

June 14, 2017

Dear Exhibitor

On behalf of course directors W. David Freeman, M.D., Leonard Petrucelli, Ph.D., Kevin Barrett, M.D., Alejandro Rabinstein, M.D., Alfredo Quinones-Hinojosa M.D., Michael Pizzi, D.O., Ph.D. and Kevin E. Bennet, Ph.D., M.B.A. we hope you will consider a display opportunity at our *Mayo Clinic Convergence Neuroscience 2017* held *October 24-25, 2017*.

Convergence calls for groups within the biomedical, life sciences, physical science, engineering and other fields to come together to solve unmet health needs. This conference aims to bring together various scientists with the aim of discovery of education gaps inherent to one's own discipline as well as the potential for creative collaboration in shared problem solving.

Display fees are \$2,500 for the two day course. Space is limited and table assignments will be made on a first come, first served basis based on the date the signed exhibit agreement letter is received in our office.

Mayo Clinic, an integrated, not-for-profit group practice, is committed to meeting its responsibility as a national medical education resource and is accredited by the Accreditation Council for Continuing Medical Education to provide 10.5 *AMA PRA Category 1 Credit(s)*<sup>TM</sup> for this course.

Our programs provide valuable information on unmet needs to the medical community. We sincerely appreciate your consideration and hope you will take the opportunity to join us for a truly unique educational program.

Sincerely,

Sheila Newby

**Education Specialist** 

Make checks payable to:

Mayo Clinic

Attn: CPD/Denise Klarich 4500 San Pablo Road

Stabile 790N

Jacksonville, FL 32224 Tax ID: 59-3337028



# Mayo School of Continuous Professional Development (MSCPD) Exhibitor Agreement

Activity Title	Mayo Clinic Convergence Neuroscience 2017
Activity Number	17J05735
Location	The Westin Buckhead Atlanta, Atlanta, GA
Dates	October 24-25, 2017

Agreement between: ACCREDITED PROVIDER: Mayo Clinic College of Medicine – MSCPD AND:

Company Name (Exhibitor)		
(as it should appear on printed materials)		
Exhibit Contact (if different then exhibit Rep.)		
Name(s) of Representative(s) exhibiting:		
(Maximum of two representatives allowed per		
exhibit)		
Address		
Telephone		
Fax		
Email		
The named exhibitor wishes to exhibit at the above named activity for the amount of \$2,50		\$2,500

**NOTE**: There may be additional charges depending on the meeting location (power, internet access, etc.). *Please list additional requests here*: (please note: additional requests may incur additional fees)

### TERMS AND CONDITIONS

- EXHIBITOR agrees to abide by ACCME Standards for Commercial Support as stated at <a href="www.accme.org">www.accme.org</a>: SCS 4.2: "Product-promotion material or product-specific advertisement of any type is prohibited in or during CME activities. The juxtaposition of editorial and advertising material on the same products or subjects must be avoided. Live (staffed exhibits, presentations) or enduring (printed or electronic advertisements) promotional activities must be kept separate from CME." "For live, face-to-face CME, advertisements and promotional materials cannot be displayed or distributed in the educational space immediately before, during or after a CME activity. Providers cannot allow representatives of Commercial Interests to engage in sales or promotional activities while in the space or place of the CME activity."
- EXHIBITOR may only distribute educational promotional materials at their exhibit space. Distribution of non-educational items (pens, notepads, etc.), pharmaceuticals or product samples is prohibited.
- All exhibit fees associated with this activity will be given with the full knowledge of the PROVIDER. No additional payments, goods, services or events will be provided to the course director(s), planning committee members, faculty, joint provider, or any other party involved with the activity.

- Completion of this agreement represents a commitment and payment is due and collectible by the ACTIVITY DATE unless otherwise agreed upon by the PROVIDER. PROVIDER reserves the right to refuse exhibit space to EXHIBITOR in the event of nonpayment or Code of Conduct violation.
- PROVIDER agrees to provide exhibit space and may acknowledge EXHIBITOR in activity announcements. PROVIDER reserves the right to assign exhibit space or relocate exhibits at its discretion.

