electrical & Computer Engineering, Chancellor's Circle, University of Manitoba, Canada
- Mark S. Shiroishi**, Assistant Professor, Division of Neuroradiology, Department of Radiology, Keck School of Medicine, University of Southern California, Los Angeles, California
- Carter Snead**, Division Head of Neurology at The Hospital for Sick Children, Senior Scientist at Neurosciences & Mental Health Research Institute, Professor of Departments of Medicine, Paediatrics and Pharmacology at University of Toronto Bloorview Children's Hospital Foundation, Chair of Paediatric Neuroscience, Toronto, Canada
- John Soloninka**, President & CEO, The Health Technology Exchange
- Bojana Stefanovic**, Assistant Professor of Physical Sciences, Sunnybrook Research Institute, Toronto, Canada
- Patrick Stroman**, Associate Professor, Diagnostic Radiology & Physics Departments, Queen's University
- Jack Tsao**, Director of Traumatic Brain Injury programs at the U.S. Bureau of Navy Medicine and Surgery
- G. Edward Vates**, Associate Professor - Department of Neurosurgery, University of Rochester Medical Center
- Prashanthi Vemuri**, Assistant Professor of Radiology, College of Medicine, Mayo Clinic Rochester, USA
- Yushan Wang**, Defence R&D Canada Suffield, Defence Scientist, Canada
- Howard L. Weiner**, Robert L. Kroc Professor of Neurology, Harvard Medical School Co Director, Center for Neurologic Diseases, Brigham and Women's Hospital Director, Partners Multiple Sclerosis Center, Brigham and Women's Hospital and Massachusetts General Hospital, Harvard Institutes of Medicine
- Richard Wennberg**, Kembrel Neuroscience Center, Division of Neurology Toronto Western Hospital, University of Toronto, Canada
- John T.W. Yeow**, Canada Research Chair in Micro/Nanodevices Department of Systems Design Engineering University of Waterloo Waterloo, ON, Canada
- John S. Yu**, Professor and Vice chair, Director, Brain Tumor Center of Excellence Cedars- Sinai Medical Center, Los Angeles, CA
- Jun Zhang**, Research Director and Assistant Professor in the Department of Anesthesiology with joint appointments in the Department of Biomedical Sciences and the Center of Excellence for Neurosciences at Texas Tech University Health Science Center, USA

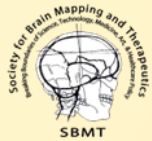


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***This program is made possible by generous contributions of the following industry leaders, educational and governmental organizations***





# Gala Reception

## AWARDS:

### BEACON OF COURAGE AND DEDICATION AWARD

*The Beacon Award is presented to individuals who have demonstrated extraordinary courage and dedication for increasing awareness about neurological diseases, and for patients and their families who have exceeded expectations in fighting a neurological disorder with unprecedented courage. The Beacon Award identifies remarkable individuals who set the highest standards for increasing awareness of, and fighting, neurological diseases.*

#### Past Award Recipients:

2011 Drs. Minoru Freund, 2011 Gabrielle Giffords  
2010 The Honorable Tammy Duckworth  
2009 SGM Colin R. Rich and ABC News Anchor Bob Woodruff  
2008 Dustin Hoffman (Two time Oscar Winner)  
2007 Dr. Behnam Badie  
2005 Dr. Soraya Khalilian  
2004 Dr. Jennifer Neale

### PIONEER IN MEDICINE AWARD

*The Pioneer in Medicine Award is presented to individuals who have significantly contributed to the scientific advancement in the fields of medicine and image guided therapy through a multidisciplinary approach. Their groundbreaking contributions have made development of state-of-the-art technology and scientific discovery a reality.*

#### Past Award Recipients:

2011 Patrick Soon Shiong  
2010 Drs. Andrew Schwartz, Jonathan Wolpaw and John Donoghue  
2009 Drs. Peter Black and Keith L. Black  
2008 Dr. Ron Kikinis  
2007 Drs. Richard Frakowiack, Arthur W. Toga and John Mazziotta  
2006 Drs. Alim Louis Benabid and Warren Grundfest  
2005 Drs. Ferenc Jolesz and Ken Curley  
2004 Dr. Peter Gruen

