



CNS Neuroregeneration Strategies: Discovery and Implementation

ORGANIZING COMMITTEE

Philip J. Horner (Co-Chair)	Karim Fouad (Co-Chair)
Jose Contreras-Vidal	Gavin W. Britz
Sonia Villapol	Dimitry Sayenko

March 6, 2019

Marriott Houston Medical Center Ballroom – 2nd Floor Salon A-D
6580 Fannin Street, Houston, TX 77030

5:00–6:30pm	Registration, cocktail reception, and buffet dinner
6:30-7:00pm	Welcome Comments Philip Horner, PhD , Director, Center for Neuroregeneration, HMRI Karim Fouad, PhD , Professor, Rehabilitative Medicine, University of Alberta Gavin Britz, MD , Chair, Department of Neurosurgery, Houston Methodist
7:00-8:00pm	<i>Neural Repair: Clinical and Research Perspectives and Opportunities</i> , Keith Tansey, MD, PhD , Methodist Rehabilitation Institute
8:00-8:45pm	<i>Neuroengineering the Future of Basic and Clinical Research: Challenges and Opportunities</i> , Jose Contreras-Vidal, PhD , University of Houston

March 7, 2019 (Day 2)

All sessions will take place in The Houston Methodist Research Institute Bookout Auditorium on the 2nd floor
6670 Bertner Avenue, Houston, TX 77030

7:15-7:50am	Registration/Continental breakfast
7:50-8:00am	Introduction: Philip Horner, PhD

Session 1: Sprouting to Neurogenesis: Developmental Control

Moderator: **Philip Horner, PhD**, HMRI

8:00-8:30am	<i>Neural Activity and Neural Integration</i> , Takaki Komiyama, PhD , UCSD
8:30-9:00am	<i>LRRTM and Synapse Formation</i> , Tabrez Siddiqui, PhD , University of Manitoba
9:00-9:30am	<i>Functionally Distinct Neuronal Ensembles Within the Memory Engram</i> , Yingxi Lin, PhD , McGovern Institute
9:30-10:00am	<i>Astroglia and activity regulation of synaptogenesis</i> , Robert Krencik, PhD , HMRI
10:00-10:30am	Selected Trainee Presentation
10:30-10:45	Coffee Break



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Session 2: Specificity and Connectivity

Moderator: **Karim Fouad, PhD**, University of Alberta

10:45-11:15am	<i>Spinal Cord Biology at Single Cell Resolution</i> , Ariel Levine, MD, PhD , NIH Spinal Circuits and Plasticity Unit
11:15-11:45am	<i>Epigenetic Regulation of Networks</i> , Kristen L. Kroll, PhD , Washington U.
11:45-12:15pm	<i>Activity Patterns and Sensory System Development</i> , Yi Zuo, PhD , UCSC
12:15-12:45pm	Selected Trainee Presentation
12:45pm	Lunch buffet and poster viewing

Session 3: Conditioning and Plasticity

Moderator: **Jose Contreras-Vidal, PhD**, University of Houston

1:30-2:00pm	<i>Conditioning and Sensory Plasticity after SCI</i> , Armin Blesch, PhD , Indiana University
2:00-2:30pm	<i>Activity Dependent Sensory Neural Integration</i> , Ben Arenkiel, PhD , Baylor College of Medicine
2:30-3:00pm	<i>Closed Loop Stimulation: Motor Plasticity</i> , Steve Perlmutter, PhD , University of Washington
3:00-3:30pm	Selected Trainee Presentation
3:30-4:45pm	Session Breakouts
Panel A:	<i>System/Circuit Activity and Plasticity</i> Chairs: Karim Fouad and Pepe Contreras-Vidal
Panel B:	<i>Cell Stimulation, Fate and Integration</i> Chairs: Philip Horner , Ben Arenkiel , and Yi-Lan Weng
4:45-5:45pm	Poster Viewing
5:45pm	Adjourn
6:00pm	Presenter event at Houston Livestock Show and Rodeo Presenters meet in Research Institute 1 st Floor Lobby for shuttle to NRG Stadium



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March 8, 2017 (Day 3)

7:30-8:00am Continental breakfast

Session 4: Human Neural Plasticity: Neural Activity in the Patient

Moderator: **Phil Horner, PhD**, Houston Methodist

8:00-8:30am *Brain Machine Interface and Rehabilitative Training*, **Milos R. Popovic, PhD**, University of Toronto

8:30-9:00am *Neuromodulation of spinal networks to recover sensorimotor function*, **Dimitry Sayenko, MD, PhD**, Houston Methodist

9:00-9:30am Selected Trainee Presentation: *Synergy of spinal neuromodulation and rehabilitation*, **Peter Grahn, PhD**, Mayo Clinic

9:30-10:00am Coffee break

Session 5: Activity Dependent Plasticity – Neural Repair Systems

Moderator: **Robert Krencik, PhD**, Houston Methodist

10:00-10:30am *Intraspinal Microstimulation and Locomotor Plasticity*, **Vivian Mushahwar, PhD**, University of Alberta

10:30-11:00am *Combined Cortical and Spinal Stimulation and Chronic Injury Plasticity*, **Jack Martin, PhD**, City College of the City University of New York

11:00-11:30pm *Neuromodulation: Role of Midbrain Structures*, **Katinka Stecina, PhD**, University of Manitoba

11:30-12:00pm **Selected Trainee Presentation**

12:00-1:30pm **Session Breakout** * Working lunch during breakout sessions

Panel C: *Human Plasticity in the Acute and Chronically Injured*
Chairs: **Keith Tansey**, and **Gavin Britz**

Panel D: *Mechanisms of Activity Evoked Neural Stimulation*
Chairs: **Katinka Stecina** and **Vivian Mushahwar**



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Session 6: Emerging Topics

Moderator: **Keith Tansey, MD, PhD** Methodist Rehabilitation Center

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| 1:30-2:00pm | <i>Inflammation and Neural Plasticity in Rehabilitation</i> , Karim Fouad, PhD , University of Alberta |
| 2:00-2:30pm | <i>Hebbian Plasticity and Transplanted Neural Stem Cell Integration</i> , Philip Horner, PhD , Houston Methodist |
| 2:30-3:00pm | <i>Targeting the peripheral organs to repair the injured brain</i> , Sonia Villapol, PhD , Houston Methodist |
| 3:00-3:30pm | Selected Trainee Presentation: Mechanisms of Glial-Regulated Synaptic Plasticity After Injury , Joshua Burda, PhD , UCLA |
| 3:30-4:30pm | Proposal blitz and mini-grant awards |
| 4:30-5:00pm | Closing comments and adjournment
Philip Horner PhD , Houston Methodist and Karim Fouad, PhD , University of Alberta |