By signing below, I agree to the "Terms and Conditions" outlined on Page 1 of this Exhibitor Agreement (including ACCME Standards for Commercial Support):

The person signing below is authorized to enter into this agreement:

Exhibitor Representative Name	Signature	Date
Mayo Clinic Representative Name	Signature	Date

### **PAYMENT INFORMATION**

Please indicate your method of payment:

### PROVIDER Federal Tax ID number is 59-3337028

Please remit check payable to: Mayo Clinic- Mayo School of CPD. Please identify name of course on the check stub.

☐ Check	☐ Credit Card
Make payable to:	For payment by credit card, please call the MSCPD at 800-
	462-9633
Mayo Clinic Florida	
Mayo School of Continuous Professional Development	Do not send credit card information via email or fax.
Stabile 790N/Denise Klarich	
4500 San Pablo Road	
Jacksonville, FL 32224	
Please identify <mark>17J05735</mark> on the check.	

(Rev. December 2014) Department of the Treasury Internal Revenue Service

### **Request for Taxpayer Identification Number and Certification**

Give Form to the requester. Do not send to the IRS.

	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank						
	Mayo Clinic Jacksonville						
2	2 Business name/disregarded entity name, if different from above						
Print or type See Specific Instructions on page	3 Check appropriate box for federal tax classification; check only <b>one</b> of the following seven boxes:  Individual/sole proprietor or C Corporation S Corporation Partnership	☐ Trus	t/estate	certain en		apply only to dividuals; see 3):	
pe	single-member LLC			Exempt pa	yee code (if	any) 1	
CĘ Ż	Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership)  Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for		Exemption	from FATC	A reporting		
rt o	Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.		code (if ar	ny)	Α		
Print or type	✓ Other (see instructions) ► 501 (c) (3) tax-exempt nonprofit corporation	tion		(Applies to acc	counts maintaine	ed outside the U.S.)	
_ ∺	5 Address (number, street, and apt. or suite no.)	Requeste	r's name a	and address	(optional)		
bec	4500 San Pablo Road						
S)	6 City, state, and ZIP code	1					
Se	Jacksonville, FL 32224						
	7 List account number(s) here (optional)						
Pai	Taxpayer Identification Number (TIN)						_
	your TIN in the appropriate box. The TIN provided must match the name given on line 1 to a	void	Social se	curity numl	oer		
backı	up withholding. For individuals, this is generally your social security number (SSN). However,	for a	TT				
	ant alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For othe es, it is your employer identification number (EIN). If you do not have a number, see <i>How to g</i>		$\perp$	-	-		
	n page 3.		r				_
Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for							
guidelines on whose number to enter.							
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Par	t II Certification						
Unde	r penalties of perjury, I certify that:						
1. Th	e number shown on this form is my correct taxpayer identification number (or I am waiting for	r a numbe	er to be is	sued to m	e); and		
Se	2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and			m			
3. I a	m a U.S. citizen or other U.S. person (defined below); and						
4. The	e FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporti	ng is corre	ect.				
Certi	fication instructions. You must cross out item 2 above if you have been notified by the IRS	that you a	re curren	tly subject	to backup	withholding	g
beca	use you have failed to report all interest and dividends on your tax return. For real estate trans	sactions, i	tem 2 do	es not app	oly. For mo	ortgage	
ntere	st paid, acquisition or abandonment of secured property, cancellation of debt, contributions ally, payments other than interest and dividends, you are not required to sign the certification	to an indiv	must pro	irement ar ovide vour	correct TII	V. See the	
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Sign Here		)ate ▶	1/9	12017	7		_
C 01	• Form 1098 (home m	ortgage inte	erest), 109	8-E (studen	t loan intere	est), 1098-T	_

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

### Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

- 1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued).
- 2. Certify that you are not subject to backup withholding, or
- 3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- 4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See What is FATCA reporting? on page 2 for further information.

