17/18th Annual SBMT
World Congress of Society for Brain Mapping and Therapeutics, Los Angeles, California, USA (In Person & Virtual Event Focused on Brain and Spine)

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

July 8 - July 11, 2021, LA Convention Center, 1201 S. Figueroa St, Los Angeles, CA 90015

Exhibition, Workshops, Didactics, Bio-skills/Cadaver Labs (Brain and Spine) and Brain Mapping Foundation Gala

Audience includes: neurosurgeons, radiologists, neurologists, psychiatrists, rehabilitation medicine physicians, cardiologists, pulmonologists, bio-ethicists, oncologists, radiation oncologists, neuroscientists, engineers, physicists, psychologists, industry leaders, Orthopedic/Spine Surgeons, biochemists, nanotechnologists, pharmacists, stem cell scientists, computer/data scientists, post-docs, residents, and fellows

For more information visit: www.WORLDBRAINMAPPING.ORG
TOPICS COVERED BY WORLD LEADERS IN THIS MEETING:

**Neurosurgery** (e.g. image guided therapy, intraoperative navigation, nanoneurosurgery, stereotactic radiosurgery, minimally invasive therapy, vascular neurosurgery, functional neurosurgery, neurotrauma/military medicine, neurosurgical oncology, surgical simulation, Peripheral nerve disorders...)

**Neurology** (e.g. EEG, ERP, movement disorders, neurodegenerative diseases (Alzheimers, Parkinson, and huntington), neurooncology, neuromodulation, epilepsy, neuroanesthesia and brain and spinal cord function...)

**Psychiatry** (e.g. opioid and addiction, anxiety disorder, autism, sleep, medical imaging for psychiatric conditions such as schizophrenia, depression, PTSD...)

**Radiology** (e.g. fMRI, MEG, PET, nuclear medicine, MRSI, MR-PET, DTI, CT-PET, focused ultrasound, MSI/MEG, ultra-high and low field MRI and interventional radiology...)

**Neuroscience** (e.g. stem cell, molecular neuroscience, image guided mapping of genes, proteomics, genomics, neurophysiology, nanoneuroscience, aging CBD...)

**Vascular/Neurovascular** (e.g. risk of Spinal Cord Injury and Stroke during Aortic procedures and new protective measures, new dynamic modalities of MRA & MRV in diagnostic of vascular diseases, Neurovascular imaging, Angiogenesis stimulation and stem cells research, new aggressive approach to Stroke management, endovascular treatment of Cerebral aneurysms, Vascular Disease in Patients with Multiple Sclerosis, Chronic Cerebrospinal Venous Insufficiency (CCSVI) in Pathophysiology of MS, carotid disease identification & management in Stroke prevention)

**Neuroengineering** (e.g. artificial intelligent, fractal geometry, super computing, neuro Photonics, biomaterial & tissue engineering, human brain machine interface, brain and spinal cord devices, nanomedicine, extraterrestrial/space medicine & clinical practice, software engineering, electrical and material engineering, aeronautic engineering/space medicine and radiation physics/oncology as well as robotics...)

**Nano-Bio-Electronics** (e.g. integration of stem cell/cellular therapy with nanotechnology, medical devices and imaging...)

**Spine** (e.g. regeneration, stem cell, imaging, implants and biologics, materials, hardware and techniques...)

**Policy and Business Development** (e.g. business plan workshops, health care policy issues that affect the treatment delivery, and usage of certain devices/drugs/imaging technologies, FDA regulations and reimbursements, federal and regional regulation impacting health care delivery and research funding...)

For more information visit:
www.WORLDBRAINMAPPING.ORG
CONTINUING MEDICAL EDUCATION NEEDS 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 challenges 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: Translation, Integration and Commercialization” as the theme of the 17th Annual World Congress of SBMT at Los Angeles Convention Center. The purpose of the annual meeting is to create an interactive environment, which fosters cross-pollination of ideas and paves the way for birth of new treatment and diagnostic modalities in the field.

REASONS TO PARTICIPATE

Link in with near 200,000+ scientists, engineers, surgeons and physicians on SBMT global network.

Network with our attendees during social events held during the conference.

Present in a World Class Multidisciplinary Biomedical Association.

Meet Funding Agencies (Foundations, government and industry).

Meet leaders and Pioneers in your field.

Market your research and ideas to investors / grant makers.

Commercialize your ideas.

Publish in PlosOne NeuroMapping and Therapeutics.

Demonstrate your state of the art technologies at one of the top brain and spinal cord conventions in the world.

Gain Access to our scientists, engineers, surgeons and physicians from multiple different disciplines at once.

Promote your company through multiple net-working opportunities and develop business-to-business contacts.

Return On Investment and increase your bottom line with face-to-face contact with potential investors.

Competitive Advantage Your participation at the conference provides you the opportunity to spend quality time with the leaders in the community and get your message across more effectively and efficiently.

Obtain Continuing Medical Education (CME) is provided by Johns Hopkins School of Medicine and Saint Louis University School of Medicine

Interact with a focused and attentive audience during scientific and educational activities, such as exhibitor-hosted workshops, division programming, poster sessions, and other meeting activities.

Make The Difference and reinforce your visibility beyond the exhibition area through discussion groups, workshops and hands on courses.

Attract and influence attendees at every stage of their career, from students to entry level scientists to acknowledged leaders in their scientific fields.

Enhance your know-how and stay abreast of industry changes and state-of-the-art in the field.

Visit the beautiful city of Los Angeles with its amazing sights.

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CONTINUING MEDICAL EDUCATION
JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

ACCREDITATION STATEMENT
The Johns Hopkins University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CREDIT DESIGNATION STATEMENT
CREDIT DESIGNATION STATEMENT The Johns Hopkins University School of Medicine designates this live activity for a maximum of 13.5 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

POLICY ON PRESENTER AND PROVIDER DISCLOSURE
It is the policy of the Johns Hopkins School of Medicine that the presenter and provider globally disclose conflict of interest. The Johns Hopkins School of Medicine OCME has established policies in place that will identify and resolve conflicts of interest prior to this educational activity. Detailed disclosure will be made prior to presentation of the education.

JOHNS HOPKINS CME CERTIFICATES
Within thirty days after the close of the activity, you will be sent an email from JHU office of continuing medical education, to the address provided during registration, notifying you that your CME certificate is available for download. You will need to log in to the online registration site in order to access and print your certificate. If you do not already have an account then you will need to create one. Please use the email that you registered with.

Thursday, July 8, 2021
- Session A1 Advances in Movement Disorders I: DBS & Beyond
- Multimodal assessment of photoreceptor structure and function in traumatic brain injury
- Seeing the Brain Through the Eye: 21st Century Neuroimaging Applications
- Optometric Research at the Cellular Level
- The Pivotal Effect of Eyeglasses on Heart Rate Stability
- Using Near Infrared Light to Image Brain Tissue: The Golden Optical Window

Friday, July 9, 2021
- Session A1 Advances in Movement Disorders I: DBS & Beyond
- Session A8 Neural Engineering I: Addressing Challenges in Cochlear Implants
- Session A9 Surgical Treatment of Spinal Fracture-Dislocations: Technical Nuances and Biomechanical Considerations
- Session A11 Stroke Management
- Session A20 Epilepsy and Intraoperative Brain Mapping
- Session A22 Rehabilitation and Biologics in Spine Surgery
- Session A24 Neurovascular Disorders
- Session A27 Advances in Movement Disorders III: Imaging and Other Biomarkers
- Session A32 MEG/EEG Clinical Applications
- Session A33 Neural Engineering III: Computational Models for Neural Prosthesis
- Session A34 Spinal Cord Trauma from Research to Clinical Care
- Session A36 Aneurysm Management
- Brain Injury from a Legal Point of View Linking Neuroscience, Concussion and Chronic Pain

Saturday, July 10, 2021
- Session B47 Management of the Spine Disorder
- Session B59 Neural Engineering V: Multiscale (Hierarchical) model of the Nervous System
- Session B75 Neurovascular Disorders and Skull Base Disorders
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- Sunday, July 11, 2021
- Session C79 Brain Mapping in Neuro-Psych-Behavior
- Session C84 MEG Sensors
- Session C88 Neurovascular Disorders
- Session C89 Neural Engineering XIII: Artificial Retina
- Patient Mood and Confidence Affected by Disrupted Visual Skills
- Impact of Optometry on Brain Function after a TBI
- Visual Testing in the 21st Century
- The Eye: Window to the Mind and Body
- Effects of Optometric Dysfunction on Quality of Life
- The Need for Neuro-Optometry during TBI Rehab
JOHNS HOPKINS CME CERTIFICATES

Within twenty days after the close of the activity, you will be sent an email from JHU office of continuing medical education, to the address provided during registration, notifying you that your CME certificate is available for download.

You will need to log-in to the online registration site and complete the activity evaluation, **CLAIM THE HOURS THAT YOU ATTENDED THE JHU APPROVED SESSIONS** in order to access and print your certificate.

The link to log-in and your username will be included in the email.

OBJECTIVES FOR JOHNS HOPKINS UNIVERSITY CME APPROVED ACTIVITIES:

NEUROENGINEERING (Room 150A):

OBJECTIVES

1. Discuss recent advances in sensory Nero-prostheses.
2. Discuss advances in the brain as a computing machine.
3. Employ recent advances in methodologies to solve complex multi-scale problems in the nervous system.
4. Analyze the latest advances in neuro-technology from the DOE national labs.
5. Explore the latest state of science in neuro-engineering and neural interface technologies.

MEG (Room 410):

OBJECTIVES

1. Discuss the latest advances in MEG and EEG Techniques, software applications and future directions, and the state of Science of MEG and EEG
2. Perform detailed localization of cortically and subcortically abnormalities, seizure localization, autistic spectrum and other neurological disorders.
3. Discuss the latest advances in the use of scalp derived biometrics measures for localizing brain function.
4. Utilize objective measurements in movement disorders.
5. Discuss the latest state of science, technology and clinical application of neuromodulation
6. Demonstrate how EEG, MEG, QEEG and scalp derived Biometrics are applied in the treatment of brain function associated with the cerebellum and movement disorders.
OBJECTIVES FOR JOHNS HOPKINS UNIVERSITY
CME APPROVED ACTIVITIES:

Spine (Room 150 B):

OBJECTIVES
1. Share the latest advances in complex spine disorders and injury, including care, techniques, rehabilitation, and technology.
2. Discuss the rehabilitation of spinal cord injury, including sports injury in athletes.
3. Analyze the latest approaches to the management of the spinal cord trauma and disorders.

Neurovascular (Room 150 B):

OBJECTIVES
1. Discuss the most recent advances in the management of cerebral aneurysms, cerebral AVMs and acute ischemic stroke.
2. Address the challenges involved in the treatment of complex neurovascular disorders.
3. Compare and contrast approaches to skull base extra-axial tumors with a focus on surgical anatomy.
4. Relate artificial intelligence to the treatment of neurovascular disease.

Optometry (Room 406 A):

OBJECTIVES
1. Articulate that the eye is an easily accessible portal into the brain and body.
2. Utilize retinal stimulation as a treatment modality, rather than just a diagnostic tool, to affect physical, physiological, and psychological functions.
3. Integrate brain science and computer technology.
CONTINUING MEDICAL EDUCATION
SAINT LOUIS UNIVERSITY SCHOOL OF MEDICINE

ACCME Accreditation
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Saint Louis University School of Medicine and the Society of Brain Mapping & Therapeutics. Saint Louis University School of Medicine are accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation
Saint Louis University School of Medicine designates this live activity for 27.0 AMA PRA Category 1 Credits™. Due to duplicate sessions at the same time the maximum credits participants can claim are 13.5 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity. Saint Louis University School of Medicine will provide Other learner certificates (for NPs, nurses, and other types of learners). The certificate will state that the activity was designated for 13.5 AMA PRA Category 1 Credits™. Follow your board’s requirements for reciprocal CE credits.

Friday, July 9, 2021
Session A3: Alzheimer’s Disease Mechanisms 1: Beyond AB and Tau
Session A4: Novel Therapeutics for Combat Related PTSD
Session A17: Innovative Diagnostic and Treatment Approaches in Military TBI
Session A18: Neuro-Oncology: Stem Cell Immunology and Molecular Targeting
Session A30: Suicide

Saturday, July 10, 2021
Session B41: AD Diagnosis I: Biomarkers
Session B42: Subconcussive Blast Exposure
Session B43: Neuro-Oncology: Ablative Therapies
Session B55: Diagnostic, Pathology and Epidemiology of TBI
Session B56: Neuro-Oncology: Precision Medicine
Session B67: AD Diagnosis III: Brain Imaging and Brain Stimulation (rTMS)

Sunday, July 11, 2021
Session C82: Neuro-Oncology: Radiation Technologies
Session C93: AD Treatment I: Traditional Targets and New Horizons
Session C94: Rehabilitation of Chronic Brain Injury
Session C95: Neuro-Oncology: Tumor Treating Fields
Session C99: Neurosymposium of National Skull base Foundation(NSBF)
Session C106: AD Treatment II: Mechanistic and Alternative Targets
Session C112: Neurosymposium of National Skull base Foundation(NSBF)
SAINT LOUIS UNIVERSITY CME CERTIFICATES

Within twenty days after the close of the activity, you will be sent an email from cme@health.slu.edu, to the address provided during registration, notifying you that your CME certificate is available for download.

You will need to log-in to the online registration site and complete the activity evaluation, CLAIM THE HOURS THAT YOU ATTENDED THE SLU APPROVED SESSIONS in order to access and print your certificate.

The link to log-in and your username will be included in the email.

OBJECTIVES FOR SAINT LOUIS UNIVERSITY CME APPROVED ACTIVITIES:

Military Medicine and Neurotrauma Session Room 406B

OBJECTIVES
1. Describe the results of completed and active clinical trials assessing new approaches with which to treat PTSD.
2. Illustrate the mechanisms of action of novel PTSD therapies.
3. Assess the significance of the results accumulated to date, and whether they are sufficient to support the implementation of new PTSD therapies at this time.
4. Articulate the value of art therapy in military service members with mTBI.
5. Describe neuropathologic findings that can be used to distinguish between those dying of suicide and those dying of other causes.
6. Identify measures that may be useful in documenting the impact on the brain of subconcussive blast exposure during military training exercises.
7. Compare the impact of subconcussive forces on the athletic field vs. those on the battlefield.

Neuro-Oncology Session Room 407

OBJECTIVES
1. Identify modern treatment options and their variants for malignant brain tumors and their integration.
2. Recognize personalize treatment options and their combinations based on molecular characteristics of malignant brain tumors.
3. Assess preclinical research activities that may lead to discoveries and new clinical trials in the treatment of malignant brain tumors.

Alzheimer’s Disease Session Room 409

1. Articulate the latest in pathophysiological theories of Alzheimer’s Disease.
2. Utilize diagnostic and biomarker approaches to determine dementia and Alzheimer’s Disease.
3. Review established, emerging, and future directions of treatments to manage dementia and Alzheimer’s patients.
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. For example: SBMT has been instrumental in introducing Infrared technology into the OR of the future by taking an engineering approach toward solving the problem of intraoperative tumor and vascular mapping. 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. The clear example of a gap of knowledge is lack of communication between engineers (Electrical, Material, Biomedical,…) and physicians (Neurosurgeons, neurologists and radiologists).

As the result of SBMT annual meeting we have been able to bring these fields closer together so we could also find engineering solutions to neurological disorders such as brain cancers, Alzheimer, Parkinson’s and neurotrauma. Clear examples of such solutions are reflected in more than 60 publications in our last 3 special issues of neuroimage and our current PLoSOne NeuroMapping and Therapeutics journal. We have designed the annual meeting of SBMT to address neurological disorders by bringing together world class experts across multiple disciplines of engineering, neuroscience, nanoscience, imaging, molecular biology and computer science. SBMT is been leading force behind progressive integration of nanotechnology, cellular therapy with medical devices and imaging because we believe the next generation of therapies requires a creative and multidisciplinary approach. 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.

Financial Disclosures

In accordance with the Standards for Commercial Support established by the Accreditation Council for Continuing Medical Education (ACCME), faculty, abstract reviewers, paper presenters/authors, planning committee members, staff and any others involved in planning the educational content (and the significant others of those mentioned) must disclose any relationship they or their co-authors have with commercial interests which may be related to their content. The ACCME defines “relevant financial relationships” as financial relationships in any amount occurring within the past 12 months that create a conflict of interest.
SBMT MISSION STATEMENT

SBMT is a non-profit society organized for the purpose of encouraging basic and clinical scientists as well as engineers who are interested in areas of Brain Mapping and Therapeutics 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 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 private sector (industry) as well as philanthropic organization. SBMT legal name and Tax ID: International Brain Mapping Society-20-2793206

ANNUAL SBMT WORLD CONGRESS

The annual SBMT World Congress is a multi-disciplinary forum designed to facilitate crossdisciplinary dissemination of technological and medical advances and scientific discovery. Thus the attendees are a mixture of neurosurgeons, radiologists, neurologists, neuro-oncologists, psychiatrists, physiatrists, and other physicians, bioethicists, policy makers, government officials, engineers, physicists, graphic designers, neuroscientists, allied healthcare professionals, healthcare executives, students, post-docs, residents and fellows. SBMT’s annual meetings are world class scientific events designed to have a significant impact on cross-disciplinary flow of information and scientific advancements.
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, consortia, 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.
SBMT EXECUTIVE BOARD

Babak Kateb
Chairman/CEO SBMT & President of Brain Mapping Foundation
Research Scientist, Maxine Dunitz Neurosurgical Institute

Ken Green
Senior VP of Brain Mapping Foundation

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13th President of SBMT (2015-2016)
Medical Director Institute for Nerve Medicine & Neurography Institute

Vicky Yamamoto
Member of the Executive Board of the Brain Mapping Foundation

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11th President, SBMT (2013 - 2014)
Associate Professor, Stem Cell Research, University of New South Wales

Warren W. Boling
15th President of SBMT (2017-2018)
Professor of Neurosurgery and Chairman, Department of Neurosurgery, Loma Linda University Medical Center

Wes Ashford
14th President of SBMT (2016-2017)
Director of the WRIISC, VA Palo Alto Health Care System

Jeffrey C. Wang
16th President of SBMT (2018-2019)
Professor of Orthopedic Surgery and Neurosurgery, Co-Director of the USC Spine Center

Robert Hariri
SBMT President 2020-21
Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College; Former Chief Executive Officer of Celgene Cellular Therapeutics

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Professor of Biomedical Engineering, David Packard Chair of Engineering, Director, Center for Neural Engineering - USC Viterbi School of Engineering

Eric Kandel
Nobel Laureate, neuroscientist and a University Professor of biochemistry and biophysics at the College of Physicians and Surgeons at Columbia University

Howard Federoff
Dr. Howard Federoff named UCI vice chancellor for health affairs and dean of medicine

Dawn S. Eliashiv
A Professor of Neurology and Co-Director of the UCLA Seizure Disorders Center

Rudolph E. Tanzi
Dr. Tanzi has published roughly 500 scientific papers including the top three most cited papers in the field of Alzheimer’s disease research.

K. Nevzat Tarhan
President, Üsküdar University

Michael J. Roy
9th President SBMT (2011 - 2012), Director of Internal Medicine, Arlington, Virginia, Uniform Services University Health Sciences

Reinhard Schulte
Professor, Basic Sciences, Division of Biomedical Engineering Sciences, School of Medicine, Loma Linda University

Denise Kandel
Dr. Denise Kandel’s major research interests are in the epidemiology, risk factors and consequences of drug use; the epidemiology of substance dependence; comorbidity between substance use and psychiatric disorders.

Venkat Sadanand
Professor of Pediatric Neurosurgeon Department of Neurosurgery Loma Linda University School of Medicine

Jeffrey C. Wang
Jeffrey C. Wang, MD is Professor of Orthopedic Surgery and Neurosurgery, Co-Director of the USC Spine Center with an expertise in the surgical treatment of all neck and back disorders.

Maheen Mausoof Adamson
Senior Scientific Research Director, Defense and Veterans Brain Injury Center (DVBIC); Clinical Associate Professor Neurosurgery/Psychiatry & Behavioral Sciences, Stanford School of Medicine - VA Palo Alto Health Care System
SBMT BOARD MEMBERS

Seung-Schik Yoo
Seung-Schik is an associate professor of Radiology at Harvard Medical School, and is a director of Neuromodulation and Tissue Engineering Laboratory (NTEL), Brigham and Women’s Hospital.

Robert Thatcher
Robert Thatcher, President & CEO of Applied Neuroscience, Inc.

Deborah Zelinsky
Deborah Zelinsky, O.D. is an optometrist noted for her work in neuro-optometric rehabilitation. She is the founder of The Mind-Eye Institute, based in Northbrook, IL.

Katherine Chiu
Katherine Chiu is an Assistant Professor of Clinical Anesthesiology, University of Southern California Keck School of Medicine.

Robert Hariri
Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College; Former Chief Executive Officer of Celgene Cellular Therapeutics.

Zoltan Mari
Ruvo Family Chair and Director Parkinson’s and Movement Disorders Center, Cleveland Clinic Lou Ruvo Center for Brain Health.
SBMT EXECUTIVE STAFF

Babak Kateb  
Chairman/CEO SBMT & President of Brain Mapping Foundation

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Executive Director

Marko Mijat, M.H.A  
Chief Operating Officer

David Grimes  
Director of Industry and Nonprofit Partnership

Bryan Aroz  
Global Director for Conventions and Events

Commander Ken Green, DMD (Ret. USA NAVY)  
Vice President of Foundation

Harry Kloor, PhD (Chem) and PhD (Physics)  
Director of Strategic Alliance

Christopher Wheeler, Ph.D.  
Senior Research Scientist

SBMT RESEARCH FELLOWS

Joe Bolanos, M.D.  
Research fellow

Marco Amaya, M.D., MPH  
Research fellow

John Fiallos, M.D.  
Research fellow

Kevin Morris, M.D.  
Research fellow

Natalia Fedorchenko, M.D.  
Research fellow

Alena Mohd-Yusof, B.A.,M.A.,CNIM  
Research fellow

Ebrahim Mostafavi, Ph.D.  
Research fellow

Solventa Krakauskaite, Ph.D.  
Research fellow

Alejandro De Flippis, M.D.  
Research fellow

Teshia Bustos, M.D.  
Research fellow

Eduardo Sanchez, M.D.  
Research fellow

Mohammad Nami, M.D., Ph.D.  
Research fellow

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James Okereke, M.D.  
Research fellow

Tatsiana Serhiyenia, M.D.  
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Maria Auxi Lobo, M.D.  
Research fellow

Susannee Strand, Ph.D.  
Research fellow

Jonathan Dang, M.D.  
Research fellow

Indira Sakibova, M.B.A.  
Policy fellow

Melody Sadri, B.Sc.  
Intern

Milena Asiryan, B.Sc.  
Intern
I am honored and humbled to be elected the 17th President of the Society of Brain Mapping and Therapeutics (SBMT). I fully embrace the concept that led to the founding of this society by Dr. Babak Kateb. This concept is based on bringing together innovators from the scientific, technology, industry, and government arenas to form a “Think Tank” to fast forward our understanding of the Brain and the treatment of diseases that affect it.

As the President of the Walter E Dandy Neurosurgical Society, I have developed relationships with key leaders within this specialty worldwide. Perhaps more importantly, the Dandy Society is becoming the educational home for young neurosurgeons globally. These young leaders in the field of neurosurgery could significantly expand their contributions in the educational and research arenas by collaborating with the SBMT clinicians and scientists. I envision collaborative educational forums between the two societies in multiple continents. Likewise, I envision collaborations in basic science, clinical and translational research trials (institutional, national, and multinational).

My key role will be to deepen the neurosurgical footprint of the SBMT while at the same time reach out to our colleagues from the various clinical and scientific disciples that make up this organization to make sure that their ideas and contributions are welcomed and expanded.

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**SCIENTIFIC COMMITTEE**

**Alzheimer’s Disease Subcommittee:**

- Chris Wheeler, Ph.D.
  (Senior Research Scientist at Brain Mapping Foundation; Chief Science Officer at T-Neuro Pharma, Inc.)

- John Wesson Ashford, MD, Ph.D.
  Director, War Related Illness & Injury Study Center, VA Palo Alto Health Care System; Clinical Professor (Affiliated), Psychiatry and Behavioral Science, Stanford University

- Maya Koronyo-Hamaoui, Ph.D.
  (Associate Professor of Neurosurgery, Associate Professor of Biomedical Sciences, Research Scientist Maxine Dunitz Neurosurgical Institute, Cedars Sinai)

- Margaret Fahnestock, Ph.D.
  (Professor, Department of Psychiatry & Behavioural Neurosciences, McMaster University)

- Maj-Linda Selenica, MD
  Assistant Professor, Sanders Brown Center on Aging

**Military Medicine Subcommittee:**

- Michael Roy, MD, MPH
  Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda, MD

- Ken Green, DMD
  Vice President of Strategic Initiatives for Government and Nonprofit Partnerships, SBMT

- Rick Starrs, MBA

- Stuart Hoffman, Ph.D.

