The American Society for Stereotactic and Functional Neurosurgery (ASSFN) serves as an affiliate joint section of the CNS and AANS, and remains deeply involved in a variety of educational, organizational and advocacy activities, on behalf of North American functional neurosurgeons.
On behalf of the American Society for Stereotactic and Functional Neurosurgery, it is our great pleasure to welcome you to the 2016 ASSFN Biennial Meeting at the historic InterContinental Hotel in Chicago, Illinois!

Our scientific program committee has put together an outstanding educational program covering the latest clinical and research advances in epilepsy, movement disorders, pain, neural engineering, and emerging technologies. We’re pleased to bring you an impressive array of internationally acclaimed speakers, and we also welcome Honored Guest Kim J. Burchiel, the John Raaf Professor and Chairman of the Department of Neurological Surgery at Oregon Health & Science University.

This meeting promises to be an exciting and thought-provoking venue for scientific exchange and innovation with daily Breakfast Seminars, Special Courses, and Plenary Sessions. Our Parallel Sessions give you maximum flexibility to tailor your learning with eight unique session offerings. Top-ranked abstract oral presentations cover the latest in new clinical applications, emerging technologies, and recent discoveries in basic science and mechanisms. Enjoy uninterrupted time to view scientific posters on Monday afternoon’s poster session with wine and cheese in the Grand Ballroom balcony, and be sure to take advantage of the refreshment breaks and sponsored lunches with exhibitors in the exhibit hall.

From Sunday evening’s opening reception to Wednesday’s closing ASSFN award ceremony, enjoy the many opportunities to connect with your peers. For fun and relaxation, the magnificent city of Chicago is right outside your doorstep.

Thank you again for joining us at the 2016 ASSFN Biennial Meeting. We hope your meeting experience is exceptional.

Aviva Abosch, MD, PhD
ASSFN President

Konstantin V. Slavin, MD
Meeting Chairman

Joshua M. Rosenow, MD, FACS
Meeting Co-Chairman and Local Arrangements Chairman

Peter Konrad, MD, PhD
Scientific Program Chairman

Brian H. Kopell, MD
Scientific Program Chairman
Kim J. Burchiel, MD, FACS, FAANS, is the John Raaf Professor and Chairman of the Department of Neurological Surgery at Oregon Health and Science University in Portland, Oregon. Dr. Burchiel attended undergraduate school at the University of California Davis and completed his residency in neurological surgery at the University of Washington in 1982. He remained on the faculty in the Department of Neurosurgery, serving as assistant professor and chief of neurosurgery at the Seattle VA Medical Center. In 1988, Dr. Burchiel accepted the position of professor and head of the Division of Neurosurgery at Oregon Health & Science University in Portland. Dr. Burchiel is past chairman of the Joint Section on Pain, past president of the American Board of Pain Medicine, past president of the Society of University Neurosurgeons, and past president of the Western Neurosurgical Society. He has been a director and vice chairman of the American Board of Neurological Surgery, a past secretary and president of the Society of Neurological Surgeons, and is currently a member and chairman of the ACGME Residency Review Committee for neurological surgery.

Dr. Burchiel also directs the functional and stereotactic neurosurgery fellowship program at OHSU, which encompasses the surgical treatment of pain, movement disorders, and epilepsy. Since 1994, he has trained over 42 fellows in functional and stereotactic neurosurgery. His major clinical interests are deep brain stimulation for movement disorders and other conditions, and the surgical treatment of facial pain, particularly trigeminal neuralgia. His research interests are concerned with the physiology of nociception and neuropathic pains, including trigeminal neuralgia, the neurological treatment of movement disorders, epilepsy surgery, and image-guided neurosurgery. He has published over 300 peer-reviewed articles and chapters, and his five published textbooks include The Surgical Management of Pain (1st and 2nd editions), Spinal Cord Injury Pain: Assessment, Mechanisms, Management, and Microelectrode Recording in Movement Disorder Surgery. He and his wife, Debra, have four children and live in Portland, Oregon.
Aviva Abosch  
University of Colorado  
Anschutz Medical Campus  
Aurora, CO