### 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 Lough-Gehrig Disease (Amyotropic 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 Uitti, 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 in Your Home Hugh Lloyd Jukes
1:30	Alzheimer's Disease- Future Therapies Neil Graff-Radford, MD
2:00	Machine Learning

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2:30	<b>Theme #1</b> - History of Convergence Science, Engineering, and National Academies Panel CEO and Academicians, Governmental and Industry Guru Madhavan, PhD Moderator: Alejandro Rabinstein, MD and Michael Pizzi, DO, PhD
3:00	<b>Theme #2</b> - 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,, PhD, <i>Mike Huerta PhD</i> Moderator: W. David Freeman, MD
3:30	<b>Theme #3</b> NINDS BRAIN initiative and Neural Engineering Challenges - Nick Langhai, 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

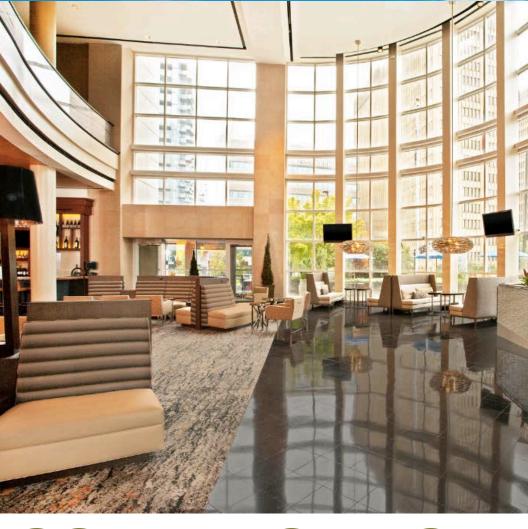
### Wednesday, October 25, 2017

# 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	<b>Theme #4</b> – 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	<b>Theme #5</b> - 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	<b>Theme #6</b> - 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



# **CONVERGENCE NEUROSCIENCE**

10.5 AMA PRA CATEGORY 1 CREDITS™

WESTIN BUCKHEAD ATLANTA, GA 0CT0BER 24–25, 2017

### **INTENDED AUDIENCE**

Convergence calls for groups within the biomedical, life sciences, physical science, engineering and other fields to come together to solve unmet health needs. This conference is meant to bring together various scientists with the aim of discovery of education gaps inherent to one's own discipline, as well as the potential for creative collaboration in shared problem solving.

### **COURSE LEARNING OBJECTIVES**

Upon conclusion of this program, participants should be able to:

- Discuss complex neurological conditions and challenges
- Identify emerging innovations and potential converged solutions
- Recognize convergence concepts
- Identify opportunities for scientific collaboration, discovery and problem solving
- Create a growing network of convergence neuroscience teams within Mayo Clinic and abroad

### **COURSE DESCRIPTION**

**Convergence:** coming together from different directions so as eventually to meet; the integration of different scientists to solve challenging real-world problems.

Storied institutions such as the National Academies, the Institute of Medicine and the Medical Research Council call for the unification of scientists from different disciplines to address problems unsolvable by any single discipline. Neuroscience in particular is ripe for a quantum leap forward—bench scientists, clinical investigators, and engineers are all advancing their respective fields. Imagine merging their investigations, combining the forces of chemistry, medicine, coding, biology, and robotics to penetrate the mysteries of the brain. This is Convergence.

Convergence Neuroscience will bring together researchers in life sciences, physical sciences, engineering and other fields to foster creative collaboration and develop penetrating insight. Join us, your expertise will deepen our experience.

The best interest of the patient is the only interest to be considered, and in order that the sick may have the benefit of advancing knowledge a "union of forces" is necessary.

- William J. Mayo, M.D.

### **CREDIT**

Mayo Clinic College of Medicine and Science is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Mayo Clinic College of Medicine and Science designates this live activity for a maximum of 10.5 *AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### AOA

This program has been accredited by the American Osteopathic Association for 10.5 credits of AOA Category 2-A.

### Other Health Care Professionals

A certificate of attendance will be provided to other health care professionals for requesting credits in accordance with state nursing boards, specialty societies, or other professional associations.

### **GRANTS AND EXHIBITS**

At the time of this printing, a complete listing of commercial supporters (financial or in-kind) was not available. Appropriate acknowledgment will be given to all supporters at the time of the meeting.

Exhibits will be available for viewing at all scheduled breaks.

### DATE AND LOCATION

The Mayo Clinic Convergence Neuroscience conference is held at the Westin Buckhead in Atlanta on October 24 and 25, 2017.

### **ONLINE REGISTRATION**

CE.MAYO.EDU/CN2017

The registration fee includes tuition, electronic course syllabus, continental breakfasts, break refreshments and lunch. Although it is not Mayo Clinic School of Continuous Professional Development (CPD) policy to limit the number of registrants for a course, conference room facilities may necessitate closing of enrollment; therefore, early registration is advised. A letter of confirmation will be sent upon receipt of payment and completed registration.