**MEG/EEG Subcommittee:**

**Judith Ann Thatcher Memorial Session**

- Robert Thatcher, Ph.D.
  Applied Neuroscience, Inc., CEO and Director Applied Neuroscience Research Institute, (www.appliedneuroscience.com)

- Warren Boling, MD
  (Professor and Chairman, Department of Neurosurgery Loma Linda University)

- Zoltan Mari, MD
  Ruvo Family Chair and Director Parkinson's and Movement Disorders Center, Cleveland Clinic Lou Ruvo Center for Brain Health, Member of Science Committee, Chair of Movement disorders/ Neurodegenerative Diseases Subcommittee
SCIENTIFIC COMMITTEE

Neuro-engineering Subcommittee:

Warren Grundfest Neuro-Engineering Memorial

Ted Berger, Ph.D.
(Director, Center for Neural Engineering, Professor of Biomedical Engineering, USC)

Roger Werne, Ph.D.
(Senior Advisor Innovation and Partnerships Lawrence Livermore National Laboratory & Lawrence Livermore National Laboratory)

Dong Song, Ph.D.
(Research Associate Professor Center for Neural Engineering Department of Biomedical Engineering Neuroscience Graduate Program University of Southern California)

Jean-Marie C Boutellier, Ph.D.
(Research Assistant Professor Department of Biomedical Engineering Viterbi School of Engineering University of Southern California)

Dr. Seung-Shick Yoo
Seung-Schik is an associate professor of Radiology at Harvard Medical School, and is a director of Neuromodulation and Tissue Engineering Laboratory (NTEL), Brigham and Women’s Hospital

Vicky Yamamoto, PhD
Executive Director, Society for Brain Mapping and Therapeutics

Reinhard Schulte, MD, MS
Professor-Division of Biomedical Engineering Science, Loma Linda University

Jennifer Yu, MD
Radiation Oncology, Cleveland Clinic Cancer Center

Neuro-Oncology Subcommittee:

Mark Torchia
Vice-Provost, Executive Director-Centre Advancement of Teaching & Learning

Colin Watts
Professor of Neurosurgery; Chair Birmingham Brain Cancer Program, University of Birmingham, UK

Terry Burns, MD, PhD
Assistant Professor of Neurosurgery and Neuroscience, Mayo Clinic

Jethro Hu, MD
Cedars-Sinai - Department of Neurology Department of Neurosurgery

Ajit Kumar Mulavara, PhD
CNS/BMed/Sensorimotor (CBS) Portfolio Scientist, NASA, JSC

Thomas Williams, PhD
Element Scientist, NASA, JSC
I am honored and humbled to be elected the 17th President of the Society of Brain Mapping and Therapeutics (SBMT). I fully embrace the concept that led to the founding of this society by Dr. Babak Kateb. This concept is based on bringing together innovators from the scientific, technology, industry, and government arenas to form a "Think Tank" to fast forward our understanding of the Brain and the treatment of diseases that affect it.

As the President of the Walter E Dandy Neurosurgical Society, I have developed relationships with key leaders within this specialty worldwide. Perhaps more importantly, the Dandy Society is becoming the educational home for young neurosurgeons globally. These young leaders in the field of neurosurgery could significantly expand their contributions in the educational and research arenas by collaborating with the SBMT clinicians and scientists. I envision collaborative educational forums between the two societies in multiple continents. Likewise, I envision collaborations in basic science, clinical and translational research trials (institutional, national, and multinational).

My key role will be to deepen the neurosurgical footprint of the SBMT while at the same time reach out to our colleagues from the various clinical and scientific disciples that make up this organization to make sure that their ideas and contributions are welcomed and expanded.

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### SCIENTIFIC COMMITTEE

**Optometry/ Opioid/ Psychiatry Subcommittee:**

Deborah Zelinsky, OD  
Founder of the Mind-Eye Institute,

Brian Norling  
Chief Executive Officer at MEMS Precision Technology, Inc

Daniel Sipple, DO  
Midwest Spine and Brain Institute

Nevzat Tarhan, MD  
Professor, Uskudar University

Baris Matin, MD  
Assistant Professor, Uskudar University

Zoltan Mori, MD  
Ruvo Family Chair and Director  
Parkinson’s & Movement Disorders Center, Cleveland Clinic Lou Ruvo Center for Brain Health, Member of the Science Committee, Chair of Movement Disorders/Neurodegenerative Diseases Subcommittee

**Spine Subcommittee: John McDonald III Memorial Spine Program**

Dr Tobias Mattei  
(Assistant Professor, Neurosurgery Division  
Saint Louis University)

Dr Namath Hussain  
(Neurosurgeon, Loma Linda University,  
Department of Neurosurgery)

Dr Ann Choe  
(Assistant Professor of Radiology and Radiological Science, Johns Hopkins School of Medicine)

Dr Jason Cormier  
(Neurosurgeon, AcadiaNeurosurgery)

**Legally Mind**

Mark Liker, MD  
Clinical Assistant Professor of Neurological Surgery (Part Time). Neurological Surgery. GNH 3300 Off Campus Los Angeles

Art McComber,  
(Presenter, Legally Mind  
Art spent his first career as a special agent fot the FBI. Now, he devotes his time to teaching and helping thousands of people protect themselves from becoming victims of crime and lawsuits.)
Neurovascular subcommittee

Dr. Justin Dye
(Assistant Professor of Neurosurgery, Loma Linda University)

Dr. Saleem Abdulrauf
(MD, MSCR, FAANS, FAHA, Professor of Neurosurgery, Saint Louis University)

Dr. Robert Hariri
Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College Former Chief Executive Officer of Celgene Cellular Therapeutics

Dr. Martin Mortazavi
MD, FICS, Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience
## SBMT PROGRAM

### 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 areas of expertise.

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### 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 designed to apply state-of-the-art research through the study of biomedical science and cutting-edge technologies to clinical problems. These scholarships 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.

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5 – World Congresses

- **2019** - LA Convention Center
- **2018** - Millenium Biltmore Hotel, LA, California
- **2017** - Millenium Biltmore Hotel, LA, California
- **2016** - Miami Convention Center, Florida
- **2015** - LA Convention Center
- **2014** - Sydney, Australia
- **2013** - Baltimore, MD, USA
- **2012** - Toronto, Ontario, Canada
- **2011** - San Francisco, CA, USA
- **2010** - USUHS, Bethesda, Maryland, USA
- **2009** - HARVARD Medical School Boston, MA,
- **2008** - UCLA California Nano-system Institute, Los Angeles, CA, USA
- **2007** - Washington DC, USA
- **2006** - Clairemont-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) Neurolimaging 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) maging modalities for detecting mild/mod TBI, micro-TBI Socioeconomic, Ethical, and Healthcare issues related to the brain mapping and intra-operative surgical planning

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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 multi-national 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 ) PloSOne is one of the largest Open access Publishers in the world. This partnership has enabled SBMT to reach out to a larger audience of scientists. https://www.worldbrainmapping.org/Publications/

9 – Legislation and Initiatives
The society works actively with the representatives of various governments in order to leverage its resources and focus attention on healthcare issues through interdisciplinary collaborations. In this regard, SBMT has partnered with Brain Mapping Foundation (BMF) and held 9 Annual Brain Mapping Days at the US Congress. The organization has held Brain Mapping Days at the Australian and Canadian Parliaments. Please visit the following link for a list of current initiatives: https://www.worldbrainmapping.org/Legislation-and-Initiatives/

10 – Healthcare Policy
The first healthcare policy advocacy of SBMT was done in 2004 when the organization pushed for funding for a collaborative network through the office of the Honorable Barbara Boxer and Dian Feinstein of California. 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 In 2012 with the help and support of Congressman Moran and Congressional Neuroscience Caucus SBMT advocated report language on “Multidisciplinary Brain Research”. The report language passed through the House and Senate with significant and overwhelming bipartisan support. This legislation
may enable DoD to better focused on integrating nanotechnology, stem cell and cellular therapy and medical imaging/devices in order to rapidly provide solutions for the wounded warriors and civilians with neurological disorders such as PTSD and TBI.

11 – Outreach Program / Student Chapters
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.

13 – Neuroscience 20
The G20 World Brain Mapping & Therapeutic Scientific Summit aims to contribute to President Obama’s BRAIN initiative and to expand action on the current and upcoming initiatives across the G20 nations, bringing the finest scientists, engineers, physicians and surgeons across the globe in order to rapidly introduce clinical solutions for neurological disorders, which cost the world economy hundreds of billions of dollars annually. G20 World Brain Mapping Summit was launched in 2014 on the initiative of The Society for Brain Mapping and Therapeutics (SBMT).[1]
https://www.worldbrainmapping.org/G20-World-Brain-Mapping-Therapeutics-Initiative/

14. Brain Technology and Innovation Park (BTIP)
Purpose of the Brain Technology & Innovation Park (BTIP) Initiative:
To expedite introduction of diagnostics & therapeutics for neurological disorders by facilitating strategic partnership amongst governmental agencies, academia, various stage biotech & pharmaceutical companies, startups, non-profit organizations, philanthropists, venture funds, hedge funds & angel investors for an Investor Symposium & Workshop.
LETTER FROM THE FOUNDER

Let me start by congratulating our Presidents of SBMT Dr. Jason Cormier, Dr. Robert Hariri, and Dr. Saleem Abdulrauf, for their visionary leadership and for working closely with me and 12 different committees who helped us organizing one of the largest world congresses for brain mapping so far! We thank our corporates, non-profits, government agencies and academic partners. This program could not be possible without their generous supports and contributions. I also thank our supporters, staff, fellows and volunteers for their amazing dedication and assistance with this convention.

This year, we have more than 900 speakers in 116 scientific sessions, practical sessions, cadaver labs (brain and spine) and 12 keynote speakers, who highlight advances made in their own respective disciplines, which could impact our field. We have worked with 100+ scientists to build a scientific program that showcases current advances in the fields such as AI-Neuro, Nanoneurosurgery, Neurophotonics, MEMS/NEMS and their application in clinical neuroscience. SBMT and its members are proud to be a part of over a decade of scientific accomplishments, which include more than 2000 publications, more than 4000 presentations, significant involvement in President Obama’s BRAIN Initiative, establishment of G20 Brain Mapping and Therapeutics Initiative/Neuroscience-20, establishment of African Brain Initiative, establishment of Middle East and North Africa Brain Mapping Initiative, passing of a congressional report language on the defense appropriation bill, and the Brain Technology and Innovation Park (BTIP) Initiative.

In the past 18 years, SBMT has recognized 127 top scientists, technologists, policymakers, students, humanitarians, and advocates. The organization has published the inaugural textbooks of NanoNeurosurgery and Neurophotonics, facilitated countless game-changing clinical trials on Alzheimer’s disease, Parkinson’s disease, brain cancer and neurotrauma. SBMT also established our Atlas, student chapters in colleges and universities, partnership with major associations, and new guideline committee for standardization.

SBMT members have been pioneers in the field by introducing a new retinal imaging to diagnose Alzheimer’s disease, creating microwave device to treat cancers (brain, breast, prostate, lung, liver, head and neck), inventing new nanodrugs to treat brain diseases, implementing policies that could support such game-changing approach and introducing new metadata analysis repository data in the field.

I congratulate the award recipients this year who have made a huge stride in advancing the field from basic science and engineering to medicine and policy. While we are celebrating our past and current achievements this year, we are planning the future for the organization as we expand globally. Our work has just begun, and it will not be finished until we find cures for neurological disorders such as ALS, autism, brain cancer, Alzheimer’s, Parkinson’s, and traumatic brain injuries, just to name a few. However, we can only achieve this if we work together.
SBMT members have been pioneers in the field by introducing a new retinal imaging to diagnose Alzheimer’s disease, creating microwave device to treat cancers (brain, breast, prostate, lung, liver, head and neck), inventing new nano-drugs to treat brain diseases, implementing policies that could support such game-changing approach and introducing new metadata analysis repository data in the field.

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I hope you will enjoy this remarkable scientific meeting this year, which is all recorded and will be available online for our members and hope to see you in 17th annual World Brain Mapping Congress in Los Angeles, CA! (July 9, 10, 11, 2021).

Respectfully yours,

Dr. Babak Kateb,

Founding Chairman of the Board of SBMT, President of Brain Mapping Foundation, Director of National Center for NanoBioElectronics
I am both humbled and honored to be elected as the 19th president of the Society of Brain Mapping and Therapeutics. It has been an extreme privilege to be part of such an elite group of scientists, in addition to the movement towards a safer world environment, especially in the face of a very challenging time in global health and mental illness. Thinking about both the immediate and long-term effects from the Global COVID-19 pandemic, the economic catastrophes led to more complicated issues not only from a medical health standpoint, it burdened several workforce’s with depression and other mental health issues. The Society of Brain Mapping and Therapeutics remained engaged from pushing global policy to publishing landmark papers, particularly the most recent and most comprehensive review of Covid-19. Additionally, the organization distributed 700 meals to the frontline workers during the pandemic and the curfew but also advocated for the California proposition 14, which is a $5.5B intended for stem cell and other medical research, funding training; stem cell therapy development and delivery; research facility construction; and associated administrative expenses. $1.5 billion dedicated to research and therapy for Alzheimer’s, Parkinson’s, stroke, epilepsy, and other brain and central nervous system diseases and conditions. It will further provide for the expansion programs promoting stem cell and other medical research, therapy development and delivery, and student and physician training and fellowships.

As president of the Society of Brain Mapping and Therapeutics, my vision and goals remain furthering global policies for fast-tracking therapeutics, impacting thoughtful regulatory reform in collaboration with the FDA and encouraging a more innovative application of technologies, like infrared thermal technology, not only for prescreening of COVID19/flu patients but also for integrating it more into the clinical setting. I will also work with 20 subcommittees within the Society of Brain Mapping and Therapeutics to help transform the treatment of dementias, degenerative neurological diseases, and brain cancer with the same urgency by which we have tackled this pandemic. I understand these are ambitious goals, but I believe that the Society and its vast global network could help achieve this vision with the collaborative efforts as they continue to strengthen, the Technological advances are both urgent and necessary.

As a neurosurgeon, I have and will continue to advocate and utilize emerging technologies such as neurophotronics, nanotechnology, Artificial intelligence/machine learning, stem cell/organ donation, augmented reality, virtual reality, avatar, supercomputing, and predictive modeling in my operating room during brain surgery, which are fostered by studies, clinical trials and research consortia conducted by Dr Kateb and Society of Brain Mapping and Therapeutics subcommittees. Such technologies are now respected and embraced by Neurosurgery and Neuroscience communities. This is an all inclusive effort with Diversity of ideas, backgrounds, gender, and races in science bringing forth innovation. It will be my ongoing mission to encourage an even more diverse and cross disciplinary work at SBMT with more participation by our female and minorities colleagues so we can create a united front to address neurological disorders. These endeavors, will continue to be the transformational voice that is heard and never silenced.

My predecessor, Professor Robert Hariri, MD, PhD, and I continue a push for prioritizing cellular therapy and stem cell use for the treatment of neurological disorders. Dr. Hariri’s leadership during the pandemic years brought us a global unity and collaboration for introducing an FDA approved Celularity immunooncology treatment for COVID19. We will continue building on this momentum by building more collaboration across institutions across the globe, which will capitalize of the society’s global reputation and popularity. I am deeply confident that together with the SBMT leadership we will foster strong relationships while substantiating the bridge to the industry, other associations, non-profits, academic centers, and investment community partners. We will also make our Brain Technology and Innovation Park initiative a priority and work with the President Biden and Vice President Harris to make this vision a reality. I would also like to take this opportunity to congratulate President Joe Biden and VP Harris for their steadfast approach to the American recovery and strongly belief BTIP align with their vision for creating biotech jobs in the USA.

I am grateful for this opportunity and look forward to the challenging year ahead for achieve the society’s mission and vision.
I am honored and humbled to be elected the 18th President of the Society of Brain Mapping and Therapeutics (SBMT), particularly at such an historically challenging time in global health. This Society, created under the brilliant and visionary leadership of Dr. Babak Kateb and through its diverse and talented membership, has the gravity and influence to help shape the future of not only the treatment of neurological diseases but a range of other systemic maladies. The Society can accomplish this by bringing together innovators from the medical, basic science, information technology, pharmaceutical and biotechnology industries with policy makers in government to identify and characterize the major challenges in health care which manifest themselves through effects on the brain and design solutions in the form of diagnostics and therapeutics. Through the voice the Society gives us, we can be an effective force directing resources and human capital to those problems which impact health and the human condition.

As a surgeon-scientist, industry executive, inventor and entrepreneur I have worked to build cross disciplinary teams which can tackle complex clinical, scientific and technical challenges by focusing on the bottom line: how to deliver results with full accountability. As President of the Society of Brain Mapping and Therapeutics, my vision is to inventory of strengths and capabilities, identify our targets for change and enlisting the membership to make a meaningful contribution through the forum we have within and outside of our community. As I sit writing to you in the throes of the Global COVID-19 crisis I cannot help but believe the Society must be more engaged in the global policies for fast-tracking therapeutics, impacting thoughtful regulatory reform and encouraging a bolder and more innovative application of technologies to transform the treatment of dementias, degenerative neurological diseases and brain cancer with the same urgency by which we will tackle this pandemic. It will be my mission to encourage this culture in our community.

Like my predecessor, Professor Saleem Abdulrauf, I envision collaboration across institutions on multiple continents which will capitalize of the society’s global reputation and popularity. I see my role as both a champion for the society and as bridge to the industry and investment community partners with whom we can engage to create a more powerful and sustainable voice in society.

I am grateful for this opportunity and look forward to a challenging and exciting year ahead for the Society of Brain Mapping and Therapeutics.
I am honored and humbled to be elected the 17th President of the Society of Brain Mapping and Therapeutics (SBMT). I fully embrace the concept that led to the founding of this society by Dr. Babak Kateb. This concept is based on bringing together innovators from the scientific, technology, industry, and government arenas to form a “Think Tank” to fast forward our understanding of the Brain and the treatment of diseases that affect it.

As the President of the Walter E Dandy Neurosurgical Society, I have developed relationships with key leaders within this specialty worldwide. Perhaps more importantly, the Dandy Society is becoming the educational home for young neurosurgeons globally. These young leaders in the field of neurosurgery could significantly expand their contributions in the educational and research arenas by collaborating with the SBMT clinicians and scientists. I envision collaborative educational forums between the two societies in multiple continents. Likewise, I envision collaborations in basic science, clinical and translational research trials (institutional, national, and multinational).

My key role will be to deepen the neurosurgical footprint of the SBMT while at the same time reach out to our colleagues from the various clinical and scientific disciplines that make up this organization to make sure that their ideas and contributions are welcomed and expanded.
Keynote Speakers

Friday July 9th
Location - Concourse Hall 151

8:20- 9:00 am –

Congressman Ro Khanna

Representative Ro Khanna represents California’s 17th Congressional District, located in the heart of Silicon Valley, and is serving his third term. Rep. Khanna sits on the House Committees on Agriculture, Armed Services, and Oversight and Reform, where he chairs the Environmental Subcommittee. Additionally, Rep. Khanna is the Deputy Whip of the Congressional Progressive Caucus; serves as an Assistant Whip for the Democratic Caucus and is the Democratic Vice Chair of the House Caucus on India and Indian Americans.

Rep. Khanna is working to ensure our nation is focused on creating new tech jobs across the country, particularly for American left behind, and investing in science and technology to win the 21st Century. This includes job training programs, economic development initiatives, re-wiring the U.S. labor market, and debt-free college to help working families prepare for the future. He is also committed to advancing a foreign policy of military restraint and diplomatic engagement. Instead of spending trillions on wars overseas, Rep. Khanna believes we should invest in priorities at home like Medicare for All, Debt Free College, and a new 21st Century infrastructure.

A dedicated political reformer, Rep. Khanna is one of only a few members of Congress to refuse contributions from PACs and lobbyists. He also supports a 12-year term limit for Members of Congress and a constitutional amendment to overturn Citizens United.

Rep. Khanna was born in Philadelphia, PA, during America’s bicentennial, to a middle-class family. Both of his parents immigrated to the United States in the 1970s from India in search of opportunity and a better life for their children. His father is a chemical engineer and his mother is a substitute school teacher. Rep. Khanna’s commitment to public service was inspired by his grandfather who was active in Gandhi’s independence movement, worked with Lala Lajpat Rai in India, and spent several years in jail for promoting human rights.

Prior to serving in Congress, Rep. Khanna taught economics at Stanford University, law at Santa Clara University, and American Jurisprudence at San Francisco State University. He wrote the book *Entrepreneurial Nation: Why Manufacturing is Still Key to America’s Future* and worked as a lawyer specializing in intellectual property law. Rep. Khanna served in President Barack Obama’s administration as Deputy Assistant Secretary at the U.S. Department of Commerce. In 2012, California Governor Jerry Brown appointed him to the California Workforce Investment Board. He has also provided pro bono legal counsel to Hurricane Katrina victims with the Mississippi Center for Justice, and co-authored an amicus brief on the fair housing U.S. Supreme Court case, Mount Holly v. Mt. Holly Gardens Citizens in Action, Inc.

Rep. Khanna graduated Phi Beta Kappa with a B.A. in Economics from the University of Chicago and received a law degree from Yale University. As a student at the University of Chicago, he walked precincts during Barack Obama's first campaign for the Illinois Senate in 1996. In his free time, Rep. Khanna enjoys cheering for the Golden State Warriors, watching movies, and traveling. He and his wife Ritu call Fremont, CA, home.
9:00- 9:30 am –

Dr. Robert Hariri

“The Future of Cellular Medicine and Functional Regeneration”

18th president of SBMT - He is the chairperson, founder, and chief executive officer of Celularity, Inc., one of the world’s leading human cellular therapeutics companies. Dr. Hariri was the founder and CEO of Anthrogenesis Corporation, and after its acquisition by Celgene Corporation, served as CEO of Celgene Cellular Therapeutics. Dr. Hariri also co-founded the genomic-based health intelligence company, Human Longevity, Inc. Dr. Hariri has served on numerous public boards including Cryoport (NASDAQ:CYRX).

Dr. Hariri completed his undergraduate training at Columbia University School of Engineering and Applied Sciences and Columbia College. He received his M.D. and Ph.D. degrees from Cornell University, where he was the recipient of both the Julian R. Rachele Award and the Doctoral Dissertation Award. He was a surgical resident and fellow in neurosurgery at The New York Hospital-Cornell Medical Center and served as an Assistant Professor of Neurosurgery and Associate Research Professor of Surgery at Cornell and Co-director of the Aitken Laboratory in Neurosurgery.

Dr. Hariri pioneered the use of stem cells to treat a range of life-threatening human diseases and continues today to make transformative contributions in the fields of immuno-oncology and cell therapeutics along with tissue engineering and functional regeneration. He is widely acknowledged for his discovery of pluripotent stem cells derived from the human placenta, and as a member of the team that discovered the physiological activities of tumor necrosis factor (TNF). Dr. Hariri and his team of scientists were the first to obtain FDA approval to use its cryopreserved allogeneic, off-the-shelf Natural Killer (NK) cell therapy to treat COVID-19 infected adults. He holds over 170 issued and pending patents for discoveries including placenta-derived stem cells, which Nature recognized as one of the ten most important patent estates in the field. He has authored over 150 published chapters, articles, and abstracts.

Dr. Hariri was the recipient of the Pontifical Medal for Innovation awarded by Pope Francis in 2018 for his discovery of placental stem cells and advances in immunotherapy and regenerative medicine. Dr. Hariri twice received the Thomas Alva Edison Award for invention, in 2007 and 2011, and is a recipient of the Children's Brain Tumor Foundation's Fred J. Epstein Lifetime Achievement Award. Dr. Hariri was recipient of the Genius of New Jersey Award in 2019 and over the years has received numerous other honors for his many contributions to the fields of biomedicine and aviation.

Dr. Hariri is an Adjunct Professor of Neurosurgery and member of the Board of Overseers of the Weill Cornell Medical College and a former member of the board of visitors of the Columbia University School of Engineering and Applied Sciences, and the Science & Technology Council of the College of Physicians and Surgeons. He is a member of the X PRIZE Foundation scientific advisory board for the Archon X PRIZE for Genomics. Dr. Hariri is a trustee and vice-chair of the Liberty Science Center. In 2010 he was appointed a Commissioner of Cancer Research by New Jersey Governor Chris Christie.
Friday July 9th
Location - Concourse Hall 151

12:00-12:30 pm –

Dr. Martin M Mortazavi

“Modern concepts for Surgical Treatment Intracranial Aneurysm”

Dr. Martin Mortazavi is an integral member of the neurosurgical society. He graduated from the Karolinska Institute, School of Medicine and completed his residency in Neurological Surgery at The University of Alabama in Birmingham, under tutelage of Mark Hadley, Winfield Fisher and Shane Tubbs, where he received several awards including the Morawetz and the Beverley Walters Research Awards. Further advancing his neurosurgical knowledge, Dr. Mortazavi pursued a postdoctoral research fellowship in neurotrauma and regeneration at Barrow Neurological Institute under the mentorship of Nicholas Theodore and Robert Spetzler, during which he received the American Association of Neurological Surgeons Synthes Spinal Cord Award. He pursued two clinical fellowships in Skull Base and Cerebrovascular neurosurgery under the tutelage of world-renowned pioneers of neurosurgery, Takanori Fukushima in Japan, and Laligam Sekhar at The University of Washington in Seattle.

