

Tuesday, October 24, 2017

Global Impact of Neuroscience Disorders and Opportunities for Convergence Discoveries

CME Course Co-Directors: Kevin Bennet, PhD, MBA, W. David Freeman, MD; Kevin Barrett, MD, MSc; Leonard Petrucelli PhD, Michael Pizzi, DO, PhD; Alejandro Rabinstein, MD; Alfredo Quinones-Hinojosa, MD

7:15 a.m. Registration and Continental Breakfast

Thematic Global Challenges in Human Neurosciences - Diseases, Cognitive, Artificial Intelligence and Bioinformatics

8:00 Introduction and Welcome
Moderator: W. David Freeman, MD

8:30 History of Neurosciences Evolution and Global Neuroscience Challenges
W. David Freeman, MD

8:35 Scientific Breakthroughs Coming for Lou Gehrig's Disease (Amyotrophic Lateral Sclerosis)
Leonard Petrucelli, PhD, Neuroscience

9:00 Global Epilepsy: Current Challenges and Potential Future Solutions
Greg Worrell, MD

9:30 Advancing Global Health through Patient Centered Outcomes: ICHOM
Ryan Utti, MD

10:00 Global Impact of Spine Disorders on Human Population by 2050
H. Gordon Deen, MD

10:30 Speaker Q&A Panel

10:45 Break

11:00 Global Impact of Stroke and Cerebrovascular Disorders: World Health Organization and Advances
Thomas G. Brott, MD

11:30 NINDS-Update on BRAIN Initiative & Neural Engineering
Nick Langhals, PhD

12:00 pm Lunch and Networking Tracks and Meetings

1:00 The Future of Health Care: the US \$300 Billion Pendulum Swing from Sick Care to Wellness Care and Monitoring Patients at Home and Beyond, a UK Perspective in Your Home
Hugh Lloyd Jukes

1:30 Alzheimer's Disease- Future Therapies
Neil Graff-Radford, MD

2:00 Machine Learning

	David E. Albert, MD
2:30	Theme #1 - Engineering New Convergences in Public Health and Policy Guru Madhavan, PhD Moderator: Alejandro Rabinstein, MD and Michael Pizzi, DO, PhD
3:00	Theme #2 - Translating Big Data to Action and Future of Big Data and the Precision Medicine Initiative - Q&A Dennis Murphree, Jr., Ph.D., Jason Hallstrom, PhD, Stephen Hart, PhD, <i>Mike Huerta PhD</i> Moderator: W. David Freeman, MD
3:30	Theme #3 - NINDS BRAIN initiative and Neural Engineering Challenges - Nick Langhals, PhD, Betty Kim, MD, PhD, Babek Kateb MD, Society for Brain Mapping and Therapeutics (SBMT)/Brain Mapping, Jin Hyung Lee, PhD, Kevin Bennet, PhD, Chair Division of Engineering, Co-director Mayo Neural Engineering Labs, Mayo Clinic Moderator: Kevin Bennet, MD
4:00	e-Posters
4:30	Adjourn

Wednesday, October 25, 2017

Neuroscience & Convergence of Other Science Disciplines

Day #2: Neuroscience, Physical, Engineering, and Cognitive Computing Science Challenges & Discoveries

Moderator: W. David Freeman, MD, Mike Pizzi, DO, PhD

8:00	Registration and Continental Breakfast Thematic Global Challenges Facing Basic, Translational, and Materials Neuroscience
8:30	Introduction and Welcome Moderator: W. David Freeman, M.D.
8:35	Convergence Keynote: History of the National Academy of Medicine and Facilitating Neuroscience Convergence Victor J. Dzau, MD
9:00	3-D Brain Tissue Visualization Technique Betty Kim, MD, PhD
9:30	Ontogenetic fMRI and the Investigation of Global Brain Circuit Mechanisms Jin Hyung Lee, PhD
10:00	Genome Editing- CRISPr-Cas9 Challenges in Treating Neurological Diseases David Deyle, MD
10:30	Q&A

10:45	Break
11:00	Neuroregeneration using Mesenchymal Stem Cells-Mayo Regenerative Update Abba Zubair, MD, PhD
11:40	Break/Speaker Q&A
12:00 p.m.	Lunch and Networking
1:00	Neuroscience Organ on a Chip Design for Rapid Phase I Drug Discovery James Hickman, PhD
1:30	Neural Circuits and Mayo Neural Engineering Research Kevin Bennet, PhD , MBA Mayo Clinic
2:00	Theme #4 – Artificial Intelligence and Machine Learning CEOs and Scientists: AI Experiments with Google – Machine Learning and Drawing Art David Albert, MD; Matt Berseth; Jason Hallstrom, PhD; Che Ngufor, Ph.D.; Ted Willich Moderator: W. David Freeman, MD
2:30	Theme #5 - Mobile Health: The US \$300Billion Pendulum Swing from Sick care to Wellness Care and Monitoring Patients at Home David Albert, MD; Hugh Lloyd Jukes, Ravinder Sajwan panelists TBA Moderator: W. David Freeman, MD
3:00	Theme #6 - Bench to Bedside Translation: What is the Next Quantum Jump? Q&A Session Panelists- CRISPR—David Deyle MD, James Hickman, PhD, Brad Rabinovitz, Moderators: W. David Freeman, MD and Mike Pizzi, DO, PhD
3:30	Questions and Answers/ Online Examination /Adjourn