### PIONEER IN HEALTHCARE POLICY AWARD

*The Pioneer in Healthcare Policy Award is presented to lawmakers who have demonstrated visionary and cross-disciplinary approaches to introducing laws that have contributed to the advancement of science, technology, education, and medicine. They have paved the way to better integration of such advancements in other fields, like medicine and neuroscience. These lawmakers champion better healthcare for all.*

#### Past Award Recipients:

2010 Senator Harry Reid  
2009 Senator John Kerry  
2008 Governor Arnold Schwarzenegger  
2007 Madam Speaker Nancy Pelosi and Senator Edward Kennedy  
2005 Senator Barbara Boxer





# Gala Reception

## AWARDS:

### PIONEER IN TECHNOLOGY AWARD

*The Pioneer in Technology Award* is presented to the trail blazing companies and their CEOs/presidents who have facilitated the development of pioneering technologies through interdisciplinary approaches that have impacted diagnostics, treatment, and healthcare delivery in unprecedented ways.

#### Past Award Recipients:

2009 William A Hawkins, Chairman and CEO of Medtronic  
2008 Mark L. Vachon, GE Healthcare  
2007 Steve Rusckowski, Philips Healthcare  
2006 Carl O'Connell, CEO of Carl Zeiss Inc.

### GOLDEN AXON AWARD

*The Golden Axon Award* is presented to individuals outside of the medical community who inspire with good will and an enthusiastic interest in science, technology and medicine. Named for the neuron cell fiber that carries outgoing messages to other target cells, the founding principle of the Axon Award is to recognize a highly regarded individual in the public sector who helps raise awareness and funding of SBMT and its mission in the community via fundraising event (s) and activities.

#### Past Award Recipients:

2010 Dr. Michael Fehlings  
2010 Joel Ross (CEO/Cofounder ORLive), and Peter Gailey (President/Cofounder ORLive)

### HUMANITARIAN AWARD

*Humanitarian Award* is given to physicians and scientists who have contributed significantly to survival and quality of life of patients across the Globe.

#### Past Award Recipients:

2011 Drs. Henry Marsh and Rocco Armonda

### YOUNG INVESTIGATOR AWARD

#### Past Award Recipients:

2009 Vicky Yamamoto (Stem cell Research- USC Broad Stem Cell Center)

### STUDENT RESEARCH AWARD

#### Past Award Recipients:

2010 Joseph Yetto (USUHS)  
2009 Josh Neman (UCLA student Chapter)  
2007 Amir Goodarzi (UCLA student chapter)

## **SBMT REMEMBERS: LILLIAN JONES BLACK**

March 30, 1927 – Life – May 24, 2012



Lillian Jones Black passed peacefully at her home in Los Angeles surrounded by family including her husband, Robert N. Black, Sr. Born in Geiger, Alabama, to Percy and Lillian Jones, she was the fifth child of eight siblings. She was a member of Jones' Baptist Church in Emelle, Alabama and later became very active in the Presbyterian Church in Cleveland, Ohio, where she was a Deaconess. Lillian attended Alabama State University (ASU) where she majored in Elementary Education.

She thoroughly enjoyed teaching first grade students throughout her 40-year career. Lillian was united in marriage to Robert Nathaniel Black, Sr. in Montgomery, Alabama and was happily married for 63 years. To this union was born two sons - Robert, Jr., a corporate attorney, and Keith Lanier, a neurosurgeon.

Lillian touched many lives during her 40 years in Cleveland, Ohio, where she and Robert were enthusiastically engaged in serving the community. Along with being a dedicated wife and nurturing mother and grandmother, Lillian was exceptionally loving and giving to her extended family and could always be counted on to provide wise counsel, support, and love.

An active joiner and socially oriented person, Lillian was a member of many social organizations, including the Links, Inc. and was an Archousai of Beta Rho Boule.

Her memory will be cherished by her husband, Robert; sons, Robert, Jr., and Keith; daughters-in-law, Maureen and Carol; grandchildren, Robert III, Zakiya, Austin, Teal and Keith; siblings, Anne Wiley, Pearl Boldon; her nephews and nieces, and other relatives and friends.