Dr. Mortazavi holds an ongoing interest in advancing the field of neurological surgery. He has authored and co-authored more than 100 scientific papers and book chapters that have been published in well-known neurosurgical journals, he has mentored many undergraduate and graduate scientists and neurosurgical residents. He is a member of 10 Editorial Boards of scientific journals and numerous professional organizations including the American Association of Neurological Surgeons, the Congress of Neurological Surgeons, the American Medical Association, North American Skull Base Society, International College of Surgeons, and Cerebrovascular section of the Congress of Neurological Surgeons.
12:30 – 1:00 pm

Dr. Jason Cormier

“Advances in Spine and Neurotrauma”

Dr. Cormier is a native of South Louisiana, where he graduated from St Thomas More High School in Lafayette, La. A former LSU basketball player and graduate of Louisiana State University in Baton Rouge, he went on to receive his medical degree from Louisiana State University in New Orleans, Louisiana. He became eligible for the Alpha Omega Alpha Medical Honor society and served on several committees, including the LSU School of Medicine Admissions Committee, the LSU School of Medicine Dean’s Selection Committee and was the medical school’s representative to the Louisiana Board of Supervisors in 2004. He received a number of scholarships and was a member of many different societies. Dr. Cormier also dedicated his time on a monthly basis to the Student Run Homeless clinic in New Orleans, La.

Dr. Cormier joined Acadiana Neurosurgery and its founder Dr. Alan Appley after his internship in general surgery and neurosurgery at Duke University Medical Center in Durham, NC and the completion of his training at the University of Alabama at Birmingham in Birmingham AL. During his training, he gained extensive experience in complex spinal surgery under the direction of Dr. Mark N. Hadley and associates. He also received special training in minimally invasive spinal surgery as well as open and endoscopic brain surgery. He has published articles in national journals involving the fields of Adult and Pediatric spine and epilepsy. In 2005 he served on the Council of State Neurological Society in 2005 as a representative of Alabama to the American Association of Neurological Surgeons. He received the Resident Leadership Award from the Division of Neurological Surgery at the University of Alabama at Birmingham for "his dedication to promoting the art and science of Neurosurgery, demonstrating outstanding clinical skills, offering leadership by word and example and providing mentorship to junior residents."

Dr. Cormier maintains his interests to train Neurosurgeons of tomorrow and will be teaching both medical students and residents many innovative neurosurgical techniques including endoscopic pituitary and image-guided surgery, and minimally invasive complex spinal surgery. Dr. Cormier was named as one of "America’s Top Surgeons,â€ in the field of Neurosurgery, by the Consumers Research Council of America, Guide to America's top surgeons.

Dr. Cormier is a member of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons and is board eligible in neurological surgery.

In his own words, "It's great to be back home. I have been truly blessed."
Saturday July 10th
Location - Concourse Hall 151

8:30- 9:30am-

Dr. Deepak Chopra

“The Case against Reality”

Dr. Chetan Prakash
Emeritus Professor of Mathematics, CSUSB
Founder President and Head Aikido
Instructor, Redlands Aikikai, a School of Meditative
and Martial Arts

Dr. Menas Kafatos
Professor, Fletcher Jones Endowed Professor of Computational
Physics, Director, Center of Excellence in Earth Systems Modeling
and Observations, Schmid College of Science and Technology;
Computational and Data Science

Founder of The Chopra Foundation, a non-profit entity for research on well-being and humanitarianism, and Chopra Global, a
whole health company at the intersection of science and spirituality, is a world-renowned pioneer in integrative medicine and
personal transformation. Chopra is a Clinical Professor of Family Medicine and Public Health at the University of California, San
Diego and serves as a senior scientist with Gallup Organization. He is the author of over 90 books translated into over forty-three
languages, including numerous New York Times bestsellers. His 90th book and national bestseller, Metahuman: Unleashing
Your Infinite Potential (Harmony Books), unlocks the secrets to moving beyond our present limitations to access a field of
infinite possibilities. For the last thirty years, Chopra has been at the forefront of the meditation revolution and his latest
book, Total Meditation (Harmony Book, September 22, 2020) will help to achieve new dimensions of stress-free living and
joyful living. TIME magazine has described Dr. Chopra as “one of the top 100 heroes and icons of the century.”

Deepak Chopra's popularity as an international presenter and keynote speaker is exemplified in an impressive list of honorariums.
Chopra is the recipient of the 2012 Police Athletic League Humanitarian Award, 2012 Mandala Award for Humanitarian
Humanitarian Award, 2010 Art for Life Honoree, 2009 Oceana Partners Award, 2008 Mattie J. T. Stepanek Peacemaker Award
Honoree – We Are Family Foundation, 2006 Ellis Island Medal of Honor presented by the National Ethnic Coalition of
Organizations Foundation, and 2006 Trailblazer Award by the Scripps Center for Integrative Medicine, 2002 Einstein
Humanitarian Award through Albert Einstein College of Medicine in collaboration with the American Journal of Psychotherapy,
2002 Books for a Better Life Hall of Fame Award, 1999 Citation of the Medal of the Presidency of the Italian Republic by the
Pio Manzu International Scientific Committee. He participates annually as a lecturer at the Update in Internal Medicine event
sponsored by Harvard Medical School, Department of Continuing Education and the Department of Medicine, Beth Israel
Deaconess Medical Center since 1997.
12:00-12:30 pm –

General Mark A Milley (TBD)

General Mark A. Milley is the 20th Chairman of the Joint Chiefs of Staff, the nation’s highest-ranking military officer, and the principal military advisor to the President, Secretary of Defense, and National Security Council.

Prior to becoming Chairman on October 1, 2019, General Milley served as the 39th Chief of Staff of the U.S. Army. A native of Massachusetts, General Milley graduated from Princeton University in 1980, where he received his commission from Army ROTC. General Milley has had multiple command and staff positions in eight divisions and Special Forces throughout the last 39 years to include command of the 1st Battalion, 506th Infantry, 2nd Infantry Division; the 2nd Brigade, 10th Mountain Division; Deputy Commanding General, 101st Airborne Division (Air Assault); Commanding General, 10th Mountain Division; Commanding General, III Corps; and Commanding General, U.S. Army Forces Command.

While serving as the Commanding General, III Corps, General Milley deployed as the Commanding General, International Security Assistance Force Joint Command and Deputy Commanding General, U.S. Forces Afghanistan. General Milley’s joint assignments also include the Joint Staff operations directorate and as a Military Assistant to the Secretary of Defense.

General Milley’s operational deployments include the Multi-National Force and Observers, Sinai, Egypt; Operation Just Cause, Panama; Operation Uphold Democracy, Haiti; Operation Joint Endeavor, Bosnia-Herzegovina; Operation Iraqi Freedom, Iraq; and three tours during Operation Enduring Freedom, Afghanistan. He also deployed to Somalia and Colombia.

In addition to his bachelor's degree in political science from Princeton University, General Milley has a master's degree in international relations from Columbia University and one from the U.S. Naval War College in national security and strategic studies. He is also a graduate of the MIT Seminar XXI National Security Studies Program. General Milley and his wife, Hollyanne, have been married for more than 34 years and have two children.
Dr. Saleem Abdulrauf

“The Future of Neurovascular and Skull- base Neurosurgery”

Professor Saleem I. Abdulrauf is the Neurosurgeon-in-Chief of the Abdulrauf Institute of NeurosurgeryTM. He is the founding Chairman of the Department of Neurosurgery at Saint Louis University, St. Louis, Missouri, USA. He is considered a leading figure in the field of neurosurgery. He has served as a visiting professor to over 100 universities around the globe. He has authored the main reference textbook for brain bypass surgery titled “Cerebral Revascularization” in which Dr. Abdulrauf details extra-cranial to intra-cranial bypass surgery. Additionally, he has pioneered a procedure for brain bypass surgery that is named after him. He has served on the boards of multiple neurosurgical societies including the Congress of Neurological Surgeons (CNS), the North American Skull Base Society (NASBS), and the World Federation of Skull Base Societies (WFSBS) and was the 17th President of the Society for Brain Mapping and Therapeutics (SBMT). His most preeminent role was his appointment as the inaugural Global President of the Walter E. Dandy Neurosurgical Society, which is considered the primary international society for operative neurosurgery.
Sunday July 11th
Location - Concourse Hall 151

8:30 - 9:00 am –

Dr. Andre Machado

“Deep Brain Stimulation of the Cerebellothalamocortical Pathway for Post-Stroke Rehabilitation. A translational study.”

Dr. Machado is the Chairman of the Neurological Institute and the Charles and Christine Carroll Family Endowed Chair in Functional Neurosurgery. Dr. Machado performs deep brain stimulation (DBS) surgery for patients with Parkinson’s disease, tremor, dystonia and obsessive-compulsive disorder as well as surgical procedures for patients with trigeminal neuralgia, intractable pain syndromes and spasticity.

Dr. Machado received his medical degree from the University of Sao Paulo in 1997. He completed his residency in the same institution in 2003 and obtained his Ph.D. in 2004. He came to the Cleveland Clinic in 2004, completed his fellowship in Stereotactic and Functional Neurosurgery in 2006 and has been on the staff of the Cleveland Clinic since then.

Dr. Machado is the program director for education in Stereotactic and Functional Neurosurgery and won the “Teacher of the year award” from the Department of Neurosurgery in 2009. Dr. Machado is Full Staff in the Department of Neurosurgery with Joint Appointments in the Department of Neuroscience and in the Department of Biomedical Engineering at the Cleveland Clinic Lerner Research Institute. He is the current Chairman for the Joint Pain Section of the CNS/AANS and he is a Board Member of the American Society of Stereotactic and Functional Neurosurgery.

Dr. Machado leads several deep brain stimulation and neuromodulation clinical trials as well as laboratory research. His research in deep brain stimulation for thalamic pain syndrome was awarded the National Institutes of Health Director’s New Innovator’s Award. In addition, he conducts deep brain stimulation research for treatment refractory depression as well as obsessive compulsive disorder. His laboratory in the Lerner Research Institute is focused in developing new strategies for utilizing neuroprosthetic devices such as DBS to improve post-stroke rehabilitation. His current NIH funded research is aimed at evaluating the effects of deep cerebellar stimulation on post-stroke perilesional plasticity and recovery of function.

Dr. Machado is the author of several peer reviewed publications and chapters in stereotactic and functional neurosurgery.
John Adler

“Global Access to Radiosurgery”

He was born in Yonkers, New York, in 1954. He graduated at Harvard College in 1976 and at Harvard Medical School in 1980. From 1980 to 1987 he did a neurosurgical residency at Massachusetts General Hospital and Brigham and Women's Hospital and a radiosurgery fellowship at the Karolinska Institute in Sweden, where he worked with Lars Leksell. He joined the faculty of Stanford University School of Medicine in 1987 as an assistant professor in the department of neurosurgery in 1987, was also, made an assistant professor in radiation oncology in 1992, was made an associate professor in both departments in 1993, and was made a full professor in both departments in 1998. In 2007 he was named the Dorothy and Thye King Chan Professor in neurosurgery. He was eventually appointed an emeritus professor of neurosurgery.

In 1985 he did a one-year fellowship in Sweden with Lars Leksell, who had invented a device to deliver targeted radiation at brain tumors, called the Gamma Knife. He was astonished and inspired but saw an opportunity to improve it. The Gamma Knife relied on a physical cage to coordinate the location of the subject's head and the device delivering the radiation; Adler wanted to use medical images to guide the beam, instead of the cage. When he returned to Stanford he worked with faculty in the engineering school to build a prototype and by 1987 was pitching his company to venture capitalists. They rejected his idea because the machines were enormous and expensive (the estimated price at that time was $3.5M), so he raised $800,000 from other neurosurgeons, friends, and family, and started a company, Accuray, in 1990. Adler served as chief medical officer, remaining on the Stanford faculty. The company ran out of money in 1994 and had other struggles; Adler took a leave of absence from Stanford in 1999 and took over as CEO, serving in that role until 2002, when he stepped back into being CMO. As of 2005, the company was selling about two machines each month.

In 2009, Adler founded Curēus.com (originally known as peerEmed.com), a web-based peer-reviewed medical journal that combines attributes of traditional expert review and social networks with the objective of fairly compensating reviewers and authors.

In April 2010, Adler was appointed vice president and chief of New Clinical Applications at Varian Medical Systems. Since 2015 he has served as the founder and CEO of Zap Surgical Systems. The company's flagship project was presented in Europe in 2018 at the "Frontiers of Radiosurgery" scientific symposium and adopted for the first time in Europe in 2020. In 2018 Adler was awarded the Cushing Award for Technical Excellence and Innovation in Neurosurgery, presented at the AANS Annual Scientific Meeting. He is the father of Trip Adler, co-founder and CEO of Scribd, an American e- book and audiobook subscription service that includes one million titles.
Sunday July 11th
Location - Concourse Hall 151

12:00- 12:30pm –

Dr. Qin Wang

“The Noradrenergic Link Between Amyloid and Tau”

Dr. Qin Wang received her M.D. degree from Beijing Medical University, China. After traveling to the US, she obtained her Ph.D. degree in December 1999 from University of Iowa. She then did her postdoc work at Vanderbilt University, where she was appointed as a Research Assistant Professor two years later. In June 2005, Dr. Wang joined UAB as an Assistant Professor.

The long-term goal of her research is to reveal novel regulatory pathways controlling G protein-coupled receptors (GPCRs) functions at the molecular and cellular levels and to understand how these regulatory mechanisms influence GPCR-elicited physiological functions in vivo, so as to provide new insights for therapeutic strategies. Current projects include: 1) regulation of alpha2A adrenergic receptor trafficking and signaling in native neurons exploiting gene knock-in and knock-out mice; 2) regulation of adenosine-mediated synaptic plasticity and behavior; 3) neuroprotective functions of the alpha2A adrenergic receptor in neurodegenerative diseases.
Map and Talks Locations
Friday, July 9th 10:00-11:30 am PDT

**A1: Advances in Movement Disorders I: DBS & Beyond (JHU CME)**

*Chairs: Dr. Zoltan Mari, Ruvo Family Chair and Director Parkinson’s & Movement Disorders Center, Cleveland Clinic Lou Ruvo Center for Brain Health, Member of the Science Committee, Chair of Movement Disorders/Neurodegenerative Diseases Subcommittee* 

*Dr. Mark Liker, Clinical Assistant Professor of Neurological Surgery (Part Time). Neurological Surgery. GNH 3300 Off Campus Los Angeles*

10:00-10:15 am: Dr. Mark Liker
Neurosurgery, Keck Hospital of University of Southern California, Division of Neurosurgery

**DBS for pediatric secondary dystonia as a model for targeting novel indications**

10:15-10:30 am: Dr. Terence Sanger
Professor University of Southern California, UCI, Professor of Electrical Engineering and Computer Science. CHOC, Child Neurology

**Dystonia is a pattern disorder, and DBS is a pattern treatment**

10:30-11:00 am: Dr. Kelly Mills
Director, Professor of Neurology, John Hopkins, Movement Disorders Division

**Advances in functional neurosurgery**

11:00-11:15 am: Dr. Elliot Hogg
Director, Professor of Neurology, Cedars-Sinai Medical Center, Caron and Steven D. Broidy Chair in Movement Disorders, Director, Movement Disorders Program, Vice Chair, Department of Neurology

**Advanced Treatments for ET**

11:15-11:30 am: Session Discussion
A14: Advances in Movement Disorders II: Overview of New Treatments in Parkinson Disease

Chairs: Dr. Zoltan Mari, Ruvo Family Chair and Director Parkinson’s & Movement Disorders Center, Cleveland Clinic Lou Ruvo Center for Brain Health, Member of the Science Committee, Chair of Movement Disorders/Neurodegenerative Diseases Subcommittee

Dr. Mark Liker, Clinical Assistant Professor of Neurological Surgery (Part Time). Neurological Surgery. GNH 3300 Off Campus Los Angeles

1:30-1:45 pm: Dr. Zoltan Mari
Director, Cleveland Clinic Lou Ruvo Center for Brain Health,

Disease modification and neuroprotective clinical trials

1:45-2:00 pm: Dr. Ejaz A. Shamim,
Chief, (Kaiser Permanente) Chief of neurology

Parkinson’s Disease: General Treatments and Selected Emerging Therapies

2:00-2:15 pm: Dr. Gregory Pontone
Director, Professor, Johns Hopkins Director, Parkinson's Disease Neuropsychiatry Clinic, Associate Professor of Psychiatry and Behavioral Sciences

Advances in Neuropsychiatric treatment of PD

2:15-2:30 pm: Dr. Yousef Salimpour
Assistant Professor, (The Johns Hopkins Hospital) Assistant Professor of Neurosurgery

Phase-dependent neuromodulation for treating Parkinson’s disease

2:30-2:45 pm: Dr. Roy Alcalay,
Associate Professor (Columbia University) Professor of Neurology (in the Taub Institute), member of the Movement Disorders Division at Columbia University Irving Medical Center

Genetic biomarkers in Parkinson's Disease

2:45-3:00 pm: Session Discussion
Friday, July 9th 3:30-5:00 pm PDT

A27: (John Hopkins University CME) Advance in Movement Disorders III: Imaging and Other Biomarkers

Chair: Dr. Virendra Mishra- Associate Staff Cleveland Clinic) Cleveland Clinic Lou Ruvo Center for Brain Health

3:30-3:45 pm: Dr. Virendra Mishra
Associate Staff (Cleveland Clinic) Cleveland Clinic Lou Ruvo Center for Brain Health

Utility of Advanced MRI techniques to understand Parkinson’s disease

3:45-4:00 pm Dr. Liana Rosenthal
Director, Professor, (Johns Hopkins School of Medicine) Director, Ataxia Center; Director, Clinical Core of the Morris K. Udall Centers of Excellence for Parkinson's Disease Research, Assistant Professor of Neurology

Could inflow-based vascular space occupancy (iVASO) MRI be a marker for cognitive change in Parkinson’s disease?

4:00-4:30 pm Dr. Codrin Lungu
Director, NIH Program director Division of Clinical Research

Parkinson's Disease treatment priorities for the next decade

4:30-4:45 pm: Dr. Ryan Walsh
Director, Barrow Neurological Institute Huntington's Disease Program

Imaging Parkinson’s Disease: You Can’t Treat What You Can’t See

4:45-5:00 pm: Session Discussion
Saturday, July 10\textsuperscript{th} 8:00am-12:00 pm PDT

**B39: Celularity Neurovascular, Skullbase and Endovascular Bioskills labs (Cadaver labs)**

*Chairs: Dr. Robert Hariri, 18th President of SBMT and member of the Executive board of SBMT, Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College, Former Chief Executive Officer of Celgene Cellular Therapeutics*

*Dr. Martin Mortazavi, Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience*

*Dr. Justin Dye, Assistant Professor of Neurosurgery, Loma Linda University*
Saturday, July 10th 1:00-2:30 pm PDT

**B52: Spine Bioskills labs Cadaver Lab**

*Chairs: Dr. Namath Hussain, Neurosurgeon, Loma Linda University, Department of Neurosurgery*

*Dr. Jason Cormier, Neurosurgeon, Acadiana Neurosurgery*
Saturday, July 10th 2:00-4:00 pm PDT

**B65: Spine Bioskills labs (Cadaver labs)**

*Chairs: Dr. Namath Hussain, Neurosurgeon, Loma Linda University, Department of Neurosurgery*

*Dr. Jason Cormier, Neurosurgeon, Acadiana Neurosurgery*
Sunday, July 11\textsuperscript{th} 10:00-11:15 am PDT

**B78: Epilepsy and Neurophysiology**

*Chairs: Dr. Antal Berenyi, Adjunct Assistant Professor, University of Szeged, Hungary. New York University*

*Dr. Yousef Salimpour, Assistant Professor of Neurosurgery, The John Hopkins Hospital*

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**10:00-10:15 am:** Dr. Brach Poston  
Assistant Professor, University of Nevada, Las Vegas Department of Kinesiology and Nutrition Sciences

*Transcranial direct current stimulation to improve motor function in Parkinson’s disease*

**10:15-10:30 am:** Dr. Teresa Arroyo-Gallego  
Chief, NQ-Medical, Chief Data Scientist

*Deep brain stimulation for post-stroke motor rehabilitation: a translational project.*

**11:00-11:15 am:** Dr. Antal Berenyi  
Assistant Professor, (University of Szeged, Hungary. New York University) Adjunct Assistant Professor

*Oscillotherapy – Closed-loop transcranial electric stimulation in epilepsy and PTSD*

**11:15-11:30 am:** Session Discussion
Sunday, July 11th 1:00-2:00 pm PDT

C91: Advances in Movement Disorders IV: Telemedicine

Chairs: Dr. Esther Cubo, Hospital Universitario Burgos, Spain Neurologist

Dr. Meredith Spindler, Assistant Professor of Clinical Neurology Perelman School of Medicine, University of Pennsylvania

1:00-1.30 pm: Dr. Esther Cubo,
Attending Neurologist and Investigator, Neurology Department, Hospital General Yague, Burgos, Spain

Covid-19 impact on global teleneurology

1:30-1.45 pm: Dr. Meredith Spindler
Director, (U Penn) Associate Clinical Director, Parkinson’s Disease and Movement Disorders Center

How to set up your Teleneurology practice

1:45-2:00 pm: Dr. Emile Moukheiber
Assistant Professor of Neurology, Johns Hopkins

Medical education and training in the era of COVID

2:00-2:30 pm: Session Discussion
Sunday, July 11<sup>th</sup> 3:30-4:45 pm PDT

C104: Advances in Movement Disorders V: Objective Monitoring Technology in Movement Disorders

Chair: Dr. Yousef Salimpour, Assistant Professor of Neurosurgery, The John Hopkins Hospital

3:30-3:45 pm: Dr. Roongroj Bhidayasiri
Professor, Chulalongkorn University Hospital) Professor, Founder and Director of Movement Disorders Center in Thailand

Digital phenotyping in Parkinson’s Disease

3:45-4:00 pm: Dr. Ou Bai
Professor, Florida International University, Associate Professor

EEG-Based Neurophysiological study in PD with Freezing of Gait

4:00-4:15 pm: Dr. Naoufel Ouerchefan
Neurologist, Fosch Hospital

Spinal Cord Stimulation for Peripheral Vascular Disease

4:15-4:30 pm: Dr. Teresa Arroyo-Gallego
Chief, NQ- Medical, Chief Data Scientist

Typing measures as biomarkers in Parkinson’s Disease

4:30-4:45 pm: Dr. Yousef Salimpour
Assistant Professor of Neurosurgery, The Johns Hopkins Hospital

Objective Evaluation of Motor Symptoms in Parkinson’s Disease Via a Dual System of Optical Hand Tracking Sensors

4:45-5:00 pm: Session Discussion
Thursday, July 8th 10:00-11:30 am PDT

E1: (Lifetime Attention Disorders and Related Co-morbidities)

10:00-10:15 am: Dr. Ali A. Asadi-Pooya
Professor of Epileptology, Director, Shiraz Epilepsy Center and Epilepsy Surgery Program, Department of Neurology, Shiraz University of Medical Sciences, Shiraz, Iran
Adjunct Research Associate Professor, Department of Neurology, Thomas Jefferson University, Philadelphia, PA, USA

Epilepsy and attention deficit in adults and young Kids

10:15-10:30 am: Dr. Mohammad Nami
Head of the Department of Neuroscience Cognitive Neuroscience, Sleep Expert. Head of the Department of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran

Psychosomatic features in ADD; A Neuropsychiatry Perspective

10:30-10:45 am: Dr. Prasun Chakrabarti
Professor, Provost and Institute Endowed Distinguished Professor, Techno India NJR Institute of Technology, Udaipur, Rajasthan, India, and Adjunct Distinguished Professor, Thu Dau Mot University, Vietnam

Novel Perspectives in the Study of ADHD using Artificial Intelligence and Neuro-Informatics

10:45-11:00 am: Dr. Marsha Chinichian
Clinical Psychologist, Professor, Chief Science Officer, Clinical Psychology, Pepperdine University Graduate School of Education and Psychology, Los Angeles, CA, USA

ASD and the Vagus Nerve: An evidence based neural exercise for children and adults with ASD

11:00-11:15 am: Dr. Iman Ghodratitooostani
Senior Researcher, Neuroengineering Laboratory (NEL), University of São Paulo-USP, São Paulo, Brazil

Neuro-Cognitive Rehabilitation in Attention Disorders; the Role of Modern Technologies

11:15-11:30 am: Session Discussion
Thursday, July 8th 1:30-3:00 pm PDT

**E3: Autism Spectrum Disorders Highlights**

**Chairs:** Dr. Mohammad Nami (Head of the Department of Neuroscience, Cognitive Neuroscience, Sleep Expert. Head of the Department of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran)

1:30-1:45 pm: **Dr. Nicole Jafari**  
Founder/CEO: Cross Cultural Research & Educational Institute, CSULB & CSUF

The Efficacy of Music Therapy as an Interventional Instrument: An Evaluative Study of Autistic Children

1:45-2:00 pm: **Dr. Javad Salehi Fadardi**  
Research Associate Professor, Department of Psychology, Ferdowsi University, Mashhad Iran, and Claremont Graduate University, Claremont, CA, USA

Motivation, Brain and, then What?