\$750 USD Physicians (MD/DO) and Scientists (PhD)

\$600 USD Residents, Physician Assistants and Nurse Practitioners

### **CANCELLATION POLICY**

If you cancel your participation in this course, your registration fee, less a \$75 administrative fee, will be refunded when written notification is received by Mayo Clinic School of CPD on or before Tuesday, October 10, 2017 (<a href="mailto:cme-jax@mayo.edu">cme-jax@mayo.edu</a>). No refunds will be made after Tuesday, October 10, 2017. Canceled registrations are non-transferable.

Mayo Clinic School of CPD reserves the right to cancel or postpone any course due to unforeseen circumstances. In the unlikely event Mayo Clinic School of CPD must cancel or postpone this course, Mayo Clinic School of CPD will refund the registration fee, but is not responsible for any related costs, charges, or expenses to participants, including fees assessed by airline/travel/lodging agencies.

For additional information, contact:

Mayo Clinic School of Continuous Professional Development

Website: ce.mayo.edu E-mail: cme-jax@mayo.edu Phone: 800-462-9633

### LODGING ACCOMODATIONS

### Westin Buckhead

3391 Peachtree Road, N.E. Atlanta 30326 +1 (800) 937-8461

Resort view rooms are reserved for attendees and their guests at the group rate of \$189 per night plus applicable taxes. In order to receive the special rate, reservations must be made before the room block is filled or before the expiration date of September 28, 2017, whichever comes first.

### **FACULTY**

### Course Directors

Kevin Barrett, M.D., W. David Freeman, M.D., Leonard Petrucelli, Ph.D., Michael Pizzi, D.O., Ph.D., Alejandro Rabinstein, M.D., Alfredo Quinones-Hinojosa, M.D.

### Co-Course Director

Kevin E. Bennet, Ph.D., M.B.A.

### Mayo Faculty

Thomas G. Brott, M.D., *Professor of Neurology and the Applebaum Endowed Neuroscience Professor* 

James D. Buntrock, Instructor of Biomedical Informatics and Vice Chair of information technology at Mayo Clinic leading Enterprise Technology Service

H. Gordon Deen, M.D., Professor of Neurosurgery

David Deyle, M.D., Assistant Professor of Medical Genetics

Neil Graff-Radford, M.D., *Professor of Neurology, Director of Alzheimer's Disease Research Center* 

Betty Kim, M.D., Ph.D., Assistant Professor of Cancer Biology and Neuroscience and Neurosurgery

Leonard Petrucelli, Ph.D., Professor and Chair of Neuroscience

Alfredo Quinones-Hinojosa, M.D., William and Charles Mayo Professor and Chairman of Neurologic Surgery

Alejandro Rabinstein, M.D., Professor of Neurology

Ryan Uitti, M.D., *Professor of Neurology, Deputy Director of Center of Science of Health Care Delivery* 

Greg Worrell, M.D., Ph.D., Professor of Neurology

Abba Zubair, M.D., Ph.D., Associate Professor of Laboratory Medicine and Pathology

### Keynote Speaker



Victor J. Dzau, M.D., President of the National Academy of Medicine (NAM) and Vice Chair of the National Research Council

### **Guest Faculty**

David Albert, M.D., Founder & Chief Medical Officer, AliveCor, Inc.

Jason Hallstrom, Ph.D., Professor and Director I-SENSE, Department of Electrical Enginering and Computer Science FAU

James Hickman, *Ph.D.,Professor, NanoScience Technology Center, Chemistry, Biomolecular Science and Electrical Engineering , University of Central Florida*Mike Huerta, Ph.D., *Associate Director of the US National Library of Medicine and NLM Coordinator of Data and Open Space Initiatives, NIH* 

Nick B. Langhals, Ph.D., Program Director for Neural Engineering within the Repair and Plasticity Cluster at the National Institute of Neurological Disorders and Stroke
Jin Hyung Lee, Ph.D., Assistant Professor of Neurology and Neurological Sciences,
Bioengineering, Neurosurgery, and Electrical Engineering (Courtesy), Stanford University

Babak Kateb, M.D., Founding Chairman of the Board of SBMT and Brain Mapping Foundation, Scientific Director of SBMT and Brain Mapping Foundation