Ron L. Alterman  
Beth Israel Deaconess Medical Center  
Boston, MA

William S. Anderson  
The John Hopkins Hospital  
Towson, MD

A. Vania Apkarian  
Northwestern Medicine  
Chicago, IL

Jeffrey E. Arle  
BIDMC—Harvard Medical School  
Boston, MA

Gordon H. Baltuch  
Pennsylvania Hospital  
Philadelphia, PA

Giancarlo Barolat  
Barolat Neuroscience  
Denver, CO

Nicholas M. Boulis  
Emory Healthcare  
Atlanta, GA

Kim J. Burchiel  
Oregon Health & Science University  
Portland, OR

Edward F. Chang  
University of California, San Francisco  
San Francisco, CA

G. Rees Cosgrove  
Brigham and Women's Hospital  
Boston, MA

Daniel Curry  
Texas Children’s Hospital  
Houston, TX

David Eidelberg  
NIH Morris K. Udall Center of Excellence for Parkinson’s Disease Research  
Manhasset, NY

W. Jeffrey Elias  
University of Virginia Health Systems  
Charlottesville, VA

Emad N. Eskandar  
Massachusetts General Hospital  
Boston, MA

Steven M. Falowski  
St. Lukes Neurosurgical Associates  
Bethlehem, PA

D. Luke Fischer  
MSU College of Human Medicine  
Grand Rapids, MI

Kenneth A. Follett  
University of Nebraska Medical Center  
Omaha, NE

Wayne Goodman  
Mount Sinai Hospital  
New York, NY

Daniel Graupe  
University of Illinois at Chicago  
Chicago, IL

Warren Grill  
Duke University  
Durham, NC

Robert E. Gross  
The Emory Clinic  
Atlanta, GA

Costas G. Hadjipanayis  
Mount Sinai Beth Israel  
New York, NY

Clement Hamani  
University of Toronto Western Hospital  
Toronto, ON

Mojgan Hodaie  
Toronto Western Hospital  
Toronto, ON

Kathryn L. Holloway  
Medical College Of Virginia  
Richmond, VA

Christopher Honey  
Vancouver General Hospital  
Vancouver, BC

Paul A. House  
University of Utah  
Salt Lake City, UT

Michael Gordon Kaplitt  
Weill Cornell Medicine  
New York, NY
INVITED SPEAKERS

Phil Kennedy
Neural Signals Inc.
Duluth, GA

Daniel Hwan Kim
University of Texas at Houston
Houston, TX

Zelma HT Kiss
University of Calgary Foothills Hospital
Calgary, AB

Michael V. Knopp
Wexner Medical Center at The Ohio State University
Columbus, OH

Peter Konrad
Vanderbilt University
Nashville, TN

Brian H. Kopell
Mount Sinai Medical Center
New York, NY

Shivanand P. Lad
Duke University Medical Center
Durham, NC

Paul Larson
University of California, San Francisco
San Francisco, CA

Kendall H. Lee
Mayo Clinic
Rochester, MN

Eric C. Leuthardt
Washington University School of Medicine
St. Louis, MO

Robert M. Levy
The Marcus Neuroscience Institute
Boca Raton, FL

Darlene A. Lobel
Cleveland Clinic
Cleveland, OH

Andres M. Lozano
Toronto Western Hospital
Toronto, ON

Andre Machado
Cleveland Clinic
Pepper Pike, OH

George T. Mandybur
Mayfield Clinic
Cincinnati, OH

Helen S. Mayberg
Emory University
Atlanta, GA

Lee E. Miller
Northwestern University
Chicago, IL

Jonathan Miller
University Hospitals of Cleveland Case Medical Center
Cleveland, OH

Marie Mindeman
American Medical Association
Chicago, IL

Alon Y. Mogilner
New York University
New York, NY

Joseph Samir Neimat
Vanderbilt University
Nashville, TN

Cyndy Novak
Medtronic
Minneapolis, MN

Rafael O’Halloran
Mount Sinai Hospital
New York, NY

Steven Ojemann
University of Colorado School of Medicine
Aurora, CO

Katie O. Orrico
AANS/CNS Washington Office
Washington, DC

Satinderpall S. Pannu
Lawrence Livermore National Laboratory
Livermore, CA

Andrew G. Parrent
University of Western Ontario
London, ON

Neepa Patel
Henry Ford Health System
West Bloomfield, MI

Parag G. Patil
University of Michigan Health System
Ann Arbor, MI

Erika A. Petersen
University of Arkansas for Medical Sciences
Little Rock, AR
INVITED SPEAKERS