2:00-2:15 pm: **Dr. Marsha Chinichian**  
Clinical Psychologist, Professor, The Pepperdine University Graduate School of Education and Psychology (GSEP), LA, CA Autistic Spectrum Disorders, CBT and beyond

ASD and the Vagus Nerve: An evidence based neural exercise for children and adults with ASD

2:15-2:30 pm: **Dr. Mehdi Tehranidoost**  
Professor of Psychiatry, Department of Psychiatry, Division of Child and Adolescents Psychiatry, Tehran University of Medical Sciences, Tehran, Iran

Investigating Deficits in Executive Functions of Adults with Attention Deficit Hyperactivity Disorder

2:30-2:45 pm: **Dr. Richa Mirsha**  
Associate Professor, Vishwaniketan's Institute of management, Entrepreneurship, and Engineering Technology, Khalapur, Maharashtra, INDIA

Neuro-nutrition and attention span in patients with Neurodevelopmental, behavioral and intellectual disorders

2:45-3:00 pm: Session Discussion
E6: Neurogenetic and Epigenetic Mechanisms of Hypodopaminergia in Reward Deficiency Syndrome: Genetic Addiction Risk Testing with Pro-Dopamine Regulation

3:30-3:45 pm: Dr. Mark S Gold
Emeritus Chair University of Florida, and Professor Department of Psychiatry, Washington University School of Medicine, St. Louis, MO

How research showing Substance Use Disorder (SUD) are diseases of the brain changed theory and treatment.

3:45-4:00 pm: Dr. Joseph A. Flaherty
Professor & Director, Alcohol Research Center, Department of Psychiatry, University of Illinois Chicago and Jesse Bwon VA Medical Center, Chicago IL

Role of EZH2 mediated epigenetic reprogramming in adult psychopathology after adolescent alcohol exposure

4:00-4:15 pm: Dr. Jean Lud Cadet
Chief, Molecular Neuropsychiatry Branch, NIH, NIDA, Baltimore, MD

Epigenetic basis of Methamphetamine Use Disorder (MUD)

4:15-4:30 pm: Dr. Panyotis K Thanos
Senior Research Scientist, Clinical & Research Institute on Addiction – and Associate Professor, Department of Pharmacology & Toxicology, Buffalo University, Jacobs School of Medicine & Biomedical Sciences, Buffalo, NY

Mapping the brain circuitry of obesity and drug abuse

4:30-4:45 pm: Dr. Kenneth Blum
Professor, Graduate College Western University Health Sciences, Pomona, CA and Chairman, The Kenneth Blum Behavioral & Neurogenetic Institute (Division of iVitalize, Inc.), Austin TX

Reward Deficiency Syndrome (RDS) A Cytoarchitectural Common Neurobiological Trait of All Addictions

4:45-5:00 pm: Session Discussion
Friday, July 9th 10:00-11:30 am PDT

A2: Rising Mental Illness Disorders Related to the COVID-19 Pandemic

10:00-10:15 am: Dr. Nesrin Dilbaz
Director in Ankara Numune Hospital

Psychiatric disorders and their treatments during COVID-19

10:15-10:30 am: Dr. Amy Hessler
Director, Clinical Clerkship, University of Kentucky

TBD

10:30-10:45 am: Dr. Nevzat Tarhan
Professor, Uskudar University

Post-Covid Maturation

10:45-11:00 am: Dr. Özlem Kızılkurt
Asist. Prof. Faculty of Medicine / Department of Mental Health and Diseases / FHSS / Psychology

Psychological impact of Covid-19 pandemic: from the perspective of resilience and hopelessness

11:00-11:15 am: Dr. Baris Metin
Assistant Professor, Uskudar University

Neurological complications and electrophysiological findings during Covid-19 infection

11:00-11:30 am: Session Discussion
Friday, July 9th 1:30-3:00 pm PDT

A15: Mood Disorders

1:30-1:45 pm: Dr. Zhi-De Deng
Director of the Computational Neurostimulation Research Program, Noninvasive Neuromodulation Unit, at the National Institute of Mental Health.

Advances in Transcranial Magnetic Stimulation and Electroconvulsive Therapy for Treatment of Depression

1:45-2:00 pm: Dr. Foojan Zeine
Psychotherapist, Life Coach, PsyD, LMFT Personal Growth Institute

Awareness integration Model to treat depression and anxiety

2:00-2:15 pm: Dr. Roger S. McIntyre
Executive Director of the Brain and Cognition Discovery Foundation in Toronto, Canada. AND Director for the Depression and Bipolar Support Alliance (DBSA) from Chicago, Ill. University of Toronto, Canada

Mood disorders and cognitive decline - E-health

2:15-2:30 pm: Dr. Sam Mandel
Anesthesiologist with a master in psychology. Founder/President- Ketamine Clinics. Founder/President American Society of Ketamine Physicians (ASKP), Ketamine Clinics Los Angeles

Ketamine Infusion in Clinic

2:30-2:45 pm: Dr. Lauren Taus
LCSW and Stephen Taus MD, Social worker, Psychedelic support

The Power of Relationship, Preparation and Integration in Ketamine Assisted Psychotherapy

2:45-3:00 pm: Session Discussion
Friday, July 9th 3:30-5:00 pm PDT
A28: The Role of Sleep in Psychiatric Disorders

Chairs: Dr. Mohammad Nami (Head of the Department of Neuroscience, Cognitive Neuroscience, Sleep Expert. Head of the Department of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran)

Dr. Alero Mayuku-Dore

3:30-3:45 pm: Dr. Amir Sharafkhaneh
Pulmonary Med, Sleep Expert, Pulmonary Med, Critical Care Medicine, Sleep Expert Baylor College of Medicine Houston, Tx, USA

Intermittent Hypoxia as a model of linking OSA and psychiatric symptoms: Context, Issue and Resolutions

3:45-4:00 pm: Dr. KS Jagannatha Rao
President, Neurobiology, Neuroscience President, Neuroscience Center, INDICASAT-AIP, Panama City, Panama

Sleep and Brain Plasticity: Neuropsychiatric Implications

4:00-4:15 pm: Dr. Shima Sazegari
Neurobiologist, Sleep Expert, Swiss Alternative Medicine Geneva, Switzerland

Inclusive Brain Health and the Integrative Approach to Sleep Efficiency

4:15-4:30 pm: Dr. Mauro Manconi
Neurologist, Sleep Expert, Head of the Service at the Sleep and Epilepsy Centre of the Neurocenter of Southern Switzerland, Lugano, Switzerland

Nocturnal Epilepsy and Psychiatric Consequences: Context, Issue and Resolutions

4:30-4:45 pm: Dr. Mohammad Nami
Head of the Department of Neuroscience, Cognitive Neuroscience, Sleep Expert. Head of the Department of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran

Neuromodulation in Behavioral Sleep Disorders: Hits and Misses

4:45-5:00 pm: Session Discussion
Saturday July 10th 10:00-11:30 am PDT

**B40: The Psychological, Physiological, and Social Factors of Substance Abuse and Addiction**

10:00-10:15 am: **Dr. Mark Ereth**
Emeritus Professor of Anesthesiology, Mayo Clinic College of Medicine

*Mitigating Post-Surgical Opioids with Peripheral Nerve Blocks*

10:15-10:30 am: **Dr. Daniel Sipple**
Physical Medicine Physician, Midwest Spine and Brain Institute

*Upstream Prevention of Addiction: Sustained Release Local Anesthetics, Attachment Based Interventions*

10:30-10:45 am: **Dr. Denise B. Kandel**
Head of the Department of Epidemiology of Substance Abuse at the New York State Psychiatric Institute, Professor of Sociomedical Sciences and Psychiatry at Columbia University

*Medical Use and Misuse of Prescription Opioids by Parents and their Adolescent Children in the US*

10:45-11:00 am: **Dr. Kenneth Blum**
Professor, Graduate College Western University Health Sciences, Pomona, CA and Chairman, The Kenneth Blum Behavioral & Neurogenetic Institute (Division of iVitalize, Inc.), Austin TX

**Dr. Eric R. Braverman**
Medical director of PATH Medical and coordinator of clinical research for PATH Foundation

**Dr. David Baron**
Prof. and Executive Vice Chair, Dept of Psychiatry, Keck Hospital of USC, USC Norris Comprehensive Cancer Center

**Dr. Mark S. Gold**
Emeritus Chair University of Florida, and Professor Department of Psychiatry, Washington University School of Medicine, St. Louis, MO

*High Genetic Addiction Risk Severity and Attenuated Affect in Chronic Opioid Use Disorder: Requiring Mandated Psychoactive Urine Screening*

11:00-11:30 Session Discussion
Saturday July 10th 1:00-2:30 pm PDT
B53: Opioid Addiction: Treatment

Chairs: Dr. Nicholas J. Dogris & Tiffany Thompson CEO and Co-founder, NeuroField, Inc.

1:00-1:15 pm: Dr. Nicholas J. Dogris
PhD & Tiffany Thompson, PhD, CEO and Co-founder, NeuroField, Inc.

The Effect of tDCS/tACS/tRNS & pEMF Neuromodulation on Acute Opiate Detoxification.

1:15-1:30 pm: Dr. Oliver Morgan
Professor, Counseling and Human Services, University of Scranton

Addiction, Attachment, Trauma and Recovery”- Conceiving of the addict as a member of the collective within a social context, rather than an isolated individual is a paradigm shift in addiction treatment.

1:30-1:45 pm: Dr. Candy S. Hwang
Assistant Professor, Southern Connecticut State University

A novel vaccine to treat heroin addiction and block lethal overdose is nearly ready for human testing.

1:45-2:00 pm: Dr. Jeff McNairy
Chief Medical Office, Chief Medical Officer at Rythmia Life Advancement Center, Rythmia Life Advancement Center.

NuHeart/Afterglow; Addiction Treatment Using Plant Medicine.

2:00-2:15 pm: Dr. David Frenz
Pain Psychiatrist, and Director of Pain Medicine, at M Health

Use of Compounded Nasel Ketamine in Addiction Management

2:15-2:30 pm: Session Discussion
Saturday July 10th 3:00-4:30 pm PDT
*B66: Social Impact, Cost and Initiatives relating to Opioid Epidemic*

**Chairs: Dr. Daniel Sipple (Physical Medicine Physician, Midwest Spine and Brain Institute)**

**Dr. Jake Hutchins, University of Minnesota Medical Center (Anesthesiology)**

3:15-3:30 pm: Dr. Greg Boyle  
Founder, Catholic Church, Homeboy Industries

Disorganized attachment and incarceration in drug abuse

3:30-3:45 pm: Dr. Tom Meier  
Faculty Director, Professor, CAO, Nuway

Applied Behaviour Economics in Substance Abuse

3:45-4:00 pm: Dr. Dave Wensel  
Chief Medical Officer, Midland Care Connection

PACE model for disenfranchised Veterans

4:00-4:15 pm: Dr. Rajeev Chavan  
Principal Controller of defence accounts India

Societal impact of the opioid crisis in India

4:15-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT
C79: Brain Mapping in Neuro-Psych-Behavior. (JHU CME)

Chairs: Dr. Nevzat T. Tarhan (Professor of Psychiatry, President/Rector, Uskudar University, Istanbul Turkey)

Dr. Barish Metin (Assistant Professor, Uskudar University)

10:00-10:15 am: Dr. Nevzat Tarhan
Professor, Uskudar University

Introduction and Facilitating

10:15-10:30 am: Dr. Osman Cerezci
Assistant Professor, Uskudar University

Human Exposure to Electromagnetic Pollution in the living areas

10:30-10:45 am: Dr. Barish Metin
Assistant Professor, Uskudar University

Neuropsychiatric damage caused by wi-fi signals: Are we overlooking a serious threat

10:45-11:00 am: Dr. Türker Tekin Ergüzel
Assistant Professor, Uskudar University

Predicting Health Effects of Electromagnetic Pollution Using Fuzzy Logic

11:00-11:15 am: Dr. Selim Seker
Professor, Uskudar University

Estimating Biological Changes in Human Brain

11:15-11:30 Session Discussion
1:00-1:15 pm: Dr. Diana Oviedo  
Research Coordinator, Affective Neuroscience, Cognitive Psychology, Neuroscience Center, INDICASAT-AIP, Panama City, Panama

COVID-Induced Anxiety Disorder linked to Long-COVID symptoms

1:15-1:30 pm: Dr. Corey Emerick  
Licensed Professional Counselor, Owner of SantaVie, Affective Neuroscience, Cognitive Psychology, The Santavie, Nashville, TN, USA From Fear Related Memories to PTSD; What Affective Neuroscience and Brain Mapping Inform Us

From Fear Related Memories to PTSD; What Affective Neuroscience and Brain Mapping Inform Us

1:30-1:45 pm: Dr. Farshad Nazaraghaei  
Founder of FG Meditation and IBH Co-Founder, Human Consciousness, Neurophysiology, Fars Meditation Academy, Iran & University of Banglore, India Conquering Worry through Geometric Somatic Breathing Based Meditation; A Clinical Report

Conquering Worry through Geometric Somatic Breathing Based Meditation; A Clinical Report

1:45-2:00 pm: Dr. Ali Ghabeli, 
Neurologist & Researcher, Neurology, Headache Disorders Fellow, Hull University Teaching Hospitals NHS Trust, Hull, East Yorkshire, UK

Headache and Anxiety Disorders; A two-way street

2:00-2:15 pm: Dr. Mohammad Nami  
Head of the Department of Neuroscience, Cognitive Neuroscience, Sleep Expert. Head of the Department of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran

Treatment of anxiety disorders; A 2021 Update

2:15-2:30 pm: Session Discussion
Sunday, July 11th 3:30-5:00 pm PDT
C105: Panel Discussion on COVID19-Brain (from Pathophysiology to vaccination and Rehabilitation

Chairs: Dr. Babak Kateb (Founding Chairman of the Board and Scientific Director of SBMT, President of Brain Mapping Foundation, Director of Brain Technology and Innovation Park, Director of National Center for Nano-Bio-Electronics (NCNBE), President and CEO of Smart Microscopy Inc., LA, CA, USA)

Dr. Vicky Yamamoto (Cancer Scientist, Dept. of Head & Neck Surgery Otolaryngology, USC-Keck School of Medicine, CA, USA)

3:30-3:45 pm: Dr. Ashraf Elsayegh
Professor, Pulmonologist, Professor of Pulmonary Medicine, Cedars-Sinai Medical Center

A rare neurosurgical/spine case of COVID-19

3:45-4:00 pm: Dr. Jason Cormier
Associate Professor, Jason Cormier, MD, Neurosurgeon, 19th President of SBMT, Associate Professor of Neurosurgery, LSU, UL

4:00-4:15 pm: Dr. Dawn Eliashiv
Neurologist Professor of Neurology, UCLA David Geffen School of Medicine

Neurological Implications of COVID-19

4:15-4:30 pm: Dr. Mehran Khorsandi
Interventional Cardiologist, Professor of Cardiology, Cedars-Sinai Medical Center

Cardiovascular Aspects of COVID-19

4:30-4:45 pm: Dr. Vicky Yamamoto
Executive Director, Cancer Scientist, USC-Norris Comprehensive Cancer Center, USC-Keck School of Medicine

The neuropsychiatric Impact of COVID-19 on the General Population

4:45-5:00 pm: Session Discussion
Society for Brain Mapping and Therapeutics (SBMT)
Alzheimer's Disease Conference 2021: Room 151

Organized by:
Chris Wheeler, J. Wes Ashford, Margaret Fahnestock,
Carr Smith, Maya Koronyo-Hamaoui, Maj-Linda
Selenica, Rudy Tanzi, and Babak Kateb

Keynote speaker:

Dr. Qin Wong

Professor, Department of Cell, Developmental and Integrative Biology, University of Alabama at Birmingham

Talk title:
The adrenergic link between amyloid and tau
Friday, July 9th 10:00-11:30 am PDT
A3 (SLU CME): Alzheimer’s Disease Mechanisms I: Beyond Aβ and Tau

Chairs: Dr. Margaret Fahnestock
(Professor, Department of Psychiatry & Behavioural Neurosciences, McMaster University)

Dr. John Wesson Ashford
Director, War Related Illness & Injury Study Center, VA Palo Alto Health Care System;
Clinical Professor (Affiliated), Psychiatry and Behavioral Science, Stanford University

10:00-10:15 am: Dr. Margaret Fahnestock
Professor, Department of Psychiatry & Behavioral Neurosciences, McMaster University

Role of the NGF receptor in age-related axonal degeneration.

10:15-10:30 am: Dr. Cheryl Dreyfus
Distinguished Professor and Chair, Department of Neuroscience & Cell Biology, Rutgers - Robert Wood Johnson Medical School

A metabotropic glutamate receptor agonist maintains oligodendrocyte function in Alzheimer’s disease.

10:30-10:45 am: Dr. Michael V. Sofroniew
Professor of Neurobiology, Brain Research Institute, UCLA

Astrocytes in Alzheimer’s disease: Protective or toxic?

10:45-11:00 am: Dr. Maj-Linda Selenica
Assistant Professor, Sanders Brown Center on Aging. UK, KY

TDP-43 cytoplasmic sequestration is regulated by the hypusination of eIF5A in stress induced cellular models.

11:00-11:15 am: Dr. Scott E. Counts
Associate Professor of Translational Neuroscience, Michigan State University

Mitochondrial unfolded protein response dysfunction during the progression of AD.

11:15-11:30 am: Session Discussion
Friday, July 9th 1:30-3:00 pm PDT

A16: Alzheimer's Disease Mechanisms II: Genetics

*Chair: Dr. Carr J. Smith*  
*(Toxicology Advisor at Albemarle Corporation)*

1:30-1:45 pm: Dr. Carr J. Smith  
Toxicology Advisor, Albemarle Corporation

*Putative Survival Advantages in Young Apolipoprotein ε4 Carriers are Associated with Increased Neural Stress.*

1:45-2:00 pm: Dr. Bilal Kerman  
Assistant Professor of Medicine, Keck School of Medicine, University of Southern California

*Monitoring ApoE and ABCA1 Interactions in Alzheimer's Disease.*

2:00-2:15 pm: Dr. Iva Zovkic  
Assistant Professor of Psychology, University of Toronto

*Isoform-specific effects of histone variants on memory.*

2:15-2:30 pm: Dr. Giovanni Meli  
Group Leader, European Brain Research Institute, Rome

*New insights into subcellular Aβ oligomers in Alzheimer’s Disease cells and brains.*

2:30-2:45 pm: Dr. John Ringman  
Professor of Clinical Neurology, University of Southern California

*Spastic Paraparesis in Autosomal Dominant Alzheimer’s disease: What’s up with that?*

2:45-3:00 pm: Session Discussion
Friday, July 9th 3:30-5:00 pm

A29: Alzheimer’s Disease Mechanisms III: Brain-Immune Interactions & Inflammation

Chairs: Dr. Maya Koronyo-Hamaoui
(Associate Professor of Neurosurgery, Associate Professor of Biomedical Sciences, Research Scientist Maxine Dunitz Neurosurgical Institute, Cedars Sinai)

Dr. Chris Wheeler
(Senior Research Scientist at Brain Mapping Foundation; Chief Science Officer at T-Neuro Pharma, Inc.)

3:30-3:45 pm: Dr. Jorge I. Alvarez
Assistant Professor, University of Pennsylvania, School of Veterinary Medicine, Dept. of Pathobiology

CNS vasculature and neuroinflammation

3:45-4:00 pm: Dr. Sally Frautschy
Professor in Residence of Neurology, David Geffen School of Medicine, University of California Los Angeles

Neuroinflammation in a hypertensive transgenic Alzheimer rat model of mixed model of dementia.

4:00-4:15 pm: Dr. Helen S. Goodridge
Associate Professor of Biomedical Sciences and Medicine, Cedars-Sinai Medical Center

Role of hematopoietic aging in cognitive decline.

4:15-4:30 pm: Dr. Chris Wheeler
Senior Research Scientist, Brain Mapping Foundation; Chief Science Officer, T-Neuro Pharma, Inc.

Antigen-specific CD8 T cells in blood elicit AD-like neurodegeneration in mice and track AD occurrence in patients

4:30-4:45 pm: Mojtaba Barzegar
CEO, iq bmi LLC, Tehran, Iran; Department of Neuroscience, Shiraz University of Medical Sciences, Iran

Quantitative Structured Reporting for AD

4:45-5:00 pm: Session Discussion
Saturday, July 10th 10:00-11:30 am PDT

B41 (SLU CME): Alzheimer’s Disease Diagnosis I: Biomarkers

Chair: Dr. Chris Wheeler
(Senior Research Scientist at Brain Mapping Foundation; Chief Science Officer at T-Neuro Pharma, Inc.)

10:00-10:15 am: Dr. Hussein Yassine
Assistant Professor of Medicine, Keck School of Medicine, University of Southern California

APOE4 and neuroinflammation in Alzheimer’s disease: mechanisms and insights.

10:15-10:30 am: Dr. George Perry
Professor, Semmes Foundation. Distinguished University Chair in Neurobiology, University of Texas, San Antonio

Pathology in Alzheimer Disease: A Protective Response.

10:30-10:45 am: Dr. Auriel Willette
Assistant Professor of Food Science and Human Nutrition, Iowa State University

Rise, fall, or maintain: latent cognitive aging trajectories and neurobiological associations.

10:45-11:00 am: Ariel Kuhn C.Ph., Ph.D. Candidate
Raskatov lab, Physical & Biological Sciences Division, University of California Santa Cruz

Rethinking the non-amyloidogenic pathway: a potential role for Amyloid-α (aka p3) in Alzheimer’s Disease.

11:00-11:15 am: Dr. Elizabeth Head
Professor of Pathology, University of California Irvine

Neuroimaging biomarkers for Alzheimer disease in Down syndrome.

11:15-11:30 am: Session Discussion
Saturday, July 10th 1:00-2:30 pm PDT

B54: Alzheimer’s Disease Diagnosis II: Retinal Imaging

Chair: Dr. Maya Koronyo-Hamaoui
( Associate Professor of Neurosurgery, Associate Professor of Biomedical Sciences, Research Scientist Maxine Dunitz Neurosurgical Institute, Cedars Sinai)

1:00-1:15 pm: Steven Verdooner
CEO, Neurovision Imaging

Imaging amyloid beta in the retina.

1:15-1:30 pm: Dr. Oana Dumitrascu
Assistant Professor of Neurology, Cedars-Sinai Medical Center

Retinal amyloid imaging in patients with amnestic MCI

1:30-1:45 pm: Dr. Delia Cabrera DeBuc
Research Associate Professor of Ophthalmology, University of Miami Health System


1:45-2:00 pm: Dr. Liang Gao
Adjunct Assistant Professor of Electrical and Computer Engineering, University of Illinois

Snapshot hyperspectral retinal imaging for early diagnosis of AD.

2:00-2:15 pm: Dr. Swati S. More
Associate Professor, Center for Drug Design (CDD), University of Minnesota

Hyperspectral Imaging Signatures Detect Amyloidopathy in the Retina of Alzheimer’s Disease patients.

