RESEARCH UPDATE IN NEUROSCIENCE FOR NEUROSURGEONS (RUNN) COURSE
DIRECTORS AND FACULTY
October 27 – November 3, 2018

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Introduction :   Welcome,  Introduction,  and Course Objectives

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Lecture Title: "Philosophy of Science in Relevance to Neurosurgery" and "Deconstructing a Neurosurgical Disease: A Path to Therapy for Cerebral Cavernous Malformation"
Henry Brem, M.D.
Chairman of Neurosurgery
Harvey Cushing Professor of Neurosurgery
Professor of Oncology and Ophthalmology
The Johns Hopkins Hospital
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Lecture Title: “Brain Tumor Therapy”

E. Antonio Chiocca, M.D., Ph.D.
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Co-Director, Institute for the Neurosciences at the Brigham
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Lecture Title: “Translational Therapeutics for Brain Tumors: From the Lab to the Clinic & Back”

Robert Dempsey, M.D.
Manucher J. Javid Professor & Chairman
Surgical Director of Multidisciplinary Stroke Program
Department of Neurological Surgery
University of Wisconsin Hospital and Clinics
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Lecture Title: “Inspiration and Neurosurgical Research - How to Start a Project, Grant or Paper”
and “Rethinking Neurosurgery's Role in Cerebrovascular Disease”

FACULTY

Larry Benowitz, Ph.D.
Professor of Surgery and Ophthalmology, Harvard Medical School
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Lecture Title: “Rewiring the Injured CNS”
Edward Benzel, M.D.  
Emeritus Chairman, Department of Neurosurgery  
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Lecture Title: “Spine, Biomechanics, Clinical Practice, and the Quest of Academic Excellence”

Kerry Bernstein, Program Manager  
Principal Scientist, MTSI,  
Alexandria, VA  
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Lecture Title: “The Arts and Sciences of Integrity”

John Boockvar, M.D.  
Director, Brain Tumor and Pituitary/Neuroendocrine Center  
Division of Neurosurgery  
New York Head and Neck Institute  
Lenox Hill Hospital/ Manhattan Eye, Ear and Throat Hospital  
Investigator, Laboratory for Brain Tumor Biology and Therapy  
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Lecture Title: "Intra-arterial Chemotherapy After Blood Brain Barrier Disruption to Target the Glioma Stem Cell Niche"

Edward Boyden, Ph.D.  
Y. Eva Tan Professor in Neurotechnology at MIT  
Associate Professor, MIT Media Lab and McGovern Institute,  
Departments of Biological Engineering and Brain and Cognitive Sciences  
Co-Director, MIT Center for Neurobiological Engineering  
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Lecture Title: “Tools for Understanding and Repairing the Brain”
Mark P. Burns, Ph.D.
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Lecture Title: “Acute CNS Injury and Chronic Neurodegenerative Disease: Common Pathways and Therapeutic Targets”

V. Reggie Edgerton, Ph.D.
Director of the Neuromuscular Research Laboratory within the Department of Integrative Biology and Physiology, and Departments of Neurobiology and Neurosurgery, Brain Research Institute.
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Lecture Title: “Activity Dependent Mechanisms that Enhance Sensorimotor Function Following Spinal Cord Injury”

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Lecture Title: “The Search for Truth in Spinal Surgery: Are we Prepared for What Comes Next?”
Alexandra J. Golby, M.D.
Haley Distinguished Chair in the Neurosciences
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Professor of Radiology, Department of Radiology
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Lecture Title: “Advanced Imaging and Image Analysis for Neurosurgical Planning and Intraoperative Guidance”

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Lecture Title: “Next Generation Genomics”

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Lecture Title: “Academic Neurosurgery and Global Health”

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Lecture Title: “Issues in Neurosurgical Clinical Research”
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Lecture Title: “Connectomics”

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Lecture Title: “Brain Circuitry and Human Behavior: What Can Go Wrong and What Can We Do About It?”

Joseph R. Madsen, M.D.
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Lecture Title: “Signals and Systems in the Human Brain: Water and Electricity”
Rajiv Midha, MSc, MD, FRCSC, FAANS, FCAHS  
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Lecture Title: “Peripheral Nerve Regeneration and Repair: Possibilities and Challenges”

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Lecture Title: “Glioblastoma Multiforme: Advances Beyond the Leading Edge”

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Lecture Title: “Translational Studies in Tuberous Sclerosis Complex”
Jeremy Schmahmann, M.D.
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Lecture Title: “Systems Neuroscience of Cerebral White Matter Tracts and Cerebellar Cognition”

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Lecture Title: “Clinically Actionable Fiber Tracking in Neurosurgery & Traumatic Brain Injury: MRI Tract Visualizations with Quality Exceeding Microdissection”

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Lecture Title: “Advances in High Performance Brain-Controlled Prosthetics”

Marc Simard, M.D., Ph.D.
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Lecture Title: "The SUR1-TRPM4 Channel - a Critical Player in CNS Ischemia and Trauma"
Beth Stevens, Ph.D.
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Lecture Title: “Wiring and Unwiring the Brain: Role of Glia and Immune Molecules”