

16th International Symposium on Neural Regeneration

Day 1: Monday – November 30, 2015

Session 1: Welcome and Opening Keynote

7:30PM **Keynote Lecture**
Jonas Frisen (*Karolinska Institute, Sweden*)
Cellular plasticity in the intact and injured central nervous system

Day 2: Tuesday – December 1, 2015

Session 2: Transcriptional & Epigenetic Regulation of Axon Growth

Chair: Simone Di Giovanni

8:15AM **Chair Opening Remarks**

8:30AM **Simone Di Giovanni** (*Imperial College, London*)
Reactive oxygen species-dependent signaling for nerve regeneration

9:00AM **Valeria Cavalli** (*Washington University, MO*)
Activating a regeneration program with hypoxia

9:30AM **Murray Blackmore** (*Marquette University, WI*)
Novel therapeutic gene targets for spinal cord injury

10:00AM **Bermans (Benny) Iskandar** (*University of Wisconsin, WI*)
CNS axon regeneration failure, folate and epigenetics

10:30AM **Break**

11:00AM **Featured Speaker**
Ben Barres (*Stanford University, CA*)
What do reactive astrocytes do?

12:00PM **Lunch**

1:00PM **Featured Speaker**
Viviana Gradinaru (*Caltech, CA*)
Tools for anatomical and functional analysis of widely distributed biological networks

2:00PM **Oral Poster Data Blitz**

3-5:00PM **Poster Viewing – Session 1**
(posters #1-#55)

6:00PM **Dinner**

Session 3: Non-Mammalian Models of Neural Regeneration

Chair: Juan Larrain

7:15PM **Chair Opening Remarks**

7:30PM **Juan Larrain** (*Pontificia Universidad Católica de Chile*)
Molecular and cellular mechanisms of spinal cord regeneration in amphibians

8:00PM **Catherina Becker** (*University of Edinburgh, Scotland*)
Successful regeneration of the zebrafish spinal cord

8:30PM **Michael Brand** (*Technical University of Dresden*)
Regeneration of the adult zebrafish brain: the role of lineage conversion

9:00PM **Hollis Cline** (*Scripps, San Diego*)
Convergence of nutrient and injury response pathways in Xenopus CNS Repair

Wednesday – December 2, 2015

Session 4: Neural Devices & Plasticity

Chair: Chet Moritz (University of Washington, Seattle)

8:15AM **Chair Opening Remarks**

8:30AM **Tim Gardner** (*Boston University, MA*)
Cell-type specific rule for neural plasticity underlying a stereotyped behavior

9:00AM **Yukio Nishimura** (*National Institute for Physiological Sciences, Japan*)
Rewiring the damaged pathways via a neural interface

9:30AM **Monica Perez** (*University of Miami, FL*)
Plasticity in the corticospinal system after spinal cord injury

10:00AM **Jeff Ojemann** (*University of Washington, Seattle*)

Human cortex reorganization when interacting with a BCI

10:30AM **Break**

11:00AM **Featured Speaker**

Michael Levin (*Tufts University, Boston*)

Endogenous bioelectrical networks in non-excitable tissue control regeneration of the CNS and complex organ patterning

Session 5: DEBATE

Moderator: Gordon Mitchell (University of Florida, Gainesville)

7:15PM **Proposition: CST regeneration is required for restoration of hand function**

Thursday – December 3, 2015

Session 6: Creating New Connections: Young Investigators Improving Spinal Cord Repair

Chair: Leanne Ramer (iCORD, Canada)

8:15AM **Chair Opening Remarks**

8:30AM **David Stirling** (*University of Louisville, KY*)

Manipulating intra-axonal Ca²⁺ stores to limit secondary axonal degeneration following SCI

8:45AM **Erica Dale** (*UCLA, CA*)

Cervical spinal stimulation and respiratory recovery after upper cervical spinal cord injury

9:00AM **Kai Zhang** (*University of Illinois at Urbana-Champaign, IL*)

Resolving intracellular mechanisms of neurotrophin-mediated signal transduction via optogenetics

9:15AM **Katalin Bartus** (*Kings College, London*)

Neuregulin-1 controls an endogenous repair mechanism after spinal cord injury

9:30AM **Bhagat Singh** (*Harvard Medical*

School, MA)

Molecular determinants of axonal regeneration

9:45AM **Andrew Gaudet** (*University of Colorado, Boulder*)

microRNA-155 deletion improves spinal cord repair

10:30AM **Break**

11:00AM **Featured Speaker**

Brian Kaspar (*Nationwide Children's Research Hospital, Columbus, OH*)

Bench to Bedside for SMA: Gene therapy for neuroprotection

12:00PM **Lunch**

1:00PM **Oral Poster Data Blitz**

2-4:00PM **Poster Viewing (Session 2)**
(posters #56-#110)

Session 7: Emerging Topics and Closing Keynote

4:00PM **Emerging Topics**

Jeffrey Iliff (*Oregon Health & Science University, Portland*)

Impairment of glymphatic pathway function in the aging brain: sleep, waste and neurodegeneration

5:00PM **Keynote Lecture**

Mary Bunge (*University of Miami, FL*)

My travels with Schwann cells, from bench to bedside

7-9:00PM **Symposium Banquet & Awards Presentation**

Friday – December 4, 2015

Departure