2:15-2:30 pm: Session Discussion
Saturday, July 10th 3:00-4:30 pm PDT

B67 (SLE CME): Alzheimer’s Disease Diagnosis III: Brain Imaging, Brain Stimulation (rTMS)

Chairs: Dr. Allyson Rosen  
(Clinical Associate Professor (Affiliated) [Vapahcs], Psych/Public Mental Health & Population Sciences Staff, Psychiatry and Behavioral Sciences)

Dr. Joy Taylor  
(Clinical Professor in the Department of Psychiatry and Behavioral Sciences at Stanford University School of Medicine, Associate Director of the Stanford/VA California Alzheimer’s Disease Center and the Associate Director of the Stanford/VA Aging Clinical Research Center)

3:00-3:15 pm: Dr. Allyson Rosen  
Director of Dementia Education, Mental Illness Research & Education Center, MIRECC, VA Palo Alto Health Care System, Stanford University

Neuronavigation for brain stimulation / rTMS

3:15-3:30 pm: Dr. Joy Taylor  
Clinical Researcher, Mental Illness Research & Education Center, MIRECC, VA Palo Alto Health Care System, Stanford University

Network-targeted Transcranial Magnetic Stimulation (TMS) for Mild Cognitive Impairment

3:30-3:45 pm: Dr. Ansgar Furst  
Associate Director of Neuroimaging Laboratory, War Related Illness & Injury Study Center, (WRIISC), VA Palo Alto Health Care System, Stanford University

Tracking pathways in the brain related to AD, TBI

3:45-4:00 pm: Dr. Joseph Cheng  
Mental Illness Research & Education Center, MIRECC, VA Palo Alto Health Care System, Stanford University

rTMS for Alzheimer’s disease

4:00-4:15 pm: Yu Zhang  
War Related Illness & Injury Study Center, (WRIISC), VA Palo Alto Health Care System, Stanford University

Diffusion Tensor Tractography of the Brainstem and Relevant for rTMS

4:15-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT

C80: Lifestyle Intervention in Alzheimer’s Disease Prevention and Treatment

Chairs: Dr. Carl W. Cotman
(Professor of Neurology, School of Medicine. Director, Institute for Brain Aging and Dementia, Research and Graduate Studies)

Dr. Margaret Fahnestock
Professor, Department of Psychiatry & Behavioral Neurosciences, McMaster University

10:00-10:15 am: Dr. Carl W. Cotman
Professor of Neurology, University of California Irvine

Exercise and Cognitive Stimulation Drive Youthful Gene Signatures in the Aging Human Hippocampus

10:15-10:30 am: Dr. Ashley Keiser
Postdoctoral Fellow, University of California Irvine

Exercise opens a 'molecular memory window' to facilitate memory and synaptic plasticity

10:30-10:45 am: Dr. Donna Korol
Associate Professor of Biology, Syracuse University

Use it and boost it with physical and mental activity: A role for BDNF in brain plasticity associated with lifestyle enrichment

10:45-11:00 am: Dr. Margaret Fahnestock
Professor, Department of Psychiatry & Behavioral Neurosciences, McMaster University

Beneficial effects of a single session of high-intensity interval training (HIIT)

11:00-11:15 am: Dr. Fernando Gomez-Pinilla
Professor and Director of the Neurotrophic Research Laboratory with secondary appointment in Physiological Science, University of California Los Angeles

Single cell substrates of AD pathology and dietary treatment

11:15-11:30 am: Session Discussion
Sunday, July 11th 1:00-2:30 pm PDT

C93 (SLE CME): Alzheimer’s Disease Treatment I: Traditional Targets and New Horizons

Chairs: Dr. Maj-Linda Selenica
(Assistant Professor, Sanders Brown Center on Aging)

Dr. Chris Wheeler
(Senior Research Scientist at Brain Mapping Foundation & Chief Science Officer at T-Neuro Pharma, Inc.)

1:00-1:15 pm: Dr. Hayk Davtyan
Associate Research Professor, University of California Irvine

Immunotherapeutic strategies in Alzheimer’s disease: pre-clinical studies in transgenic mice.

1:15-1:30 pm: Dr. Christopher Norris
Professor, Pharmacology and Nutritional Sciences, University of Kentucky

Astrocyte signaling as a therapeutic target for Alzheimer’s disease and related disorders.

1:30-1:45 pm: Dr. Scott Counts
Associate Professor of Translational Neuroscience, Michigan State University

Therapeutic targeting of the oxytocin receptor for vascular and mixed dementia

1:45-2:00 pm: Dr. Ron Bruntz
Scientist III, Molecular & Cellular Biochemistry, University of Kentucky

ApoE genotypes differentially regulate central carbon metabolism.

2:00-2:15 pm: Dr. Maj-Linda Selenica
Assistant Professor, Sanders Brown Center on Aging. UK, KY

The identification of citrullinated TDP-43- a novel PTM with implications for dementia

2:15-2:30 pm: Session Discussion
Sunday, July 11th 3:30-5:00 pm PDT

C106 (SLU CME): Alzheimer’s Disease Treatment II: Mechanistic & Alternative Targets

Chair: Dr. Greg Cole
(Professor of Medicine & Neurology, UCLA; Assoc. Dir. For Research, GLA Veterans Administration)

3:30-3:45 pm: Marissa Mekktikul, C.Ph., Ph.D. Candidate
Ph.D. Candidate, Department of Neurology, University of California Los Angeles

C5a and Traumatic Brain Injury.

3:45-4:00 pm: Dr. Gregory M. Cole
Professor of Medicine and Neurology and Associate Director of the UCLA Alzheimer’s Center, University of California Los Angeles

Dietary Lipids, ApoE4 and Alzheimer Prevention.

4:00-4:15 pm: Dr. Patricia Spilman
Senior Staff Scientist at Drug Discovery Laboratory, Department of Neurology, University of California Los Angeles

ApoE4-targeted therapeutic candidate that normalizes SirT1 and improves cognition in an AD model.

4:15-4:30 pm: Dr. Wes Ashford
Director, War Related Illness & Injury Study Center, (WRIISC), VA Palo Alto Health Care System, Stanford University

Massive internet testing of theoretical but practical AD treatments (Statins, NSAIDs, Lithium, Magnesium, exercise and diet).

4:30-4:45 pm: Dr. Edmond Teng
Senior Medical Director, Genentech, South San Francisco

Targeting tau spread in neurodegenerative disease with monoclonal antibodies.

4:45-5:00 pm: Session Discussion
Friday, July 9th 10:00-11:30 am PDT
A4: Novel Therapeutics for Combat Related PTSD (SLU CME)

Chair: Dr. Michael Roy
(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)

10:00-10:15 am: Dr. Pashtun Shahim
Staff Scientist, RMD at Clinical Center, National Institutes of Health Research Scientist Center for Neuroscience and Institutes of Health Research Scientist Center for Neuroscience and Regenerative Medicine, Bethesda.

Deep Data Analysis of Blood and Imaging Correlates of Post-traumatic Stress Symptoms Following Military Concussive TBI

10:15-10:30 am: Dr. Rick Gray
Research Director, Research & Recovery Project, Cornell, NY

Reconsolidation of Traumatic Memories (RTM) protocol: a novel intervention for PTSD

10:30-10:45 am: Dr. Jerzy Bodurka
Chief Technology Officer, Professor, Director MRI and EEG Facility, Laureate Institute for Brain Research and Associate University of Oklahoma

Update on Realtime Amygdala-Focused Neurofeedback to Treat PTSD

10:45-11:00 am: Dr. Charles Tegeler
Professor of Neurology, Wake Forest University School of Medicine,

Symptoms, Imaging, and Autonomic Outcomes after HIRREM for Symptoms of Military-related Traumatic Stress

11:00-11:15 am: Dr. Sarah Kruger
Biomedical Engineer and CAREN Operator, National Intrepid Center of Excellence, Walter Reed National Military Medical Center, Bethesda, MD

The 3MDR Clinical Trial to Treat PTSD after Mild TBI with and without Eye Movement

11:15-11:30 am: Session Discussion
Friday, July 9th 1:30-3:00 pm PDT

**A17: Innovative Diagnostic and Treatment Approaches in Military TBI (SLU CME)**

**Chairs:**

*Dr. Michael Roy*
*(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)*

*Dr. Ken Green*
*Vice President, Strategic Initiatives for Government and Nonprofit Partnerships, SBMT*

**1:30-1:45 pm:** Dr. Michael Roy
Deputy Director, TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda

*Allostatic Neurotechnology, a Novel Approach for Resetting the Brain to Relieve Post-Concussive Symptoms*

**1:45-2:00 pm:** Dr. Pinata Sessoms
Director, CAREN Naval Health Research Center, San Diego

*Rehabilitation and Neuromarker Identification for mTBI Patients using Immersive Virtual Reality Environments*

**2:00-2:15 pm:** Dr. Paul Pasquina
Chair Department of Physical Medicine and Rehabilitation, Uniformed Services University, Bethesda, MD

*The NCAA Study: What We Can Learn from Longitudinal Study of Military Service Academy Graduates*

**2:15-2:30 pm:** Dr. Tom DeGraba
Senior Research Scientist, National Intrepid Center of Excellence, Bethesda

*Analyzing the NICOE Experience—What Works and What Does Not in treating complex TBI?*

**2:30-2:45 pm:** Dr. Dallas Hack
Colonel, US Army (Retired), Cohen Veterans Bioscience

**State of the Science on TBI in 2020**

**2:45-3:00 pm:** Session Discussion
Friday, July 9th 3:30-5:00 pm PDT

A30a: Suicide (SLU CME)

Chairs: Dr. Ken Green
Vice President, Strategic Initiatives for Government and Nonprofit Partnerships, SBMT

Dr. Michael Roy
(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)

3:30-3:45 pm: Dr. Daniel Perl
Director, Brain Bank and Neuropathology, TBI Research Center, Uniformed Services University, Bethesda, MD

Neuropathologic Findings that Distinguish Suicide from other Causes of Death

3:45-4:00 pm: Dr. Sharon Birman
USU

Disseminating Evidence Based Practice in Suicide Prevention and Treatment for Military Communities

4:00-4:15 pm: Dr. Ken Green
Vice President, Strategic Initiatives for Government and Nonprofit Partnerships, SBMT

Understanding and Preventing Suicide. What we Know, What We Think We Know, and What We Will Never Know

4:15-4:30 pm: Dr. David Luxton
Associate Professor, Psychiatry University of Washington School of Medicine, Seattle, WA and Rona Margaret Relova, VA Palo Alto Healthcare System

Can AI Save Lives? Big Data and Machine Learning in Suicide Prevention

4:30-4:45 pm: Dr. Colonel Caesar Junker
USAF Surgeon General’s Office, USAF Surgeon General's Office

Addressing Suicide in the US Air Force

4:45-5:00 pm: Session Discussion
Saturday, July 10th 10:00-11:30 am PDT

B42: Subconcussive Blast Exposure (SLU CME)

Chair: Dr. Michael Roy  
(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)

10:00-10:15 am: Dr. Jennifer N. Belding  
Behavioral Health Researcher, Naval Health Research Center, San Diego, CA

Assessment of Blast in U.S Military Special Forces

10:15-10:30 am: Dr. David Keyser  
Neurophysiologist, Uniformed Services University, Bethesda, MD

Investigating Training-Associated Blast Pathology: The INVICTA Study

10:30-10:45 am: Dr. Suthee Wiri  
Senior Engineer, Applied Research Associates

Blast Gauge Assessment of Subconcussive Blast Exposure in Military Units

10:45-11:00 am: Dr. Doug Brungart  
Chief Scientist for the Audiology and Speech Center, Walter Reed National Military Medical Center, Bethesda

Use of the WHATS system, a Soundbooth in a Headset, to Assess the Audiologic Impact of Subconcussive Blast Exposure

11:00-11:30 am: Session Discussion
Saturday, July 10th 1:00-2:30 pm PDT

**B55: Diagnostic, Pathology and Epidemiology of TBI (SLU CME)**

Chair: Dr. Stuart Hoffman  
*Scientific Program Manager for Brain Injury, U.S. Department of Veterans Affairs*

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1:00-1:18 pm: **Dr. Clara E. Dismuke**  
Health Services Research Enhancement Award Program  
Ralph H. Johnson VA Medical Center  
Medical University of South Carolina  
Center for Health Economics and Policy Studies  

**Association of Blast with VA Service Connected Disability, Comorbidities, Health-Services Utilization and Costs: Initial CENC Findings**

1:20-1:38 pm: **Dr. David Tate**  
Neurology Associate Professor, University of Utah School of Medicine,  

**TBI and Medical Imaging: A picture is worth a thousand words, but is it really saying anything important**

1:40-1:58 pm: **Dr. Kathleen Carlson**,  
HSR&D, Center to Improve Veteran Involvement in Care (CIVIC), VA Portland Health Care System  

**Opioid and Sedative-Hypnotic Medication Use among Veterans with TBI**

2:00-2:18 pm: **Dr. Subburaman Mohan**  
VA Loma Linda Healthcare System  

**Long Term Impact of Mild TBI on Bone Metabolism: Brain- Bone Connection**

2:18-2:30 pm: Session Discussion
Saturday, July 10th 3:00-4:30 pm PDT

B68: Innovation in Neurotrauma (SLU CME)

Chair: Dr. Michael Roy
(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)

3:00-3:15 pm: Dr. Skip Rizzo
Director, Institute for Creative Technologies, University of Southern California
IBM Research

A Bravemind New World: Future Directions for Virtual Reality in the Treatment of Combat PTSD

3:15-3:30 pm: Dr. Jeffrey Gold
Professor of Anesthesiology, Pediatrics and Psychiatry, Keck School of Medicine, University of Southern California

Virtual and Augmented Reality via Head-Mounted Display to Decrease Procedure-Related Pain and Anxiety

3:30-3:45 pm: Dr. Leslie Prichep
Chief Scientific Officer, BrainScope Inc

BrainScope, a Field-Deployable Device to Identify the Impact of Traumatic Brain Injury

3:45-4:00 pm: Dr. Christopher Rhea
Associate Professor, UNC Greensboro

Objectively Monitoring Neuromotor Performance with a Smart Phone after Blast Exposure

4:00-4:15 pm: Dr. Mark Ettenhoffer
Sr. Research Neuropsychologist / Associate Professor, Naval Medical Center San Diego

The Eyes Have It: What We Can Learn about TBI and PTSD from Eye Tracking

4:15-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT

C81: Neurotrauma care

Chairs: Dr. Jonathan Sackier
(Founding Partner and Chief Medical Officer)

Dr. Michael Roy
(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)

10:00-10:15 am: Dr. Keyne Johnson
Pediatric Neurosurgeon, Brain and Spine Institute for Children, American Association of Neurological Surgeons, Cognitive Neuroscience Society

Using Advanced Radiology Techniques to Diagnose Traumatic Brain Injury in 2020

10:15-10:30 am: Dr. Teodoro “Jun” Tigno
Senior Research Scientist (HJF), Assistant Professor, USU Dept of Surgery

Neurosurgery Critical Care on the Battlefield

10:30-10:45 am: Dr. Robert Shih
Chief of Neuroradiology & MRI, (WRNMMC Radiology)

Potential Applications of MRI with Ultra-High-Performance Gradients for TBI Microstructure Imaging

10:45-11:00 am: Dr. Gordon Baltzer
President of MEGIN

A refreshed and expanded role for MEG

11:00-11:15 am: Dr. Harry Kovelman
CEO/President, Helius Medical Technologies

Clinical trials of PoNS™ in various neurological diseases

11:15-11:30 am: Session Discussion
Sunday, July 11\textsuperscript{th} 1:00-2:30 pm PDT

**C94: Rehabilitation of Chronic Brain Injury (SLU CME)**

Chair: Dr. Stuart Hoffman  
Scientific Program Manager for Brain Injury, U.S. Department of Veterans Affairs

1:00-1:18 pm: Dr. Miranda Lim  
OHSU Assistant Professor, Neurology School of Medicine  
Behavioral Neuroscience Graduate Program School of Medicine

**Sleep Disturbances in TBI: From Bench to Bedside, and Beyond**

1:20-1:38 pm: Dr. Ansgar Furst  
Clinical Associate Professor, Stanford University, (Affiliated) [VAPAHCMS]

**Non-pharmacological Interventions for Insomnia in Mild TBI**

1:40-1:58 pm: Dr. Elizabeth Twamley  
Professor in Residency, USCD Health Sciences

**Compensatory Cognitive Training Interventions to Improve Cognition and Functioning in Neuropsychiatric Disorders**

2:00-2:18 pm: Dr. Amy Jak  
Associate Director, Clinical Research Unit University of California, San Diego (UCSD)  
and a Staff Neuropsychologist and Director of the TBI Cognitive Rehabilitation Clinic at the Veterans Affairs San Diego Healthcare System

**Treatment of Persistent Cognitive Symptoms Following Concussion.**

2:18-2:30 pm: Session Discussion
Sunday, July 11th 3:30-4:45 pm PDT

**C107: Acquired Spine and Brain Injuries**

Dr. Michael Roy  
(TBI Research Center, Director, Division of Military Internal Medicine and Professor of Medicine, Uniformed Services University, Bethesda)

Dr. Alejandro Mercado- Professor and Chairman of Neurosurgery, Neurosurgery, Hospital Military, Mendoza Argentina

3:30-3:45 pm: Dr. Alejandro Esteban Mercado Santori  
Professor and Chairman of Neurosurgery, Neurosurgery, Hospital Militar, Mendoza Argentina

**Combat Casualty Care**

3:45-4:00 pm: Mr. Michael Flomenhaft  

**Legal Aspects of Neurotrauma**

4:00-4:15 pm: Dr. Meijun Ye  
Principal Investigator of Neurological Devices Laboratory, FDA

**Translational Research In The Detection Of Brain Injury**

4:15-4:30 pm: Dr. Haroon F. Choudhri  
Hudson Neurosurgery

**Management of Extreme Cervical Deformity**

4:30-4:45 pm: Session Discussion
1:30-1:45 pm: Dr. Adrienne Scheck  
Senior Research Scientist, Arizona State University, School of Life sciences  

Metabolic ketosis for the adjuvant treatment of malignant brain tumors

1:45-2:00 pm: Dr. Angela Poff  
Research Associate, Department of Molecular Pharmacology and Physiology at the University of South Florida  

Exploiting cancer metabolism with hyperbaric oxygen - synergy with ketosis and other therapies

2:00-2:15 pm: Dr. Nelofer Syed  
Research Lecturer, Imperial College London | Imperial · Division of Brain Sciences University of Oklahoma  

Ketogenic diet treatment of GBM and tumor metabolism

2:15-2:30 pm: Dr. Yoshua Esquenazi-Levy  
Assistant Professor, Vivian L. Smith Department of Neurosurgery  
Director of Surgical Neuro-Oncology, Mischer Neuroscience Institute, McGovern Medical School, University of Texas  

Glioma and the Gut Microbiome

2:30-2:45 pm: Dr. Andrew Koutnik  
Research Scientist, Institute for Human & Machine Cognition  

Nutritional Ketosis-Beyond Glioma?

2:45-3:00 pm: Session Discussion
Thursday July 8th 03:30-5:15 pm PDT

**E7: Neuro-Oncology: Biomarkers and Diagnosis and Monitoring**

**Chairs:** Dr. Chamindie Punyadeera, Associate Professor, University of Queensland
Juliana Müller Bark, PhD Student at QUT (Queensland University of Technology)

- **3:00-03:15 pm:** Dr. Bob Carter
  Neurosurgeon | Neurosurgical Oncologist
  Chief, Neurosurgery Service, Mass General, Massachusetts General Hospital

  *A non-invasive liquid biopsy test to detect and monitor brain tumors*

- **3:45-4:00 pm:** Dr. Ella Mi
  Honorary Clinical Research Fellow, NIHR Academic Clinical Fellow in Medical Oncology, Oxford, Computational Oncology Group at Imperial College

  *How can artificial intelligence improve the prognostication and management of glioblastoma?*

- **4:00-4:15 pm:** Dr. Majid E Warkiani
  Associate Professor, School of Biomedical Engineering at University of Technology, Sydney, Australia

  *Micro/Nano-engineered Systems for Liquid Biopsy*

- **4:15-4:30 pm:** Dr. Simone Sredni
  Research Associate Professor of Neurosurgery, Northwestern University; Chicago

  *Moving the needle with NGS: Technological Innovation with an Impact on Patients with Brain Cancer*

- **4:30-4:45 pm:** Dr. Therese Becker
  Circulating Tumour Cell Program Leader, Ingham Institute for Applied Medical Research

  *Is there a place for liquid biopsy to improve brain cancer prognosis and patient management?*

- **4:45-5:00 pm:** Session Discussion
Friday, July 9th 10:00-12:00 pm PDT
A5: Mars Exploration: Impact of Change to CNS on Operational Performance

Chairs:
Dr. Ajitkumar Mulavara
Senior Neuroscientist for NASA HRP Integrated Portfolio- space radiation, cognitive/behavioral medicine, and sensorimotor risk

Dr. Alexandra Whitmire, Element Scientist, NASA, JSC

10:00-10:10 am: Dr. Alexandra Whitmire
Element Scientist, NASA, JSC,
The CBS Integrated Risk Overview and Problem statement

10:10-10:23 pm: Dr. Alexander Stahn
Research Assistant Professor of Medical Science in Psychiatry
Division of Sleep and Chronobiology, Department of Psychiatry, University of Pennsylvania, school of Medicine

Insights from neuroimaging of astronauts and subjects in space analog conditions

10:23-10:37 pm: Dr. Susanna Rosi
Professor & Director of Neurocognitive Research, University of California San Francisco

Operationally-Relevant Performance: Acute & Long-term effects of Galactic Cosmic Radiation on CNS and Behavior

10:37-10:50 pm: Dr. Catherine M Davis
Assistant Professor, Uniformed Services University of the Health Sciences

Fractionated ion delivery effects vs Acute dose effects on CNS/ behavior and operational performance outcomes

10:50-11:02 pm: Dr. David F. Dinges
Professor and Director, Unit for Experimental Psychiatry, Perelman School of Medicine, University of Pennsylvania

Neurobehavioral biomarkers for monitoring behavior and operationally-relevant performances: ISS and ICE effects on CNS and crew Behavioral Medicine

11:02-11:15 pm: Dr. Scott J Wood
USAF Sensorimotor Discipline Scientist, NASA, JSC

Sensorimotor Functional Task Performance Measures Following G-Transitions
11:15-12:00 pm: Session Discussion
Friday, July 9th 1:30-3:00 pm PDT

A18: Neuro-Oncology: Stem Cell Immunology and Molecular Targeting (SLU CME)

Chairs: Dr. Vicky Yamamoto- Cancer Scientist, Department of Otolaryngology/ Head and Neck Surgery, Keck School of Medicine of USC, Los Angeles, CA., SBMT

Dr. Jennifer Yu Associate Professor, Co-Leader, Department of Molecular Medicine, School of Medicine, Developmental Therapeutics, Case Comprehensive Cancer Center, Cleveland Clinic Cancer Center

1:30-1:45 pm: Dr. Jennifer Yu
Associate Professor, Co-Leader, Department of Molecular Medicine, School of Medicine, Developmental Therapeutics Program, Case Comprehensive Cancer Center

Glioma Stem Cells in therapeutic response

1:45-2:00 pm: Dr. Rachel Sarabia-Estrada
Assistant Professor, Department of Neurosurgery, Mayo Clinic

Pre-surgical irradiation in a human glioblastoma pre-clinical model

2:00-2:15 pm: Paula Schiapparelli
Assistant Professor of Neurosurgery, Department of Neurosurgery, Mayo Clinic

Targeting glioblastoma stem cell migration by inhibition of volume-regulating kinases

2:15-2:30 pm: Dr. Clark Chen
Professor, University of Minnesota School of Medicine.