Hugh Lloyd-Jukes, CEO of Oxehealth

Guru Madhavan, Ph.D., *Program Director National Academies of Sciences, Engineering and Medicine* 

Brad Rabinovitz, *Director of Research and Business Development, Longeviti Neuro Solutions* 

Ravinder Sajwan, CEO and Board Member, Renew Group

Theodore Willich, CEO NLP Logix, Machine Learning

Matt Berseth, NLP Logix Machine Learning

### **TUESDAY, OCTOBER 24, 2017**

Global Impact of Neuroscience Disorders and Opportunities for Convergence Discoveries

7:15 a.m. Registration and Continental Breakfast

### Thematic Global Challenges in Human Neuroscience Diseases: Cognitive, Artificial Intelligence and Bioinformatics

8:00	Introduction and Welcome
8:05	Moderator: W. David Freeman, MD History of Neurosciences Evolution and Global Neuroscience Challenges
8:30	W. David Freeman, MD Global Impact of Brain Cancer and the Cancer Moonshot: A Call to Action Alfredo Quinones-Hinojosa, MD
9:00	Global Epilepsy: Current Challenges and Potential Future Solutions  Greg Worrell, MD
9:30	Advancing Global Health through Patient Centered Outcomes: ICHOM Ryan Uitti, MD
10:00	Global Impact of Spine Disorders on Human Population by 2050  H. Gordon Deen, MD
10:30 10:45	Speaker Q&A Panel 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 in Your Home  Hugh Lloyd Jukes
1:30	Alzheimer's Disease- Future Therapies  Neil Graff-Radford, MD
2:00	Machine Learning
2:30	David E. Albert, MD  Theme #1 - History of Convergence Science, Engineering, and National
	Academies Panel CEO and Academicians, Governmental and Industry
	Guru Madhavan, PhD
3:00	Moderator: Alejandro Rabinstein, MD and Michael Pizzi, DO, PhD  Theme #2 - Translating Big Data to Action and Future of Big Data and
3.00	the Precision Medicine Initiative - <i>Q&amp;A James D. Buntrock</i> ,
	Jason Hallstrom, PhD, Paul Terry, PhD, Mike Huerta PhD
	Moderator: W. David Freeman, MD
3:30	Theme #3 - NINDS BRAIN initiative and Neural Engineering Challenges
	- Nick Langhal, 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: Alfredo Quinones-Hinojosa, MD
4:00	e-Posters
4:30	Adjourn
7.00	Αυμουπ

### WEDNESDAY, OCTOBER 25, 2017

Neuroscience & Convergence of Other Science Disciplines: Neuroscience, Physical, Engineering, and Cognitive Computing Science Challenges Discoveries

Moderators: Leonard Petrucelli, PhD, W.David Freeman, MD

8:00	Registration and Continental Breakfast
	Thematic Global Challenges Facing Basic, Translational, and Materials
0.00	Neuroscience
8:30	Introduction and Welcome
0.05	Moderator: W. David Freeman, M.D. and Len Petrucelli, PhD
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
0.00	Betty Kim, MD, PhD
9:30	Ontogenetic fMRI and the Investigation of Global Brain Circuit Mechanisms
0.00	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
	Lunch and Networking
1:00	Neuroscience Organ on a Chip Design for Rapid Phase I Drug Discovery
1.00	James Hickman, PhD
1:30	Neural Circuits and Mayo Neural Engineering Research
2:00	Kevin Bennet, PhD, MBA Mayo Clinic  Theme #4 - Artificial Intelligence and Maching Learning CEOs and Scientists:
2.00	Al Experiments with Google – Machine Learning and Drawing Art
	David Albert, MD; Jason Hallstrom, PhD
	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. Margaret Sutherland, PhD
	Moderators: W. David Freeman, MD and Len Petrucelli, PhD
3:30	Questions and Answers/ Online Examination /Adjourn

# SAVE THE DATE CONVERGENCE NEUROSCIENCE RITZ-CARLTON ST. THOMAS, U.S. VIRGIN ISLANDS NOVEMBER 8-10, 2018 CONVERGENCE NEUROSCIENCE RITZ-CARLTON ST. THOMAS, U.S. VIRGIN ISLANDS NOVEMBER 8-10, 2018

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