Julie G. Pilitsis
Albany Medical Center
Albany, NY

Robert Plunkett
University at Buffalo
Orchard Park, NY

Francisco A. Ponce
Barrow Neurological Associates
Phoenix, AZ

Ritesh Ramdhani
Mount Sinai Hospital
New York, NY

Ahmed M. Raslan
Oregon Health & Science University
Portland, OR

Ali R. Rezai
The Ohio State University
Wexner Medical Center
Columbus, OH

Michael Rezak
Northwestern Medicine
Winfield, IL

Erich O. Richter
WVU Neurosurgery
Morgantown, WV

David W. Roberts
Dartmouth-Hitchcock Medical Center
Lebanon, NH

Joshua M. Rosenow
Northwestern University Medical School
Chicago, IL

Oren Sagher
University of Michigan Health System/Neurosurgery
Ann Arbor, MI

Sepehr B. Sani
Rush University Medical Center
Chicago, IL

Michael Schulder
Brain Tumor Center
Lake Success, NY

Jason M. Schwalb
Henry Ford Health System
West Bloomfield, MI

Ashwini Dayal Sharan
Thomas Jefferson University
Philadelphia, PA

Konstantin V. Slavin
University of Illinois at Chicago
Chicago, IL

Byung Chul Son
Suwon, Korea

Philip A. Starr
University of California
San Francisco
San Francisco, CA

James L. Stone
University of Illinois at Chicago
Chicago, IL

Ann R. Stroink
OSF HealthCare
Bloomington, IL

Jennifer A. Sweet
University Hospitals Case Medical Center
Cleveland, OH

Nitin Tandon
University of Texas Medical School
Houston, TX

Nestor Tomycz
Allegheny General Hospital
Pittsburgh, PA

Ashwin Viswanathan
Baylor College of Medicine
Houston, TX

Peter C. Warnke
University of Chicago
Chicago, IL

Chengyuan Wu
Thomas Jefferson University
Philadelphia, PA
Introducing M*Vision Pro™ Software Featuring TruTemp™ Technology

Only with NeuroBlate® TruTemp™ Technology's algorithmic adjustments can you help to minimize your risk of over or under treating brain lesions. TruTemp™ was developed to account for the variables that negatively influence the accuracy of thermometry during laser ablation.

Visit us at Booth #111 and attend the luncheon seminar on Sunday, June 19 at noon for more information.

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THANK YOU TO 2016 ASSFN BIENNIAL MEETING SUPPORTER
Introducing M*Vision Pro™ Software

Featuring TruTemp™ Technology

Only with NeuroBlate® TruTemp™ Technology’s algorithmic adjustments can you help to minimize your risk of over or under treating brain lesions.

TruTemp™ was developed to account for the variables that negatively influence the accuracy of thermometry during laser ablation.

Visit us at Booth #111 and attend the luncheon seminar on Sunday, June 19 at noon for more information.
SPECIAL COURSE 1
Functional Neurosurgery Essentials for Residents: Didactics, Simulations, and Hands-on Practicum
Course Director: Robert E. Gross
Faculty: Jeffrey E. Arle, Steven M. Falowski, Paul A. House, George T. Mandybur, Steven Ojemann, Andrew G. Parrent, Francisco A. Ponce, Jennifer A. Sweet, Nitin Tandon
Learning Objectives: Upon completion of this course, participants will be able to:
• Describe, plan, and increase skills for implantation of deep brain stimulators for movement disorders.
• Discuss role, principles, and anatomical approaches to epilepsy surgery.
• Review methods and increase skills for spinal cord stimulation.
• Describe role and principles of lesions for pain disorders.

8:00 – 10:00 am
Movement Disorders
Paul House, Steve Ojemann, Francisco Ponce

10:00 – 10:30 am
Beverage Break

10:30 – 12:30 am
Epilepsy
Andrew Parrent, Jennifer Sweet, Niton Tandon

12:30 – 1:30 pm
Lunch and Lecture:
  Destructive Procedures for Pain Disorders
  George T. Mandybur
  Case Studies and Complications
  All faculty

1:30 – 3:05 pm
Minimally Invasive Epilepsy Surgery
Robert E. Gross, Paul A. House, Steven Ojemann, Andrew G. Parrent, Jennifer A. Sweet, Nitin Tandon

3:05 – 3:25 pm
Beverage Break

3:25 – 5:00 pm
Spinal Cord Stimulation and Pumps
Jeffrey E. Arle, Steven M. Falowski, George T. Mandybur

Educational Grant provided by Medtronic.
SPECIAL COURSE 2
DBS: Primer for NPs and PAs

Course Directors: Ritesh Ramdhani, Jason M. Schwalb
Speakers: Cyndy Novak, Neepa Patel, Ritesh Ramdhani, Michael Rezak, Jason M. Schwalb

Course Description: Deep Brain Stimulation (DBS) has emerged as a viable and safe therapeutic option for a variety of neurological disorders that have become refractory to pharmacological treatment. This course will provide nurse practitioners and physician assistants with an understanding of clinical and surgical aspects of DBS for the treatment of Parkinson’s Disease, Essential Tremor, and Dystonia. The presentations will also provide information on patient selection and programming approaches, as well as troubleshooting strategies. This course is intended for nurse practitioners and physician assistants who want to be more involved with evaluating and/or programming movement disorders patients treated with Deep Brain Stimulation.