Targeting mechanisms of acquired temozolomide resistance in glioblastoma

2:30-2:35 pm: Dr. Mohamad Nezami
Assistant Professor of Neurological Surgery Department of Neurosurgery, Cleveland Clinic

Precision Oncology: The role of Epigenetic influence and application of a customized epigenetic targeted therapy on Glioma stem cells and reversing radio-resistance

2:45-3:00 pm: Session Discussion


Friday, July 9th  3:30-5:00 pm PDT

**A30b: NeuroOncology: New Approaches in Immuno-Therapy**

**Chairs: Dr. John Yu**
*Neurosurgeon, Department of Neurosurgery at Cedars-Sinai Medical Center*

**Dr Michael Lim**
*Head of Department, Department of Neurosurgery, Stanford*

3:30-3:45 pm: **Dr. Michael Lim**
Professor of Neurosurgery and, by courtesy, of Radiation Oncology (Radiation Therapy) and of Medicine (Oncology), Stanford Medicine

**Status and prospect of immunotherapy for glioblastoma**

3:45-4:00 pm: **Dr. Antoine M Snijders**
Biologist, Staff Scientist, Lawrence Berkeley National Lab

**Genetically diverse mouse population-based approaches to study the immune response to radiation**

4:00-4:15 pm: **Dr. Dwain Morris- Irvin**
CEO, President at Innovest Global Inc., IVST, Biotech Division, Co-founder/Chief Scientific Officer at Global Stem Care Laboratory, Co-founder, Chief Scientific Officer at StemVax Therapeutics

**New developments in immunotherapy for brain tumors**

4:15-4:30 pm: **Dr. Robert Hariri**
18th President of SBMT and member of the Executive board of SBMT, Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College, Former Chief Executive Officer of Celgene Cellular Therapeutics

**NK Cell Therapy for Recurrent GBM**

4:30-5:00 pm: **Session Discussion**
Saturday, July 10th 10:00-11:30 am PDT

B43: Neuro-Oncology: Ablative Therapies (SLU CME)

Chairs: Dr. Mark Torchia Vice-Provost, Executive Director, Centre for the Advancement of Teaching and Learning

Dr. Albert H Kim Associate Professor of Neurological Surgery, Neurology, and Developmental Biology, Washington University School of Medicine

10:00-10:15 am: Dr. Mark Torchia
Vice-Provost, Executive Director, Centre for the Advancement of Teaching and Learning

Hyperthermia and Ablative Therapy – Technologies
10:15-10:30 am: Dr. Albert H Kim
Associate Professor of Neurological Surgery, Neurology, and Developmental Biology, Washington University School of Medicine

LITT and the Blood Brain Barrier – Opportunities
10:30-10:45 am: Dr. Veronica Chiang
Professor of Neurosurgery and Radiation Oncology, Yale University School of Medicine

Surgical Management of Post-Radiation Metastatic Recurrence in the Brain
10:45-11:00 am: Dr. Alireza Mohammadi
Neurosurgeon, Brain Tumor and Neuro-Oncology, Cleveland Clinic

Laser interstitial thermal therapy in glioma
11:00-11:15 am: Dr. Igor De Castro
Associate Professor, Mercer University Medical School Georgia Neurosurgical Institute Macon, Georgia

Complete resection of high grade gliomas in eloquent areas

11:15-11:30 am: Session Discussion
Saturday, July 10th 1:00-2:30 pm PDT

B56: Neuro-Oncology: Precision Medicine (SLU CME)

AiM MED Robotic Session

Chairs:
Dr. Andrew S. Venteicher  
Assistant Professor, University of Minnesota, School of Medicine

Dr. Terry Burns  
Associate Professor of Neurosurgery and Neuroscience, Mayo Clinic, Rochester MN

1:00-1:15 pm: Dr. Andrew S. Venteicher  
Assistant Professor and Neurosurgical Director of the Center for Skull Base and Pituitary Surgery, Department of Neurosurgery, University of Minnesota, School of Medicine

Towards a personalized medicine approach for patients with cranial base tumors

1:15-1:30 pm: Dr. Jing Wu  
Tenure Track Investigator, NCI/NIH

Developing a CDK9 inhibitor towards a therapy in glioma

1:30-1:45 pm: Dr. Panagiotis Z Anastasiadis  
Professor of Cancer Biology, Cell Biology Program Director, Mayo Clinic Cancer Center, Jacksonville, FL

A personalized targeted approach to treating malignant brain tumors: from bench to bedside

1:45-2:00 pm: Dr. Julie Pilitsis  
Professor, Director, Albany Medical College, AiM Medical Robotics

Needle-based Therapeutic Ultrasound: A minimally invasive option for brain tumors

2:00-2:15 pm: Dr. Terence (Terry) Burns  
Assistant Professor of Neurosurgery and Neuroscience, Mayo Clinic, Rochester MN

An implantable paradigm for in vivo drug testing

2:15-2:30 pm: Session Discussion
Saturday, July 10th 3:00-4:30 pm PDT
B69: NeuroOncology: Pediatric Neurooncology

Chairs: Dr. Tanya Minasian, Neurosurgeon, Assistant Professor, Loma Linda University Health

Dr. Michelle Monje, Associate Professor, Neurology Stanford

3:00-3:15 pm: Dr. Tanya Minasian
Neurosurgeon, Loma Linda University Health

Supratentorial brain tumor resection in pediatric patients

3:15-3:30 pm: Dr. Michelle Monje
Associate Professor, Neurology Stanford

The neuroscience of glioma: neuronal activity drives childhood glioma initiation and growth

3:30-3:45 pm: Dr. Humsa Venkatesh,
Instructor, Neurology & Neurological Sciences, Stanford University School of Medicine

Synaptic integration of glioma into neural circuits

3:45-4:00 pm: Dr. Shawn Hervey-Jumper
Associate Professor, Neurological Surgery UCSF Weill Institute for Neurosciences, University of California, San Francisco

Glioma remodeling of functional neural circuitry

4:00-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT

C82: Neuro-Oncology: Radiation Technologies (SLU CME)

Chair: Dr. Robert Schulte
(Professor, Basic Sciences, Division of Biomedical Engineering Sciences, School of Medicine, Loma Linda University)

Narayan Hosmane, Professor, Northern Illinois University

10:00-10:15 am: Dr. Pierre-Gabriel Montay-Gruel
Postdoctoral Researcher, Radiation Oncology/Radiation Therapy/Oncology/Radiation Biology/Neurobiology, University of California Irvine, USA

The benefits of FLASH radiotherapy for brain tumor management

10:15-10:30 am: Dr. Jan Eulitz
Medical Physics PhD Student, OncoRay – National Center for Radiation Research in Oncology

Treatment planning for gliomas using a variable RBE model

10:30-10:45 am: Dr. Jennifer Furkel
Researcher, Heidelberg University, German Cancer Research Center

Targeting resistance in glioblastoma with carbon ion

10:45-11:00 am: Dr. Hanna Koivunoro
Chief Medical Physicist, Neutron Therapeutics, Inc

Accelerator based BNCT: New Opportunities for Malignant Brain Tumors

11:00-11:15 am: Dr. Narayan Hosmane
Professor, Department of Chemistry, Northern Illinois University

Boron and Gadolinium Compounds for Cancer Therapy

11:15-11:30 Session Discussion
Sunday, July 11\textsuperscript{th} 1:00-2:30 pm PDT

C95: Neuro-Oncology: Tumor Treating Fields (SLU CME)

Chair: Dr. Chirag Patel, Clinical Assistant Professor of Neurology and Neurological Sciences, Radiology, Stanford University School of Medicine

Co-Chair: Dr. Edwin Chang
Research Associate, Molecular Imaging Program, Stanford University

1:00-1:15 pm: Dr. Michael Story
Vice-Chair, Department of Radiation Oncology, University of Texas, Southwestern Medical Center

**TT Field Mechanisms of cell death: mitotic interference and beyond**

1:15-1:30 pm: Dr. Edwin Chang
Laboratory Scientist, Molecular Imaging Program, Stanford University

**TT Fields and their Effects on Preclinical Models of Cancer**

1:30-1:45 pm: Dr. Chirag Patel
Clinical Assistant Professor of Neurology and Neurological Sciences and, by courtesy, of Radiology, Stanford University School of Medicine

**Overview of TTFields Clinical Trials**

1:45-2:00 pm: Dr. Christoph Pohling
Post Doctoral Fellow, Stanford University, School of Medicine

**Experimental basics for preclinical studies of Tumor Treating Fields**

2:00-2:15 pm: Dr. Roger Stupp
Chief of Neuro-oncology in the Department of Neurology Paul C. Bucy Professor and Director, Malnati Brain Tumor Institute of the Lurie Compr. Cancer Center, Departments of Neurology, Neurological Surgery and Oncology
Northwestern University

**Tumor Treating Fields – integration of this new paradigm in oncology**

2:15-2:30 pm: Session Discussion
Thursday, July 8th 10:00-11:30 am PDT
E2: The Retinal Role in The Brain Connectome, Retinal Neuromodulation

Chair: Christopher Tyler (Professor, Smith-Kettlewell Eye Research Institute, San Francisco, CA USA)

10:00-10:15 am (JHU CME): Dr. Heather Heitkotter
Researcher at Medical College of Wisconsin, Milwaukee, WI, USA

Multimodal assessment of photoreceptor structure and function in traumatic brain injury

10:15-10:30 am (JHU CME): Dr. Delia Cabrera
Bascom Palmer Eye Institute, Miami, FL USA

Seeing the Brain Through the Eye: 21st Century Neuroimaging Applications

10:45-11:00 am: Dr. Natasha Johnson
Private Practice, Austin, Texas, USA

Ataxia and Retinal Processing

10:45-11:00 am (JHU CME): Dr. Suraj Upadhyaya
Assistant Professor at Midwestern College of Optometry, Downers Grove, IL USA

Optometric Research at a Cellular Level

11:00-11:15 am: Dr. Vasillis Kokotos
Optometrist and Professional Consultant, S.A. Bairamoglou S.A. Aston University

Using Near Infrared Light to Image Brain Tissue: The Golden Optical Window

11:15-11:30 am: Session Discussion
Thursday, July 8th  THE RETINA’S ROLE in THE BRAIN CONNECTOME
1:30-3:00 pm PDT

E5: Cerebral vs. Ocular Blood Flow

Chair: Christopher Tyler (Professor, Smith-Kettlewell Eye Research Institute, San Francisco, CA)

1:30-1:45 pm: Dr. Allaudin Bhuiyan
Associate Professor at Icahn School of Medicine at Mount Sinai, Icahn School of Medicine at Mount Sinai, University of Melbourne, New York, USA

Stroke Predication from Retinal Blood Vessels

1:45-2:00 pm: Dr. Konstantin Kotliar
Department of Engineering and Technomathematics

Neurovascular Coupling

2:00-2:15 pm: Dr. Christopher W. Tyler
Smith-Kettlewell Eye Research Institute, San Francisco, CA USA

Mechanisms of Hypersensitivity to Light in Traumatic Brain Injury

2:15-2:30 pm (JHU CME): Dr. Shannon Mandel
Private Practice, Seattle, WA, USA

The Pivotal Effect of Eyeglasses on Heart Rate Stability

2:30-2:45 pm: Dr. Deborah Zelinsky,
O.D. Founder, Mind-Eye Institute, Northbrook, IL USA

Post Illumination Pupil Response (PIPR)

2:45-3:00 pm: Session Discussion
Thursday, July 8th  
THE RETINA’S ROLE in THE BRAIN CONNECTOME  
3:30-5:00 pm PDT

E8: Electrical Signaling Pathway

Chair: Christopher Tyler (Professor, Smith-Kettlewell Eye Research Institute, San Francisco)

3:30-3:45 pm: Dr. Gianluca Lazzi  
University of Southern California, Roski Eye Institute, CA

Effects of Electromagnetic Fields on Eye and Brain

3:45-4:00 pm: Dr. Anat Galor  
Optometrist, Bascom Palmer Eye Institute, Miami, FL USA

Photosensitivity: Is it Modifiable?

4:00-4:15 pm: Dr. Eric Moulton  
Assistant Professor of Anesthesia and Ophthalmology, Director | Brain and Eye Pain Imaging Lab | Department of Anesthesiology, Critical Care & Pain Medicine, Co-Director | Pain and Affective Neuroscience Center | Department of Anesthesiology, Critical Care & Pain Medicine, Boston Children’s Hospital, Harvard Medical School

Photosensitivity: Is it Modifiable? (part 2)

4:15-4:30 pm (JHU CME): Dr. Lingyan Shi  
Assistant professor at University of San Diego, CA USA

Using Near Infrared Light to Image Brain Tissue: The Golden Optical Window

4:30-4:45 pm: Dr. Mariela C. Aguilar  
Director of Research Operations, Bascom Palmer Eye Institute, Miami, FL USA

Quantifying Photosensitivity in Healthy and Light Sensitive Subjects

4:45-5:00 pm: Session Discussion
Friday, July 9th  ROLE of RETINAL PROCESSING in MENTAL HEALTH 
10:00-11:30 am PDT 
A6: Role of Optometry in Brain and Mental Fitness

Chair: Delia Cabrera Debuc Ph.D., Bascom Palmer Eye Institute, Miami, FL USA

10:00-10:15 pm (JHU CME): Michael Flomenhaft, Esquire
Founder, Flomenhaft Law Office for Brain Justice, New York, NY, USA

Brain Injury from a Legal Point of View, Linking Neuroscience, Concussion and Chronic Pain

10:15-10:30 pm: Dr. Robert Wilson
Emergency Medicine Physician, US Air Force Base

PTSD in Veterans

10:30-10:45 pm: Dr. Gloria Gilbert
The Downtown Clinic, Physiotherapy & Health Counseling

Persistent Pain Symptoms May Mask the Effects of a Brain Injury

10:45-11:00 pm: Dr. Sandra Groeltz
Chaplain, Consultant for Veterans

Veterans' Need for Spiritual Counseling

11:00-11:15 pm: Dr. Andrea Adams-Miller
Executive Director of the Keep Smiling Movement, The Red-Carpet Connection, Findlay, OH USA

Biopsychosocial Effects of a Smile

11:15-11:30 pm: Session Discussion
Friday, July 9th  ROLE of RETINAL PROCESSING in MENTAL HEALTH
1:30-3:00 pm PDT

A19: Relationship between External Eyesight and Internal Visualization

Chair: Delia Cabrera Debuc Ph.D., Bascom Palmer Eye Institute, Miami, FL USA

1:30-1:45 pm: Dr. Monica Gori
Insituto Italiano di Tenologia – VIP Unit for Visually Impaired People, Faculty Member, Genua, Italy

Linking Auditory and Visual Inputs

1:45-2:00 pm: Dr. Melanie Woodhouse
Eye Four Eye Manly, Sydney, Australia

Case Study in Spatial Awareness

2:00-2:15 pm: Barbara Arrowsmith-Young
Founder, Arrowsmith Program (Brainex)

Principles that Drive Neuroplastic Change

2:15 – 2:30 pm: Dr. Robert Buck
Psychotherapist/Inventor and President of NeuView Glasses

Visual Processing in Anxiety and Depression

2:30 – 2:45 pm: Dr. Charles Spence
Professor of Experimental Psychology and Director, Crossmodal Research Laboratory, Oxford, England, UK

Sensory Integration

2:45-3:00 pm: Session Discussion
A31: Influence of Systemic Considerations on Visual Processing

3:30-3:45 pm: Dr. Lorene Wu
Director Whole Life Center, LaGrange Park, IL USA

Changes in Visual Awareness due to Depression and Anxiety

3:45-4:00 pm: Dr. Delia Cabrera DeBuc
Bascom Palmer Eye Institute, Miami, FL USA

The Effect of Alzheimer's Disease on Visual Processing

4:00-4:15 pm: Dr. Leighton Reynolds
Private Practice – Neuropsychoanalyst, with emphasis on Brain Injuries in Athletes

Listening to the Brain: Complex Healing of Traumatic Brain Injuries

4:15-4:30 pm: Dr. Erin McCarthy
Cystinosis Foundation

Effects of Cystinosis on the Eye and Implications in Everyday Life

4:30-4:45 pm: Betsy Pilon
Executive Director, Hope for HIE (Hypoxic Ischemic Encephalopathy)

Visual Effects from Hypoxia at Birth

4:45-5:00 pm: Session Discussion
Saturday, July 10th  
EFFECTS of SYSTEMIC DISEASE on RETINAL PROCESSING
10:00-11:30 am PDT

B44: The Importance of Movement

Chair: Deborah Zelinsky, Founder, Mind-Eye Institute, Northbrook, IL USA

10:00-10:15 am: Dr. Shane Steadman
Owner at Integrated Brain Centers

Posture Shifts Affect Visual Perception

10:15-10:30 am: Dr. Eyetan Lerner
Independent Practitioner of Anat Baniel Method, Canada

The Effects of Neck and Spinal Stress on Spatial Awareness

10:30-10:45 am: Dr. Matthew Wilkinson
Independent Practitioner of Anat Baniel Method, Denver Area

The Effects of Neck and Spinal Stress on Spatial Awareness (part 2)

10:45-11:00 am: Dr. Andrea Hennen
Independent Practitioner of Anat Baniel Method, Greater Denver Area Email:

The Effects of Neck and Spinal Stress on Spatial Awareness (part 3)

11:00-11:15 am: Dr. Gabriel Altman
Co-Founder Kinetix 365, Beverly Hills, CA USA

The Importance of Movement During Recovery from Brain Injury

11:15-11:30 am: Session Discussion
B57: The Importance of Vasculature to Brain Function

Chair: Deborah Zelinsky, Founder, Mind-Eye Institute, Northbrook, IL USA

1:00-1:15 pm: Dr. Marsh Konigs
Assistant Professor, Neuroscience Emma Children's Hospital at Amsterdam University Medical Center

The Impact of Disease on the Pediatric Brain

1:15-1:30 pm: Dr. Albert Mensah
Co-founder, Mensah Medical, USA

Blood Pressure and Eye/Ear Connectome

1:30-1:45 pm: Dr. Glenn Egelman
Medical Director, TRICARE for the Defense, Washington, D.C. USA

Visual Linkages to Heart Regulation

1:45-2:00 pm: Adina Gutstein
Medical Science Liaison at Amryt Pharma. US Medical Affairs

Session Title: Cardiac Changes Affecting Visual Processing

2:00-2:15 pm: Claudia Mason
fashion model, spokesperson for American Stroke Association (ASA)

Vertebral Artery Dissection

2:15 – 2:30 pm: Session Discussion
B70: Changes in Retinal Processing due to Stress

Chair: Deborah Zelinsky, Founder, Mind-Eye Institute, Northbrook, IL USA

3:00-3:15 pm: Dr. Mark Allen
Co-Founder and Director of Research at Cognitive FX, Provo, UT, USA

The Retina as an Interface to the Autonomic Nervous System

3:15-3:30 pm: Dr. Matthew Antonucci
Co-Founder and Chief Clinical Officer Plasticity Brain Center, Orlando, FL, USA

Brain Plasticity and Visual Processing

3:30-3:45 pm: The Late Edward Wittert
Psychologist, Private Practice, Chicago, IL USA (posthumously presented by Jonathan Hall, O.D.)

An Investigation of the Effects of Experimentally Induced Stress Upon Figure Rotations

3:45-4:00 pm: Dr. Glenn Egelman
Medical Director, TRICARE for the Defense Health Agency (DHA), Washington, D.C. USA

How Eye Care in Veterans with TBIs can Affect Endocrine Functions

4:00-4:15 pm: Dr. Clark Elliott
Associate Professor of Artificial Intelligence and Cognitive Science, DePaul University

Retinal Processing’s Effect on Decision Making

4:15-4:30 pm: Session Discussion
C83: Neuroendocrine Aspects of Visual Processing

10:15-10:30 am: Dr. Vasilis Kokotas
Optometrist & Professional Consultant, S.A. Bairamoglou S.A. Aston University, Athens, Greece

Retinoscopy: A useful tool for accessing the efferent retinal pathways

10:30-10:45 am: Dr. Gerry Hsu
Founder Eclairemd, San Francisco, CA, USA

A mathematical viewpoint of brain function

10:45-11:00 am: Dr. Gabor Mark Somfai
Senior Consultant and Spross Research Fellow City Hospital Triemli in Zürich, Switzerland

The Role of Thyroid Hormone Levels in Early Diabetic Retinal Changes in Diabetes

11:00-11:15 am: Dr. Michal Schnaider Beeri
Professor of Psychiatry, Mount Sinai, NY, NY USA

Blood Sugar and Retinal Function

11:15-11:30 am: Session Discussion
C96: Impact of Stable Visual Skills on Quality of Life

Chair: Dr. Amy Pruszenski Visual Victory Training Center, Portsmouth, NH, USA

1:00-1:15 pm: Debra Grossman
Executive Director of Blind Services Association, Chicago, IL USA

Updated Help for Quality of Life for the Legally Blind Population

1:15-1:30 pm: Dr. Clark Elliott
Professor of Artificial Intelligence/Cognitive Science, Chicago IL

A Follow-up on The Ghost in My Brain: Readers from Around the World

1:30-1:45 pm (JHU CME): Dr. Nancy Major
Central Coast Vision and Learning Paso Robles, CA USA

Patient Mood & Confidence Affected by Disrupted Visual Skills

1:45-2:00 pm: Dr. Doug Major
Central Coast Vision and Learning Paso Robles, CA USA

Plasticity of Visual Perceptual Systems

2:00 – 2:15 pm (JHU CME): Dr. Jenny Garbus
Neuro Vision Rehabilitation Institute Valencia, CA USA

Impact of Optometry on Brain Function after a TBI

2:15-2:30 pm: Session Discussion
Sunday, July 11th  FUTURE ROLES for EYECARE in HEALTHCARE
3:00-4:30 pm PDT

C109: Updating the 150 year old Eye Examination

Chair: Dr. Amy Pruszenski Visual Victory Training Center, Portsmouth, NH, USA

3:30-3:45 pm: Dr. Mark Dean
Grand Strand Vision, Myrtle Beach, South Carolina, USA

Adaptation to Spatial Distortions

3:45-4:00 pm (JHU CME): Dr. Derek Tong
Center for Vision Development, California USA

Visual Testing in the 21st Century

4:00-4:15 pm (JHU CME): Dr. DeAnn Fitzgerald
President of the Neuro-Optometric Rehabilitation Association (NORA) Fitzgerald and Associates, Iowa, USA

The Eye: Window to the Mind and Body

4:15-4:30 pm (JHU CME): Dr. Fabian Tai
Dr. Fabian Tai & Associates, Optometrist & Vision Therapy, Canada

Effects of Optometric Dysfunction on Quality of Life

4:30-4:45 pm (JHU CME): Dr. Amy Pruszenski
Vision Therapy Specialist, Visual Victory Training, Portsmouth, NH, USA

The Need for Neuro-Optometry during TBI Rehab

4:45-5:00 pm Session Discussion
Judith Ann Thatcher was born on July 18, 1958, the last of four children in Brooklyn, NY. In 1969 her family moved to Uniondale Long Island, NY where she graduated from Uniondale High School in 1976 and moved to Tucson, AZ in 1979 where she had her two daughters. Judie moved to Pinellas County in 1989 and raised her family in Seminole, FL. Judie received her RN degree in 1990 and was an oncology nurse and worked for hospice giving people and families peace during their loved one’s last days. She met Robert Thatcher in 2004 and was married in 2005. Together they shared a love of being on the water, traveling and spending time with family and friends. Starting in 2008, she was on executive assistant for Applied Neuroscience, Inc. She traveled the world and made sure everyone always knew how much she loved them.

Judie was an amazing mother, wife, grandma, sister, mother-in-law and friend to so many. everyone who met her saw her genuine love for life and caring for others. She was an extremely generous and giving person to those she loved and the causes she cared deeply for and believed in. She was the definition of unconditional love. As a young mother she beat cancer and that fight stayed with her throughout her life.
Friday, July 9th 10:00-11:30 am PDT

A7: Functional Brain Mapping I: New Advancements in Electrical Neuroimaging: Neurosurgical Planning and Pre vs Post Surgery

Chair: Dr. Robert Thatcher (CEO and director of Applied Neuroscience Research Institute)

10:00-10:15 am: Dr. Robert Thatcher
CEO and director of Applied Neuroscience Research Institute

Neuro-navigation of Functional and Effective Connectivity in Epilepsy

10:15-10:30 am: Dr. Joel Lubar
President of Southeastern Neurofeedback Institute

Electrical Neuroimaging of Epileptic Foci and Affected Networks

10:30-10:45 am: Dr. Dale Foster
Clinical Neuropsychologist, NeuroSource, LLC

Electrical Neuroimaging for Pre vs Post Treatment Evaluation

10:45-11:00 am: Dr. William Lambos
Licensed Psychologist, Neuropsychologist, NESTRE Health and Performance, LLC

3-Dimensional EEG Evaluation of Brain Networks

11:00-11:15 am: Dr. Richard Abbey
Clinical Neuropsychologist, Abbey Neuropsychology Clinic

Electrical Neuroimaging and Diffusion Tensor Imaging

11:15-11:30 am: Session Discussion
1:30-1:45 pm: Dr. Mohammad Dastjerdi  
Neurologist, Loma Linda University Medical Center

Post-traumatic Epi-leptogenesis and Its Biomarkers

1:45-2:00 pm: Dr. Warren Boling  
Professor and Chairman, Loma Linda University

Surgical Treatment of Epilepsy. A Brief History and Future Directions

2:00-2:15 pm: Dr. Keyne Johnson  
Pediatric Neurosurgeon, Brain and Spine Institute for Children, Orlando, Fl

The challenges in converting research and development into successful commercial products or services

2:15-2:30 pm: Dr. Dawn Eliashiv  
Professor, University of California of Los Angeles

Neuro stimulation network-based therapy for Epilepsy

2:45-3:00 pm: Session Discussion
Friday, July 9th 3:30-5:00 pm PDT

A32: **Functional Brain Mapping III: MEG/EEG Clinical Applications (JHU CME)**

*Chairs: Janne Huhtala (Founder and CEO, RENITA Medical)*

**3:30-3:45 pm:** Dr. Robert Thatcher  
CEO and director of Applied Neuroscience Research Institute

**Real-Time Electrical Neuroimaging of the Cerebellum, Red Nucleus and Sub-Thalamus: Future Applications in Parkinsonism and Ataxia**

**3:45-4:00 pm:** Dr. Dale Foster  
Clinical Neuropsychologist, NeuroSource, LLC

**Real-Time swLORETA EEG Neurofeedback of Veterans with PTSD**

**4:00-4:15 pm:** Dr. Richard Abbey  
Clinical Neuropsychologist, Abbey Neuropsychology Clinic

**Real-Time swLORETA EEG Neurofeedback of Autistic Spectrum Disorder**

**4:15-4:30 pm:** Dr. Joel Lubar  
President, President Southeastern Neurofeedback Institute

**Electrical Neuroimaging of in Epilepsy Patients**

**4:30-4:45 pm:** Dr. William Lambos  
Licensed Psychologist, Neuropsychologist, NESTRE Health and Performance, LLC

**Real-Time swLORETA EEG Neurofeedback of TBI Patients**

**4:45-5:00 pm:** Session Discussion
Saturday, July 10th 10:00-11:30 am PDT


Chair: Dr. Robert Thatcher (CEO and director of Applied Neuroscience Research Institute)

10:00-10:15 am: Dr. Robert Thatcher
CEO and director of Applied Neuroscience Research Institute

Electrical Neuroimaging and Diffusion Tensor Imaging of Functional and Effective Connectivity

10:15-10:30 am: Dr. Ernesto P. Soler
Senior Scientist, Applied Neuroscience Research Institute

Time Domain Evaluation of Epileptic Foci and Networks

10:30-10:45 am: Dr. Joel Lubar
President, President Southeastern Neurofeedback Institute

Real-time Electrical Neuroimaging of the Cerebellum, Red Nucleus and Subthalamus

11:00-11:15 am: Dr. William Lambos
Licensed Psychologist, Neuropsychologist, NESTRE Health and Performance, LLC

Real-Time swLORETA EEG Neurofeedback in PTSD

11:15-11:30 am: Session Discussion
Saturday, July 10th 1:00-2:30 pm PDT

B58: Functional Brain Mapping VI: MEG/EEG Clinical Applications

Chairs: Dr. Leslie S. Prichep (Chief Scientific Officer, BrainScope Company, Inc.)
Dr. Robert Thatcher (CEO and director of Applied Neuroscience Research Institute)

1:00-1:15 pm: Dr. Leslie S. Prichep
Chief Scientific Officer, BrainScope Company, Inc.

Triage of acute traumatic brain injury using electrophysiological biomarkers

1:15-1:30 pm: Dr. Robert Isenhart
Chief Scientific Officer, Wave Neuroscience

QEEG optimization of TMS treatment

1:30-1:45 pm: Dr. Richard Abbey
Clinical Neuropsychologist, Abbey Neuropsychology Clinic

Electrical Neuroimaging: Linking Symptoms to Dysregulated Networks

1:45-2:00 pm: Dr. Ernesto P. Soler
Senior Scientist, Applied Neuroscience Research Institute

MEG and EEG Neuroimaging of Functional and Effective Connectivity

2:00-2:15 pm: Dr. William Lambos
Licensed Psychologist, Neuropsychologist, NESTRE Health and Performance, LLC

Real-Time Electrical Neuroimaging and EEG Neuromodulation

2:15-2:30 pm: Session Discussion
Saturday, July 10th 3:00-4:30 pm PDT

B71: Functional Brain Mapping VII: TMS (Catherine Lapp, Nexstim)

3:00-3:15 pm: Dr. Alexander Rotenberg
Professor and Director, Boston Children’s Hospital and Harvard Medical School, Experimental Neurophysiology Core, Kirby Center for Neurobiology

Presurgical motor mapping in pediatric epilepsy

3:15-3:30 pm: Dr. Shalini Narayana
Associate Professor; Director, Department of Pediatrics, University of Tennessee Health Science Center; Le Bonheur Neuroscience Institute, TMS laboratory and Director of Functional Neuroimaging Research, Le Bonheur Neuroscience Institute

Presurgical Language mapping in Pediatric Epilepsy

3:30-3:45 pm: Dr. Fiona Baumer
Assistant Professor, Division of Pediatric Neurology, Department of Neurology, Stanford University School of Medicine

TMS/EEG, Fundamentals of Connectivity Analysis & Clinical Applications

3:45-4:00 pm: Dr. Mark Liker
Neurosurgery, (Keck Hospital of University of Southern California) Division of Neurosurgery

The Works of TMS Functions

4:00-4:15 pm: Dr. Maxwell Hand
Neuromodulation Specialist & Application Researcher, BrainStim Centers

A Retrospective Chart Review on Effect of MeRT vs Nexstim rTMS Depression Protocols

4:15-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT

C84: Functional Brain Mapping VIII: MEG Sessions (JHU CME)

Chairs: Dr. Peter Schwindt Distinguished Member of Technical Staff, Sandia National Laboratories, NM, US
Dr. Amir Borna Senior Member of Technical Staff, Sandia National Laboratories, NM, US

10:00-10:15 am: Dr. Peter Schwindt
Distinguished Member of Technical Staff, Sandia National Laboratories, NM, US

Moving Closer to the Brain: Introduction to On-Scalp Magnetoencephalography

10:15-10:30 am: Dr. Vishal Shah
Chief Scientist, QuSpin, Inc., CO, US

Next Generation Magnetoencephalography (MEG)

10:30-10:45 am: Mr. Ryan Hill
MEG Researcher, University of Nottingham, United Kingdom

Next Generation Neuroimaging with Optically Pumped Magnetometer Magnetoencephalography (OPM-MEG)

10:45-11:00 am: Dr. Orang Alem
Founder/Scientist, University of Colorado, Fieldline, Inc.

Towards a MEG system with microfabricated OPMs

11:00-11:15 am: Dr. Amir Borna
Senior Member of Technical Staff, Sandia National Laboratories, NM, US

Non-Invasive Functional-Brain-Imaging with an OPM-based Magnetoencephalography System

11:15-11:30 am: Session Discussion
Sunday, July 11th 1:00-2:30 pm PDT

C97: Functional Brain Mapping VIII: MEG/EEG Sensors

Chair: Dr. Yu Mike Chi (Cognionics, Inc., CEO and CGX LLC)

1:00-1:15 pm: Dr. Prof. Walt Besio
Professor, University of Rhode Island

Tripolar Concentric Ring Electrodes for Two-Way Brain Communication

1:15-1:30 pm: Dr. Prof. Steven Cramer
Professor of Neurology, UCLA, University of California of Los Angeles

EEG biomarkers of stroke recovery

1:30-1:45 pm: Dr. Gary Vissing
Business Development Manager, Datwyler Sealing Solutions

Soft Molded Dry EEG Electrodes

1:45-2:00 pm: Dr. Prof. Uri Maoz
Assistant Professor, Chapman University

Studying volition by combining EEG with physiological monitoring, TMS, flotation tank, and other measures

2:00-2:15 pm: Prof. Tzyy-Ping Jung
Co-Director, University of California, San Diego

Big and Crucial Issues (BCIs) in taking BCIs outside the Laboratory

2:15-2:30 pm: Session Discussion
Sunday, July 11\textsuperscript{th} 3:30-5:00 pm PDT

**C110: Functional Brain Mapping VIII: Software Session for MEG/EEG**

**Chairs:** Dr. Robert Thatcher  
(CEO and director of Applied Neuroscience Research Institute)  
Dr. Ernesto Palmero Soler (Senior Scientist, Applied Neuroscience Research Institute)

**3:30-3:45 pm:** Dr. Robert Thatcher  
CEO and director of Applied Neuroscience Research Institute

Real-Time swLORETA Cerebellar EEG Neurofeedback of Parkinson Patients

**3:45-4:00 pm:** Dr. Nicholas Peatfield  
Proto-Me, Modern Software Tools for MEG/EEG

Simultaneous Deep Brain Calcium Imaging and Ultrasound Based Neural Modulation

**4:00-4:15 pm:** Dr. Ernesto P. Soler.  
Senior Scientist, Applied Neuroscience Research Institute

MEG and EEG Neuroimaging of Functional and Effective Connectivity

**4:15-4:30 pm:** Dr. Joel Lubar  
President Southeastern Neurofeedback Institute

Electrical Neuroimaging and Seizure Localization

**4:30-4:45 pm:** Dr. Dale Foster.  
Clinical Neuropsychologist, NeuroSource, LLC

Neuronavigation of EEG Functional and Effective Connectivity and Diffusion Tensor Imaging in TBI patients

**4:45-5:00 pm:** Dr. Gordon Baltzer  
President of MEGIN

Advances in MEG Software

**5:00-5:15 pm:** Session Discussion
A8: Neural Engineering I: Addressing Challenges in Cochlear Implants (JHU CME)

10:00-10:15 am: Dr. Prof. Fan-Gang Zeng
Professor and Director
Center for Hearing Research, University of California Irvine

Challenges and Opportunities in Cochlear Implants

10:15-10:30 am: Dr. Leonid Litvak
Director of Research and Development, Advanced Bionics Corporation

A Manufacturer’s Perspective on Challenges in Cochlear Implantation

10:30-10:45 am: Dr. Prof. Hiroyuki Mino
Professor of Biomedical Engineering, Kanto Gakuin University

Neural Modeling in Auditory Prostheses

10:45-11:00 am: Dr. Prof. Gert Cauwenberghs
Professor of Bioengineering, Co-Director, Institute for Neural Computation Jacobs School of Engineering; University of California, San Diego

Unobtrusive In-Ear Electrophysiology

11:00-11:15 am: Dr. Roger Miller
Program Director, National Institutes of Health / National Institute on Deafness and Other Communication Disorders

NIH Support for Cochlear Implant Research and Development

11:15-11:30 am: Session Discussion
Friday, July 9th 1:30-3:00 pm PDT

A21: Neuroengineering II: Neuro-Modulation and Ultrasound

Chairs: Dr. Seung-schik Yoo & Dr. Spencer Brinker
(Associate Professor of Radiology Harvard Medical School / Brigham and Women’s Hospital, Faculty/ Harvard Mind Brain Behavior, Director/Neuromodulation and Tissue Engineering Laboratory (NTEL)

Dr. Spencer Brinker
Associate Research Scientist Yale School of Medicine)

1:30-1:45 pm: Dr. Hyungmin Kim
Senior Researcher, Korea Institute of Science and Technology (KIST) on leave to CalTech

Modulation of Human Anti-Saccade Behavior Using Transcranial Focused Ultrasound

1:45-2:00 pm: Dr. Alexander Bystritsky
Professor Emeritus, Professor Emeritus University of California of Los Angeles

Safety of the Neuro-Modulatory FUS in Human Epilepsy Experimental Treatments

2:00-2:15 pm: Mr. Joshua Cain on behalf of Dr. Martin Monti
Associate Professor, University of California of Los Angeles

Low Intensity Focused Ultrasound as a Non-Invasive Intervention in Disorders of Consciousness

2:15-2:30 pm: Dr. Spencer Brinker
Associate Research Scientist, Yale School of Medicine

Big-Beam Transcranial Ultrasound Stimulation: A Human-Scale Benchtop Feasibility Study

2:30-2:45 pm: Dr. Hyunchul Kim
Postdoctoral Fellow, Harvard Medical School, Brigham and Women's Hospital

Transcranial Focused Ultrasound Modulates Cortical and Thalamic Motor Areas in Awake Sheep

2:45-3:00 pm: Session Discussion
Friday, July 9th 3:30-5:00 pm PDT

A33: Neural Engineering III: Computational Models for Neural Prosthesis (JHU CME)

3:30-3:42 pm: Dr. Yuxiao Yang
Assistant Professor, University of Central Florida

Closed-loop BCI for Neuropsychiatric Disorders

3:42-3:54 pm: Dr. Theodoros Zanos
Assistant Professor, The Feinstein Institute for Medical Research

Modeling the Brain-Body Axis for Diagnostic and Closed-Loop Bioelectronic Devices

3:54-4:06 pm: Dr. Spencer Kellis
Research Assistant Professor, Keck School of Medicine of USC

Generating Somatosensory Percepts for Bidirectional Brain-Machine Interfaces

4:06-4:18 pm: Dr. Dong Song
Research Assistant Professor, University of Southern California

Computational Models for Hippocampal Memory Prostheses

4:18-4:30 pm: Dr. Yiwen Wang
Assistant Professor, The Hong Kong University of Science and Technology

Building Motor Brain Machine Interface Towards a Smart Learner

4:30-4:42 pm: Dr. Gregory Clark
Professor, University of Utah

Biomimetic sensorimotor control of a dexterous, sensorized bionic arm

4:45-5:00 pm: Session Discussion
Saturday, July 10th 10:00-11:30 am PDT

**B46: Neuroengineering IV: Neuroengineering Research and Development in the Department of Energy**

Chairs: Dr. Roger Werne & Dr. Elsie Quite-Randall
(Senior Advisor Innovation and Partnerships Lawrence Livermore National Laboratory & Lawrence Livermore National Laboratory)

Dr. Elsie Quite-Randall
(Senior Advisor Innovation and Partnerships Lawrence Livermore National Laboratory & Lawrence Livermore National Laboratory)

10:00-10:15 am: Dr. Elsie Quaite-Randall
Deputy Director of Innovation and Partnerships; Lawrence Livermore National Laboratory

Accessing unique facilities and expertise at DOE National Laboratories

10:15-10:30 am: Dr. Narayanan Kasthuri
Assistant Professor, Argonne National Laboratory

Neuro Engineering Research and Development at Argonne National Laboratory

10:30-10:45 am: Dr. Amy Gryshuk
Director, Strategic Engagements & Alliance Management for the Physical & Life Sciences Directorate

Neuroscience and Neurotechnology at Lawrence Livermore National Laboratory

10:45-11:00 am: Dr. Peter Schwindt
Principal Investigator, Sandia National Laboratory

Neuro Engineering Research and Development at Sandia National Laboratories

11:00-11:30 am: Session Discussion
Saturday, July 10th 1:00-2:30 pm PDT

**B59: Neural Engineering V: Multiscale (Hierarchical) Models of the Nervous System (JHU CME)**

Chair: Dr. Jean-Marie C. Bouteiller  
(Research Assistant Professor Department of Biomedical Engineering Viterbi School of Engineering University of Southern California)

1:00-1:15 pm: Dr. Jean-Marie C. Bouteiller  
Research Assistant Professor, University of Southern California

**Bridging Scales in Multiscale Models of the Nervous System**

1:15-1:30 pm: Dr. James Kozloski  
Research Staff Member, Manager, Multiscale Computational Modeling — Heart, Brain and Spinal Cord  
IBM Research

**Multiscale Population Modeling for Addressing Divergence in Therapeutic Design for Neural Tissue**

1:30-1:45 pm: Dr. Hugo Geerts  
Head of QSP Neurosciences, Certara

**A Computer-Based Quantitative Systems Pharmacology Model for Understanding the Neurobiology Behind the Effect of Genotypes on Bold fMRI Readouts**

1:45-2:00 pm: Dr. Gene Yu  
Postdoctoral Research Associate, University of Southern California

**A Large-scale Neuronal Network Model of the Tri-synaptic Pathway of Rat Hippocampus**

2:00-2:15 pm: Dr. Christopher T. Lee,  
Hartwell Foundation Postdoctoral Fellow, UC San Diego

**3D Mesh Processing Using GAMer 2 to Enable Reaction-Diffusion Simulations in Realistic Dendritic Spine Geometries**

2:15-2:30 pm: Session Discussion
B72: Neuroengineering VI: Neuromorphic Computing

3:00-3:15 pm: Dr. James Kozloski
Research Staff Member, Manager, Multiscale Computational Modeling — Heart, Brain and Spinal Cord
IBM Research

Constraints from Cortical and Subcortical Global Brain Anatomy for Brain Inspired Computing

3:15-3:30 pm: Dr. Frances S. Chance
Principal Member of Technical Staff
Department of Cognitive and Emerging Computing, Sandia National Laboratory

Lessons from Dragonflies in Brain-inspired Computing

3:30-3:45 pm: Dr. Lawrence Spracklen
Director of Machine Learning Architecture, Numenta

Can Neuroscience insights transform AI?

3:45-4:00 pm: Dr. Katherine Shuman
Research Scientist, Oak Ridge National Laboratory

Brain Inspired Computing: Neuromorphic Computing and Neural Hardware

4:00-4:15 pm: Dr. Ian Karlin
Principal HPC Strategist, Lawrence Livermore National Laboratory

Cerebras CS-1: Tightly coupled large scale data-flow for Neural Network Processing

4:15-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT


Chairs: Dr. Dong Song & Dr. Ellis Meng
(Research Associate Professor Center for Neural Engineering Department of Biomedical Engineering Neuroscience Graduate Program University of Southern California)

Dr. Ellis Meng
Professor of Biomedical Engineering and Electrical and Computer Engineering Vice Dean for Technology Innovation and Entrepreneurship Viterbi School of Engineering University of Southern California

10:00-10:15 am: Dr. Walid Soussou
CEO, Wearable Sensing, QUASAR.

Wearable Sensor Suite for Non-invasive Neurophysiological Monitoring in Naturalistic and Virtual Reality Environments

10:15-10:30 am: Dr. Dong Song
Research Assistant Professor, University of Southern California

Next-Generation Interface Systems for Supporting Cortical Prostheses

10:30-10:45 am: Dr. Ellis Meng
Professor of Biomedical Engineering and Electrical and Computer Engineering Vice Dean for Technology Innovation and Entrepreneurship Viterbi School of Engineering University of Southern California

Polymer Implantable Microelectrode Array Neural Interfaces

10:45-11:00 am: Dr. Jack Whalen
CEO, Platinum Group Coatings, LLC (PGC) University of Southern California

EPIC Microelectrodes for Bi-Directional Sensing and Stimulation

11:00-11:15 am: Dr. Patrick Tresco
Professor, University of Utah

Exploring the link Between Recording Array Design and Biocompatibility

11:15-11:30 am: Session Discussion
Sunday, July 11th 1:00-2:30 pm PDT

C98: Neural Engineering VIII: Artificial Retina (JHU CME)

Chair: Dr. James Weiland (University of Michigan, BME and Ophthalmology)

1:00-1:15 pm: Dr. Jeiran Choupan
Research Scientist, University of Southern California

Microstructural properties of visual pathway in blinding diseases

1:15-1:30 pm: Dr. Michael Beyeler
Assistant Professor, University of California Santa Barbara

Predicting the Perceptual Experience of Retinal Prosthesis Patients

1:30-1:45 pm: Dr. Prof. Gert Cauwenberghs
PhD Professor of Bioengineering
Co-Director, Institute for Neural Computation Jacobs School of Engineering; University of California, San Diego

High-density Integrated Neural Interfaces

1:45-2:00 pm: Dr. James Weiland
Professor, University of Michigan

An Overview of Visual Prostheses

2:00-2:15 pm: Dr. Noelle Stiles
Research Associate, University of Southern California

Neuroimaging in the Blind with Retinal Prostheses: Does Sensory Reorganization During Blindness Limit Visual Restoration?

2:15-2:30 pm: Session Discussion
C111: Neuroengineering IX: Ultrasound

Chair: Dr. Qifa Zhou
(Professor of Ophthalmology and Biomedical Engineering Viterbi School of Engineering, USC)

3:30-3:45 pm: Dr. Qifa Zhou
Professor of Ophthalmology and Biomedical Engineering, Viterbi School of Engineering, USC

Ultrasound Stimulation on the Retina and Visual Cortex for Vision Restoration

3:45-4:00 pm: Dr. Meng Cui
Assistant Professor of Purdue ECE and Biology, Purdue University

Simultaneous Deep Brain Calcium Imaging and Ultrasound Based Neural Modulation

4:00-4:15 pm: Dr. Elisa Konofagou
Professor of Biomedical Engineering, Columbia University

Central and Peripheral Nervous System Modulation with Focused Ultrasound

4:15-4:30 pm: Dr. Zion Zibly,
Senior Physician, Department of Neurosurgery, Member of Israeli Neurosurgical Society, Congress of Neurological Societies, North American Neuromodulation Society, European Neurosurgical Association Boards, The Israeli Journal of Neurology, Sheba Medical Center

MR Guided Focused Ultrasound: From High to Low Frequency

4:30-4:45 pm: Dr. Junjie Yao
Assistant Professor of Biomedical Engineering, Duke University

Photoacoustic Brain Imaging: Smaller, Deeper, and More Colorful

4:45-5:00 pm: Dr. George Fischer
Professor of Robotics Engineering and Director of Practice Point Center, Worcester Polytechnic Institute (and AiM Medical Robotics)

MRI-Guided Robotic Delivery of Needle-based Therapeutic Ultrasound

5:00-5:15 pm: Session Discussion
Friday, July 9th 10:00-11:30 am PDT

A9: (JHU CME) - Surgical Treatment of Spinal Fracture-Dislocations: Technical Nuances and Biomechanical Considerations

Chairs: Dr. Namath Hussain (Loma Linda University / Department of Neurosurgery)  
Chair: Dr. Tobias Mattei (Neurosurgery Division Saint Louis University)

10:00-10:15 am: Dr. Jacob Koffler  
Neural Engineering Lab, Department of Neurosciences, School of Medicine, UCSD

Acute ischemic stroke interventions.  
10:15-10:30 am: Dr. J. Pablo Villablanca  
Director, Interventional Spine Service, Medical Director of MRI, UCLA

Advanced imaging of the spine in cervical spondylotic myelopathy.  
10:30-10:45 am: Dr. Anthony Yeung  
Desert Institute for Spine Care

The role and future of endoscopic imaging for the treatment of spine and brain conditions.  
10:45-11:00 am: Dr. Tobias Mattei  
Department of Neurological Surgery - Saint Louis University

Surgical Treatment of Spinal Fracture-dislocations: Technical Nuances and Biomechanical Considerations.  
11:00-11:15 am: Dr. Keyne Johnson  
Brain and Spine Institute for Children, American Association of Neurological Surgeons, Cognitive Neuroscience Society

Comparing the motion of a single piece disc arthroplasty design and a ball and socket multiple piece design using dynamic radiography.  
11:15-11:30 am: Session Discussion
Friday, July 9th 1:30-3:00 pm PDT

A22: (JHU CME) Rehabilitation and Biologics in Spine Surgery

Chairs: Dr. Namath Hussain  
(Loma Linda University / Department of Neurosurgery)

1:30-1:45 pm: Dr. Cristina Sadowsky  
Kennedy Krieger Institute / Johns Hopkins School of Medicine


1:45-2:00 pm: Dr. Robert Watkins  
Marina Spine Center

Clearing Athletes to Play after Spinal Injury.

2:00-2:15 pm: Dr. Albert Recio  
Kennedy Krieger Institute Johns Hopkins School of Medicine

Adaptation Required For Sailing in Patients with Spinal Cord Injury: A Guideline per AIS Neurological Level of Injury.

2:15-2:30 pm: Dr. Jason Cormier  
Acadiana Neurosurgery

Motorsports Safety Group Safety Initiative. Racing is a Contact Sport.

2:30-2:45 pm: Dr. Krishnan Chakravarthy  
University of California San Diego

Spinal Cord Stimulation Treatment for Chronic Pain: Current Field and Future Prospects.

2:45-3:00 pm: Session Discussion
Friday, July 9th - 3:30-5:00 pm PDT
A34: Spinal Cord Trauma from Research to Clinical Care

3:30-3:45 pm: Dr. Michael G. Fehlings
Department of Surgery / Halbert Chair in Neural Repair and Regeneration / Co-Chairman Spinal Program / University of Toronto

Repair and regeneration of the injured spinal cord using next generation engineered neural stem cells.

3:45-4:00 pm: Dr. Ann Choe
Johns Hopkins School of Medicine

Advanced MR Imaging in Individuals with Spinal Cord Injury.

4:00-4:15 pm: Dr. Christopher S. Ahuja
Division of Neurosurgery, Department of Surgery, University of Toronto, Inteligex Inc.

Bioengineered human neural stem cell therapies to regenerate the injured spinal cord.

4:15-4:30 pm: Dr. Namath Hussain
Loma Linda University

Surgical Anatomy of the Lumbosacral Plexus and Lateral Approaches to the Lumbar Spine.

4:30-4:45 pm: Dr. Jason Cormier
Acadiana Neurosurgery

A Clinical Review of Surgical Treatment Options for Cervical Degenerative Disc Disease.

4:45-5:00 pm: Session Discussion
Saturday, July 10th 10:00-11:30 am PDT

B47: (JHU CME) Management of the Spine Disorders

Chairs: Dr. Cristina Sadowsky  
(Kennedy Krieger Institute, Johns Hopkins School of Medicine)

Dr. Mike Chen  
Associate Professor, Division of Neurosurgery, Department of Surgery, City of Hope

10:00-10:15 am: Dr. Tariq Sohail  
Doctors Hospital & Medical Centre

Management strategies for the Kyphotic deformity in Tb spine.

10:15-10:30 am: Dr. Yongxin (Leon) Zhao  
Department of Biological Sciences, Carnegie Mellon University

Expansion Pathology: Nanoscale Imaging of Clinical Specimens with Optical Microscopy and Steps Toward Whole Tissue Multiplex Nanoscopy.

10:30-10:45 am: Dr. Shahram Hadidchi  
Department of Radiology, Wayne State University/Detroit Medical Center

Artificial Intelligence in Neurosurgery, Neurology and Neuroradiology.

10:45-11:00 am: Dr. Tariq Sohail  
Doctors Hospital & Medical Centre

Late onset paraplegia in spinal tuberculosis.

11:00-11:15 am: Prof. Afsaneh Rabiei  
North Carolina State University

Introducing the Novel Composite Metal Foams for Protection Against Traumatic Brain Injuries.

11:15-11:30 am: Session Discussion
Legally Mine Conference 2020:
Room 150B

Organized by

Dan McNeff

Saturday, July 10th 01:00-02:30 PM

B60: Legally Mine USA: A Common Sense Approach to: Lawsuit Prevention, Tax Reduction & License Protection

1:00-02:30 pm: Dan McNeff (CEO, Legally Mine)
Legally Mine USA: A Common Sense Approach to: Lawsuit Prevention, Tax Reduction & License Protection.
EDUCATIONAL LECTURE
SATURDAY, JULY 10TH
LOCATED IN ROOM 150B
JOIN US FROM 1:00 – 2:30 PM FOR AN EDUCATIONAL LECTURE

EDUCATIONAL OBJECTIVES:

Tax Strategies: Learn "BRAND NEW" R&D tax strategies released this year that will work for you and put money back in your practice and family's pocket. Get paid for C.E.!
Asset Protection: Essential tools to ensure that your practice and family's assets are protected from the threat of lawsuits.
License Protection: Proven strategies to protect your Medical License.
Estate Planning: What are the best tools to protect your family if something happens to you?

Daniel J. McNeff is the CEO of Legally Mine. In addition to running his own businesses for the last 20 years, he has served as the Senior Vice President of one of the Nation's largest financial services company for 15 years.