Learning Objectives: Upon completion of this course, participants will be able to:
- Review the patient selection criteria of DBS for Parkinson’s Disease, Essential Tremor, and Dystonia.
- Provide insights into the various neural targets implanted with DBS and their role and clinical benefit for each condition.
- Discuss programming approaches for each condition and brain target, including electrical parameters, medication adjustments, and response time frame.
- Provide an overview of the stereotactic surgical implantation of DBS, technical considerations (i.e., IPGs, leads), and troubleshooting hardware complications.

1:00 – 2:00 pm
DBS for Parkinson’s Disease
Ritesh Ramdhani

2:00 – 2:10 pm
Break

2:10 – 2:40 pm
DBS for Tremor
Michael Rezak

2:40 – 3:10 pm
DBS for Dystonia
Neepa Patel

3:10 – 3:20 pm
Break

3:20 – 4:05 pm
Surgical Procedure
Jason M. Schwalb
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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| 4:05 – 4:35 pm | Coding and Reimbursement for Midlevels  
                | Cyndy Novak                                             |
| 4:35 – 5:00 pm | Questions and Discussion                               |

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:00 – 5:00 pm</td>
<td>Burnham Room</td>
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<tr>
<td></td>
<td>SPECIAL COURSE 3</td>
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<td>The Economics of Functional Neurosurgery</td>
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<td></td>
<td>Course Director: Joshua M. Rosenow</td>
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</table>
|              | Faculty: Darlene A. Lobel, Marie Mindeman, Katie O. Orrico,  
                | Julie G. Pilitsis, Ann R. Stroink                      |
|              | Learning Objectives: Upon completion of this course,   |
|              | participants will be able to:                           |
|              | • Discuss how physicians and hospitals are reimbursed for |
|              |    functional neurosurgery procedures.                  |
|              | • Review the process of creating CPT codes and their RVU |
|              |    values.                                              |
|              | • Identify the role of physician advocacy in neurosurgery.|
| 1:00 – 1:10 pm | Introduction and Welcome  
                | Joshua Rosenow                                          |
| 1:10 - 1:40 pm | DBS Surgery: Building a Practice and Coding  
                | Darlene Lobel                                           |
| 1:45 – 2:15 pm | Surgery for Chronic Pain: Building a Practice and Coding  
                | Julie Pilitsis                                           |
| 2:20 – 2:50 pm | Epilepsy Surgery: Building a Practice and Coding  
                | Joshua Rosenow                                          |
| 2:55 – 3:25 pm | CPT and RUC Process—View from the AMA  
                | Marie Mindeman                                          |
| 3:30 – 4:00 pm | Washington Committee Update  
                | Katie Orrico                                            |
| 4:05 – 4:35 pm | Physician Advocacy                                     |
| 4:40 – 5:00 pm | Roundtable Discussion                                  |
SUNDAY, JUNE 19, 2016

6:30 am – 7:00 pm  5th Floor Foyer
REGISTRATION

7:00 – 8:00 am  King Arthur Court
BREAKFAST SEMINAR 1
Ethical Issues in Neurosurgery
Moderator: Andres M. Lozano
Speakers: Edward F. Chang, Daniel Curry, Phil Kennedy, Michael Schulder
Learning Objectives: Upon completion of this session, participants will be able to:
• Describe current state of psychiatric neurosurgery.
• Use scientific evidence in choosing proper management approach to rare clinical conditions.
• Discuss ethical principles applicable to current functional neurosurgical interventions.