JOIN US AT OUR BOOTH TO LEARN MORE!
Saturday, July 10\textsuperscript{th} 3:00-4:30 pm PDT

\textit{B73: Poster Session}

Sunday, July 11\textsuperscript{th} 10:00-11:30 pm PDT

\textit{C86: Innovation in Spine Surgery}

\textit{Chairs: Dr. Namath Hussain  
(Loma Linda University / Department of Neurosurgery)}

\textit{Chairs: Dr. Jason Cormier  
(Acadiana Neurosurgery)}

\textbf{10:00-10:15 am: Dr. Mike Chen}
City of Hope

\textit{Lateral extracavitary approach for spine tumors: long term follow up results.}

\textbf{10:15-10:30 am: Dr. Hani Mhaidli}
President of Association of Iberian and Latin American Spine Societies (SILACO), Past President of the Spanish Spine Society, SRS Board of directors 2016-2018, Las Palmas de Gran Canaria, SPAIN

\textit{Surgical treatment of cervical rheumatoid arthritis.}

\textbf{10:30-10:45 am: Dr. Erin M Dunbar}
Piedmont Brain Tumor Center, Medical Neuro-Oncology, Atlanta, Georgia

\textit{Brachytherapy with gammatile including trials as well as routine/trial treatment with SRS (linac/GK) with primary/metastatic cns tumors and other related high impact topics.}

\textbf{10:45-11:00 am: Dr. Raúl Rincon-Navarro}
Director of Neuro Spine & Pain Clinic Los Cabos, México. NASS, WEDNS, SMCN (Mexican Neurosurgical Society), AOSPINE

\textit{Endoscopic Spine Surgery: beyond Disc Herniation.}

\textbf{11:00-11:15 am: Dr. Brian Mehling}
BHI Therapeutic Sciences

\textit{Umbilical Cord Blood Stem Cell Therapy for Spinal Cord Injury.}

\textbf{11:15-11:30 am: Dr. Kai-Uwe Lewandrowski}
Founder & President, Center For Advanced Spine Care of Southern Arizona Surgical Institute of Tucson

\textit{Prognosticators of Successful Lumbar Endoscopic Decompression: Transforaminal Endoscopic Decompression for Herniated Disc and Spinal Stenosis.}
Neurosymposium of National Skull Base Foundation (NSBF)
Room 150B

Organized by

Dr. Martin Mortazavi
Dr. Babak Kateb

Sunday, July 11th 1:00-2:30 pm PDT

C99: (SLU CME) Neurosymposium of National Skull base Foundation (NSBF)

1:00-1:20 pm: Dr. Martin M. Mortazavi
Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience

Current Concepts of Management of Skull Base Meningiomas.

1:20-1:40 pm: Dr. Farhad Rafii
West Hills Hospital, Medical Center

Cardiac Clearance of Acute Neurosurgical Patients.

1:40-2:00 pm: Dr. Phil Taussky
The University of Utah

Pipeline Management of Wide Neck Aneurysms.

2:00-2:20 pm: Dr. Martin M. Mortazavi
Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience

Surgical Management of Cerebral Aneurysms.

2:20-2:30 pm: Session Discussion
Sunday, July 11\textsuperscript{th} 3:00-4:30 pm

**C112: (SLU CME) Neurosymposium of National Skull base Foundation (NSBF)**

03:00-03:20 pm: **Dr. Ashkan Mowla**  
Keck School of Medicine, University of Southern California (USC)

Unruptured Brain Aneurysm: A Ticking Bomb?

03:20-03:40 pm: **Dr. Saleem Abdulrauf**  
Abdulrauf institute of Neurosurgery, Department of neurological surgery, Saint Louis University, Walter E. Dandy Neurosurgical Society

Awake Craniotomy for Aneurysm Clipping and By-pass.

03:40-04:00 pm: **Dr. Martin M. Mortazavi**  
Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience

Surgical Management of Gliomas.

04:00-04:20 pm: **Dr. Andrei Alexandrov**  
Semmes-Murphey Professor and Chairman, Department of Neurology, The Tennessee Health Science Center

Artificial Intelligence and Imaging Selection for Stroke Treatment.

04:20-04:30 pm: Session Discussion
Society for Brain Mapping and Therapeutics (SBMT)
Conference 2021:

Room 153C
Organized by:

Dr. Martin Mortazavi  Dr. Justin Dye  Dr. Saleem Abdulrauf  Dr. Robert Hariri
Friday, July 9th 10:00-11:30 am PDT

Session A11- Stroke Management

A11: (JHU CME) Stroke Management

Chair: Dr. Justin Dye- Assistant Professor of Neurosurgery, Loma Linda University

10:00-10:15 am: Dr. Reza Jahan
Professor, Medical Director Translational Research Imaging Center, Director of Academic Affairs, Division of Interventional Neuroradiology, Department of Radiology, David Geffen School of Medicine at UCLA

Acute ischemic stroke interventions

10:15-10:30 am: Dr. Hekmat Zarzour
Assistant Professor of Neurological Surgery, Vickie and Jack Farber Institute for Neuroscience Thomas Jefferson University Hospital, Division Chief of Neurosurgery Jefferson New Jersey

Risk of mechanical thrombectomy recanalization failure: Intraoperative nuances and the role of intracranial atherosclerotic disease

10:30-10:45 am: Dr. Gabor Toth
Associate professor, Cleveland Clinic

Improving the efficacy of mechanical thrombectomy for acute stroke: the first pass effect

10:45-11:00 am: Dr. Ambooj Tiwari
Clinical Assistant Professor, NYU School of Medicine

ML-based Exploration of Renal Dysfunction in a patient undergoing Mechanical Thrombectomy for Stroke

11:00-11:15 pm: Dr. Alauddin Bhuiyan
Founder and CEO, Associate Professor, iHealthScreen Inc., Department of Ophthalmology, Icahn School of Medicine at Mount Sinai, NY

A Machine Learning Prediction Model to Identify Individuals at Risk of 5-year Incident Stroke based on Retinal Imaging

11:15-11:30 am: Session discussion
Friday, July 9th 1:30-3:00 pm PDT

**Session A24 - NeuroVascular Disorders**

Chair: Dr. Justin Dye - Assistant Professor of Neurosurgery, Loma Linda University

1:30-1:45 pm: Dr. Zhaoyang Fan
Assistant Professor, Radiology, University of Southern California

**Intracranial Vessel Wall Imaging: Technical Development and Clinical Applications**

1:45-2:00 pm: Dr. Danny JJ Wang
Professor of Neurology and Radiology, Laboratory of FMRI Technology (LOFT), Mark & Mary Stevens Neuroimaging and Informatics Institute, Keck School of Medicine, University of Southern California (USC)

**High resolution neurovascular imaging at 7 Tesla**

2:00-2:15 pm: Dr. Eric W. Wang
Associate Professor, Departments of Otolaryngology, Neurological Surgery, and Ophthalmology / Vice Chair, Clinical Services, Department of Otolaryngology / University of Pittsburgh School of Medicine / Director of Education, UPMC Center for Cranial Base Surgery

**Management of Internal Carotid Artery Injury during Endoscopic Skull Base Surgery**

2:15-2:30 pm: Dr. Reza Jahan
Professor, Medical Director Translational Research Imaging Center, Director of Academic Affairs, Division of Interventional Neuroradiology, Department of Radiology, David Geffen School of Medicine at UCLA

**Venous sinus stenting for IIH.**

2:30-2:45 pm: Dr. Iype Cherian
Director, Counselor General, Member, Associate Chief editor, Reviewer, Neurosciences, Krishna Institute of Medical Sciences, Karad, Maharashtra, Asian Congress of Neurological surgeons, WFNS Anatomy Committee, Surgical Neurology International (Head Trauma), World Neurosurgery

**The dawn of Microneurosurgery in Head trauma- A journey through the anatomy and Physiology of Cisternostomy**

2:45-3:00 pm: Session discussion
Friday, July 9th 3:30-5:00 pm PDT

**Session A36: Aneurysm management**

Chair: Dr. Justin Dye- Assistant Professor of Neurosurgery, Loma Linda University

**3:30-3:45 pm:** Dr. Martin M. Mortazavi  
Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience

**Modern Technical Concepts for Clip-Reconstruction of Fusiform Aneurysms**

**3:45-4:00 pm:** Dr. Justin Dye  
Assistant Professor of Neurosurgery, Loma Linda University

**Cerebral Blister Aneurysms: challenges and management**

**4:00-4:15 pm:** Dr. J. Pablo Villablanca  
Professor, Diagnostic Neuroradiology, Director, Interventional Spine Service, Medical Director of MRI

**Advanced visualization and characterization of cerebral aneurysms including time-resolved CTA and PC- MR flow hemodynamics.**

**4:15-4:30 pm:** Dr. George Teitelbaum  
Neurovascular Intervention Director, Pacific Neuroscience Institute (PNI)

**Intracranial aneurysm Pipeline embolization via radial artery approach**

**4:30-4:45 pm:** Dr. Viktor Szeder  
Associate Clinical Professor of Radiology and Neurosurgery, Co-Director, Fellowship Training Program, Medical Director Translational Research Imaging Center, Director of Academic Affairs, Division of Interventional Neuroradiology, Department of Radiology, David Geffen School of Medicine at UCLA

**Transvenous endovascular treatment of brain AVMs**

**4:45-5:00 pm:** Session discussion
Saturday, July 10th 10:00-11:30 am PDT

**Session B49:**

10:00-11:30 - Poster session

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Saturday, July 10th 1:00-2:30 pm PDT

**Session B62:**

1:00-2:30 - Poster session
Saturday, July 10th 3:00-4:30 pm PDT

**Session B75: Neurovascular Disorders and Skull Base Disorders**

*Chairs: Dr. Justin Dye - Assistant Professor of Neurosurgery, Loma Linda University
Dr. Saleem Abdulrauf - Professor and Founding Chairman of the Department of Neurosurgery at Saint Louis University (SLU), St. Louis, Missouri, USA*

**3:00-3:15 pm:** Dr. Vivien Lee
Neurologist, Ohio State University Hospital Program

*Early neurologic decline in acute ischemic stroke patients receiving thrombolysis with large vessel occlusion and mild deficits*

**3:15-3:30 pm:** Dr. Robert Hariri
18th President of SBMT and member of the Executive board of SBMT, Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College, Former Chief Executive Officer of Celgene Cellular Therapeutics

*Management of neurotrauma from surgical intervention to stem cell therapy*

**3:30-3:45 pm:** Dr. Fabien Scalzo
Associate professor, Pepperdine & UCLA

*Machine Learning in Neurovascular Care*

**3:45-4:00 pm:** Dr. Jorge Herrera
Neurosurgeon, Barcelona University

*Unesco neuroscience initiative*

**4:00-4:15 pm:** Dr. Martin M. Mortazavi
Chairman and Director, Cerebrovascular, Skull Base & Tumor Program California Institute of Neuroscience

*Tuberculum Sellae and Olfactory Groove Meningiomas: Proposal of a new classification system to predict surgery and outcome*

**4:15-4:30 pm:** Session Discussion
Session C88: Neurovascular Disorders

Chairs: Dr. Justin Dye - Assistant Professor of Neurosurgery, Loma Linda University
Dr. Saleem Abdulrauf - Professor and Founding Chairman of the Department of Neurosurgery at Saint Louis University (SLU), St. Louis, Missouri, USA

10:00-10:15 am: Dr. Brian Mehling
Orthopedic trauma surgeon, Chief Medical Officer, BHI Therapeutic Sciences

Stem Cells and Stroke Recovery: A Retrospective Study

10:15-10:30 am: Dr. Jeffrey Farkas
Neurosurgeon, NYU School of Medicine / Chair, Interventional Neuro Associates, New York

Flow Reversal in the setting of Carotid Revascularization

10:30-10:45 am: Dr. Nestor Gonzalez
Cedars-Sinai Medical Center, Los Angeles

Intracranial atherosclerosis, a challenging form of stroke requiring strategies outside the box for treatment.

10:45-11:00 am: Dr. Zion Zibl
Neurosurgeon, Department of Neurosurgery, The Chaim Sheba Medical Center, Tel Hashomer, Israel

A novel swine model of subarachnoid hemorrhage-induced cerebral vasospasm

11:00-11:15 am: Dr. Rebeca Pérez-Alfayate
Hospital Clínico San Carlos

Awake surgery for AVM.

11:15-11:30 am: Session Discussion
Session C101: Neurovascular/Skull Base Disorders

Chairs: Dr. Justin Dye- Assistant Professor of Neurosurgery, Loma Linda University
Dr. Saleem Abdulrauf- Professor and Founding Chairman of the Department of Neurosurgery at Saint Louis University (SLU), St. Louis, Missouri, USA

1:00-1:15 pm: Dr. Aziz Alali
Assistant professor of neurosurgery, Saint Louis University, Saint Louis

Cavernous malformation: what is it and when to treat?

1:15-1:30 pm: Dr. Robert G Louis
Chief of Division of Neurosurgery, Director of Skull Base and Pituitary Tumor Program, Pickup Family Neurosciences Institute, Hoag Memorial Hospital, Pickup Family Neurosciences Institute, Hoag Memorial Hospital, Newport Beach, CA

Advances in skull base neurosurgery

1:30-1:45 pm: Dr. Roland Torres
Neurosurgeon, Department of Neurosurgery, Stanford Univ. Medical School, Stanford, USA.

Traumatic epistaxis: Skull base defects, intracranial complications and neurosurgical considerations

1:45-2:00 pm: Dr. Alexander A. Khalessi
Department of Neurosurgery, University of California-San Diego, La Jolla, California

Epidemiology, Natural History, and Clinical Presentation of Large Vessel Ischemic Stroke.

1:45-2:30 pm: Session Discussion
Session C114:

3:30 - 5:00 - Poster session
Society for Brain Mapping and Therapeutics (SBMT)
Conference 2021:

Room 409 B
Friday, July 9th 10:00-11:30 am PDT

Session A13- Nanoneuroscience/ Nanoneurosurgery 1

Chairs:

- Dr. Babak Kateb- Chairman, CEO and Scientific Director, Society for Brain Mapping Therapeutics (SBMT) Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technology and Innovation Park, Loma Linda University, Department of Neurosurgery

- Dr. Nikita Chintam

10:15-10:30 am: Dr. Narayan Hosmane
Professor in Department of Chemistry, Northern Illinois University

Dendrimers or Nanostructured Boron and Gadolinium Compounds for BNCT

10:30-10:45 am: Dr. Babak Kateb
Chairman, CEO and Scientific Director - Society for Brain Mapping & Therapeutics (SBMT)-Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technology and Innovation Park, Loma Linda University, Department of Neurosurgery

Nano-BioElectronics

10:45-11:00 am: Dr. Ebrahim Mostafavi
Postdoctoral Fellow, Committee member, Society for Brain Mapping and Therapeutics Stanford University School of Medicine

The use of microfluidic-based systems in Nanoneuroscience

11:00-11:15 pm: Dr. Deblina Sarkar
Assistant Professor at MIT, AT&T Career Development Chair Professor at MIT Media Arts and Sciences, Founder and Director of Nano-Cybernetic Biotrek research lab

Seeing the invisible: Novel technology revealing hidden biomolecular nanostructures in the brain

11:15-11:30 am: Session discussion
**Friday, July 9th 1:30-3:00 pm PDT**

**Session A26 - Stem Cell**

**Chairs:**

*Dr. Bernard Siegael* - Founder & Chair-World Stem Cell Summit Executive Director-Regenerative Medicine Foundation

*Dr. Brian Mehling* - founder and chief medical officer of Blue Horizon International (BHI) Therapeutic Sciences

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1:30-1:45 pm: **Dr. Kuldip Sidhu**

Professor, Executive Director, CK Cell Technologies Pty Ltd

A new paradigm in developing non-cellular therapeutics with stem cells-derived exosomes - a lesson from spine and wound trials

1:45-2:00 pm: **Dr. Jorge Hernandez-Rodriguez**

Professor, Researcher, CINVESTAV 3D

Part 1: 5-HT1A Molecular Signaling Path in Fetal Brainstem - Neopallium Heterochronic Cultures

2:00-2:15 pm: **Dr. Jorge Hernandez-Rodriguez**

Professor, Researcher CINVESTAV 3D

Part 2: 5-HT1A Molecular Signaling Path in Fetal Brainstem - Neopallium Heterochronic Cultures
Friday, July 9th 3:30-5:00 pm PDT

Session A38: AI Neuro: Machine Learning and Computing in Clinical Neuroscience

Chairs:
-Dr. Babak Kateb- Chairman, CEO and Scientific Director, Society for Brain Mapping Therapeutics (SBMT) Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technology and Innovation Park, Loma Linda University, Department of Neurosurgery

-Dr. Nikita Chintam

3:30-3:45 pm: Dr. Daniel Tward
Assistant Professor, University of California, Los Angeles

Identifying Structural Changes in the Brain Specific to Early Alzheimer’s Disease

3:45-4:00 pm: Dr. Brock Wester
Vice Chair (Applied Biomedical Engineering), Johns Hopkins University

BossDB-Data Ecosystem for Volumetric Neuroscience Data and Connectomics

4:00-4:15 pm: Dr. James R Kozloski
Manager, Research Staff Member, IBM Research

Multimodal Brain Imaging Fusion Augments Blood Biomarkers for Post-Concussion Syndrome

4:15-4:30 pm: Dr. Lawrance Spracklen
Chief Technology Officer, R Squared AI

Neuromorphic Computing

4:30-4:45 pm: Dr. Harry Kloor
CEO and CoFounder, Beyond Imagination Inc.

Avitar in Medicine

4:45-5:00 pm: Session discussion
Saturday, July 10th 10:00-11:30 am PDT

Session B51: AI Neuro: Machine Learning and Computing in Clinical Neuroscience

**Chairs:**

- Dr. Babak Kateb- Chairman, CEO and Scientific Director, Society For Brain Mapping & Therapeutics (SBMT) Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technologyand Innovation Park, Loma Linda University, Department Neurosurgery

- Dr. Nikita Chintam

10:00-10:15 am: Dr. Hojjat Azadbakht  
Chief Executive Officer, AINOSTICS

Al Machine Learning in Medicine/Neurological Disorders

10:15-10:30 am: Dr. Catherine Schuman  
Research Scientist, Beyond Moore group at Oak Ridge National Laboratory

Brain Inspired Computing: Neuromorphic Computing and Neural Hardware

10:30-10:45 am: Dr. Mohammad Nami  
Head of the Department of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran

Applications of AI/ML in Cognitive Neuromedicine, Today and Tomorrow

10:45-11:00 am: Dr. Kallol Roy  
Assistant Professor of Machine Learning, University of Tartu

When in doubt play Inductive Bias: A New Paradigm for Brain-Inspired Machine Learning

11:00-11:15 am: Dr. Lara Jehi  
Chief Research Information Officer, Cleveland Clinic

AI and Advance Data in Neuroscience: Prognosis after Epilepsy Surgery

11:15-11:30 am: Session discussion
Saturday, July 10th 1:00-2:30 pm PDT

**Session B64: Stem Cell**

**Chairs:**

- Dr. Bernard Siegael - Founder & Chair - World Stem Cell Summit Executive Director - Regenerative Medicine Foundation

-Milena Asiryan

1:00-2:30 pm: *Round table discussion*
Saturday, July 10th 3:00-4:30 pm PDT

Session B77: Nanoneuroscience/Nanoneurosurgery 2

Chairs:
- Dr. Babak Kateb - Chairman, CEO and Scientific Director, Society for Brain Mapping & Therapeutics (SBMT) Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technology and Innovation Park, Loma Linda University, Department of Neurosurgery
- Dr. Nikita Chintam

3:00-3:15 pm: Frank Boehm
CEO at NanoApps Athletics, NanoApps Athletics

Application of a conceptual nanomedical platform to facilitate the mapping of human brain

3:15-3:30 pm: Dr. Hossein Ameri
Associate Professor of Clinical Ophthalmology, Director, USC Retinal Degeneration Center
Department of Ophthalmology, Keck School of Medicine

Bionic Vision

3:30-3:45 pm: Dr. Nikhil Krishna Murthy
Neurosurgeon, Northwestern Department of Neurosurgery

Micro and nanotechnology in nerve repair

3:45-4:00 pm: Dr. Zion Zibby
Senior Physician, Sheba Medical Center

Using nanoparticles in diagnosis and treatment of CNS infection

4:00-4:15 pm: Dr. Steven A. Toms
Professor, Warren Alpert Medical School of Brown University

Application of nanotechnology to disease of spine

4:15-4:30 pm: Session Discussion
Sunday, July 11th 10:00-11:30 am PDT

Session C90: Augmented Reality-Neurophotonics

Chairs:  
Dr. Babak Kateb- Chairman, CEO and Scientific Director, Society for Brain Mapping & Therapeutics (SBMT) Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technology and Innovation Park, Loma Linda University, Department of Neurosurgery

Dr. Nasser H Kashou- Associate Professor, IEEE Senior Member, Director, Image Analysis Lab (IAL), Functional Near-Infrared Spectroscopy (FNIRS) Lab

10:00-10:15 am: Dr. Nasser H Kashou  
Associate Professor, IEEE Senior Member, Director, Image Analysis Lab (IAL), Functional Near-Infrared Spectroscopy (FNIRS) Lab

The Role of Functional Near Infrared Spectroscopy (FNIRS) in Neural Engineering

10:15-10:30 am: Dr. Babak Kateb  
Chairman, CEO and Scientific Director, Society for Brain Mapping & Therapeutics (SBMT) Brain Mapping Foundation, National Center for NanoBioElectronics, Brain Technology and Innovation Park, Loma Linda University, Department of Neurosurgery

AI, Predictive Modeling and Neurophotonics in intraoperative Brain Mapping

10:30-10:45 am: Dr. Aaron Filler  
Medical Director, Institute for Nerve Medicine, Santa Monica, California

Diffusion Sensor Imaging and its Application

10:45-11:00 am: Dr. Johnney Duerinck  
Neurosurgeon and Clinical Researcher, UZ Brussel

Augmented Reality assistance in Neurosurgery - current and future prospects

11:00-11:15 am: Dr. Frederick VanGestel  
PhD Researcher Neurosurgery, UZ Brussel

Augmented Reality assistance in Neurosurgery - current and future prospects

11:15-11:30 Session Discussion
Sunday, July 11th 1:00-2:30 pm PDT

Session C103: Stem Cell

Chair-Dr. Vicky Yamamoto- Cancer Scientist, Department of Otolaryngology/ Head and Neck Surgery, Keck School of Medicine of USC, Los Angeles, CA.

Dr. Bernard Siegael- Founder & Chair-World Stem Cell Summit Executive Director-Regenerative Medicine Foundation

1:00-1:15 pm: Dr. Bernard Siegel
Founder & Chair-World Stem Cell Summit Executive Director-Regenerative Medicine Foundation, World Stem Cell Summit Regenerative Medicine Foundation

Regenerative Medicine and Cloning

1:15-1:30 pm: Dr. Evan Snyder
Professor, Director-Center for Stem Cells and Regenerative Medicine Sanford Children’s Health Research Center, Sanford Burnham Prebys Institute & Dept. of Pediatrics, University of California-San Diego (UCSD)

Generation of Complete Multi-Cell Type Lining Organoids from Human Embryonic and Patient-Specific Induced Pluripotete

1:30-1:45 pm: Dr. Aubrey de Grey
Chief Science Officer and Co-founder, SENS Research Foundation

The Coming of Age of AGE

1:45-2:00 pm: Dr. Robert Hariri
18th President of SBMT and member of the Executive board of SBMT, Chairman, Founder and Chief Executive Officer, Celularity; Adjunct Professor of Neurosurgery, Weill Cornell Medical College, Former Chief Executive Officer of Celgene Cellular Therapeutics

Role of Exosomes in neuronegenerations and repair

2:00-2:15 pm: Dr. Michael Fehlings
Professor, University of Toronto

Next generation bioengineered neural stem cells for repair and regeneration of the injured spinal cord

2:15-2:30 pm: Session Discussion
Saturday, July 10th 1:00-2:30 pm PDT

Session C116: Nanoneuroscience/Nanoneurosurgery 3

3:30-3:45 pm: Dr. Rutledge Ellis Behnke
Professor & Co-founder, Director Nanomedicine Translational Think Tank
University of Heidelberg, Arch Therapeutics Inc., MIT

Molecular Medical Devices for Nanoneurosurgery

3:45-4:00 pm: Dr. Manuel Perez
Professor, Cedars-Sinai Medical Center

NCI - Nanoimaging programme

4:00-4:15 pm: Dr. John Yu
Professor, Cedars-Sinai Medical Center

Nanoparticle based treatment and imaging of brain tumors

4:15-4:30 pm: Dr. Marjan Assefi
Research assistant, Editor, University of North Carolina at Greensboro

Effect of Nanoparticles on Genes Nano-biology

4:30-4:45 pm: Dr. Paul R. Carney
Professor of child health and neurology, University of Missouri- Columbia

Nanoneuroscience for Epilepsy Management

4:45-5:00 pm: Session Discussion
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BRYAN T. HANYPSIAK, MD
EDITOR-IN-CHIEF: THE AMERICAN JOURNAL OF ORTHOPEDICS