7:00 – 7:12 am  Neurorsurgical Self-experimentation
Phil Kennedy

7:12 – 7:24 am  Research Ethics in Intracranial Neuroscience
Edward F. Chang

7:24 – 7:36 am  Psychosurgery Revisited: A Historical Reappraisal
Michael Schulder

7:36 – 7:48 am  How to Choose the Right Intervention? The Case of Hypothalamic Hamartomas
Daniel Curry

7:48 – 8:00 am  Discussion and Questions

8:00 – 9:30 am  Grand Ballroom
PLENARY SESSION 1
ASSFN 2016 – State of Affairs
Moderators: Brian H. Kopell, Peter Konrad
Speakers: Aviva Abosch, Emad N. Eskandar, Kenneth A. Follett, Konstantin V. Slavin, James L. Stone
Learning Objectives: Upon completion of this session, participants will be able to:
• Review the history of stereotactic and functional neurosurgery and its impact on neurosurgery today.
• Discuss the importance of pain as a disease in America.
• Identify current short comings and future needs for pain management in America.

8:00 – 8:10 am  Welcome and Opening Address
Konstantin V. Slavin
8:10 – 8:30 am
Chicago’s History of Functional and Stereotactic Neurosurgery
James L. Stone

8:30 – 9:00 am
Relieving Pain in America—IOM Follow-up
Kenneth A. Follett

9:00 – 9:05 am
Introduction of ASSFN President
Emad N. Eskandar

9:05 – 9:30 am
Presidential Address
Aviva Abosch

9:30 – 10:00 am
Morning Break
Grand Ballroom Foyer
Sponsored by:

10:00 am – 12:00 pm
Grand Ballroom
PLENARY SESSION 2
Movement Disorders 1
Moderators: Robert E. Gross, Andre Machado
Speakers: Kendall H. Lee, Joshua M. Rosenow, Philip A. Starr
Learning Objectives: Upon completion of this session, participants will be able to:
• Describe the concept of connectomes in the brain and their implication for functional neurosurgery.
• Discuss the value of DBS versus best medical therapy in the treatment of movement disorders.
• Provide examples of where closed loop therapy is and will be used in DBS therapy.

10:00 – 10:20 am
Connectivity of the Brain: Implications for Our Specialty
Philip A. Starr

10:20 – 10:40 am
Is DBS Cost-effective vs. BMT in 2016?
Joshua M. Rosenow

10:40 – 11:00 am
Closed-loop Feedback in DBS: Where the Opportunities Exist
Kendall H. Lee

11:00 am – 12:00 pm
Open Papers

11:00 – 11:06 am
101 Subthalamic Local Field Potentials in Parkinson’s Disease and Isolated Dystonia: An Evaluation of Potential Biomarkers
Doris D. Wang, Coralie de Hemptinne, Svjetlana Miocinovic, Jill L. Ostrem, Philip A. Starr
11:07 – 11:13 am
102 Stereotactic Accuracy of a Compact, Mobile Intraoperative MRI
Nina Kohn, Dishen Lin, Daniel J. Markowitz, Sussan Salas, Michael Schulder

11:14 – 11:20 am
103 Atlas-independent, Individualized Mapping of the Optimal Locus of Subthalamic DBS
Erin Conrad, Kelvin Chou, Parag G. Patil

11:21 – 11:27 am
Layla Houshmand, Ashutosh Chaturvedi, Kelvin Chou, Cameron McIntyre, Parag G. Patil

11:28 – 11:34 am
105 Incisionless Transcranial MR-guided Focused Ultrasound in Essential Tremor: Cerebellothalamic Tractotomy
Marc N. Gallay, Daniel Jeanmonod

11:35 – 11:41 am
106 MR Guided Focused Ultrasound Thalamotomy for the Treatment of Essential Tremor: Pivotal Study Results
Ryder Gwinn, Nir Lipsman, Travis S. Tierney, Howard M. Eisenberg, Pejman Ghanouni, W. Jeffrey Elias

11:41 am – 12:00 pm
Discussion and Questions

12:00 – 1:00 pm
King Arthur Court
Non-CME Sponsored Lunch
Real-time iMRI Guidance and Laser Ablation Move into the Mainstream
Speakers: Veronica Chiang, Paul S. Larson

1:00 – 2:50 pm
Grand Ballroom
PLENARY SESSION 3
Psychiatric Disease
Moderators: Emad N. Eskandar, Joseph S. Neimat
Speakers: Wayne Goodman, Brian H. Kopell, Ali R. Rezai
Learning Objectives: Upon completion of this session, participants will be able to:
- Explain the physiological relationship of the habenula to major depression and where therapeutic options may exist.
- Provide examples as to where neuromodulation has challenges in treating major depression.
Review the role of transcranial magnetic stimulation in treating psychiatric disorders and what its relationship is to other forms of surgical neuromodulation.

1:00 – 1:20 pm
Habenula: Its Role in Psychobiology of Depression
Wayne Goodman

1:20 – 1:40 pm
Failures in Psychiatric Neuromodulation: Where Do We Go From Here?
Ali R. Rezai

1:40 – 2:00 pm
TMS and Psychiatric Conditions: From the Diagnostic to the Therapeutic
Brian H. Kopell

2:00 – 2:50 pm
Open Papers

2:00 – 2:06 pm
107 Rates of Serious Adverse Psychiatric Events Post-subgenual Cingulate Cortex Deep Brain Stimulation for Psychiatric Illness: A Single-centre, Prospective Follow-up Study
Peter Giacobbe, Andres M. Lozano, Nir Lipsman, Francesco Sammartino, Nathan Christopher Rowland

2:07 – 2:13 pm
108 Long-term Outcome of Dorsal Anterior Cingulotomy for Treatment-resistant Depression
Danika L. Paulo, Paul McCormick Jr., Anna Gilmour, Rachel Franklin, Valerie Giorgione, Sameer A. Sheth, Emad N. Eskandar, Darin D. Dougherty

2:14 – 2:20 pm
109 The Proper Target for OCD DBS Is Individualized for Each Patient Along the Striatum Depending on the Content of the Obsessions
Juan A. Barcia, Josue Moises Avecillas-Chasin, Jose Angel Pineda-Pardo, Rocio Arza, Blanca Reneses, Julia Garcia-Albea, Bryan Strange

2:21 – 2:27 pm
110 Recognition Memory Enhancement for Neutral Images After Brief Electrical Stimulation to the Human Amygdala

2:28 – 2:34 pm
111 Deep Brain Stimulation of the Basolateral Nucleus of the Amygdala for Treatment-refractory Post-traumatic Stress Disorder
Jean-Philippe Langevin, Ralph Koek, Holly Schwartz, James Chen, David Sultzer, Mark Mandelkern, Alexis Kulick, Scott Krahl
2:34 – 2:50 pm
Discussion and Questions

2:45 – 8:00 pm Renaissance Ballroom
EXHIBIT HALL HOURS

2:50 – 3:10 pm Renaissance Ballroom
Refreshment Break with Exhibitors
Sponsored by: St. Jude Medical

3:10 – 5:00 pm Grand Ballroom
PLENARY SESSION 4
Epilepsy
Moderators: Joshua M. Rosenow, Nitin Tandon
Speakers: Gordon H. Baltuch, Edward F. Chang, Ashwini Dayal Sharan
Learning Objectives: Upon completion of this session, participants will be able to:
- Describe the clinical evidence for neuromodulation of the anterior thalamus (AN) in the treatment of epilepsy.
- Review the impact that responsive neurostimulation has had on refractory epilepsy one year after its FDA approval.
- Discuss what laser ablation techniques have to offer in the treatment of epilepsy.

3:10 – 3:30 pm SANTE: The Evidence of Thalamic Modulation
Gordon H. Baltuch

3:30 – 3:50 pm Neuropace: Post-market Clinical Experience
Edward F. Chang

3:50 – 4:10 pm Laser Ablation: Updates on Outcomes
Ashwini Dayal Sharan

4:10 – 5:00 pm Open Papers

4:10 – 4:16 pm 112 MEG Coherence and DTI Connectivity in Mesial Temporal Lobe Epilepsy

4:17 – 4:23 pm 113 Betweenness Centrality of Networks Constructed from Intracranial EEG and Surgical Epilepsy Outcomes
Bartosz T. Grobelny, Dennis London, Travis Hill, Emily North, Patricia Dugan, Werner Doyle
4:24 – 4:30 pm
**114 Infection Rates in Trials of a Cranially Implanted Neurostimulator**
Peter B. Weber, Ryder Gwinn, David W. Roberts, Richard S. Zimmerman, Ritu Kapur, Martha J. Morrell

4:31 – 4:37 pm
**115 Patterns of Seizure Outcome and Recurrence After Laser Interstitial Thermal Therapy**
Victor Du, Ashesh Mehta

4:38 – 4:44 pm
**116 Invasive EEG Associated Complications**
Kostas N. Fountas, Iordanis Georgiadis, Theophanis Giannis, Konstantinos Vagkopoulos, Eftychia Z. Kapsalaki

4:44 – 4:50 pm
**148 The Electrocorticogram and Connectivity Dynamics Before and After Corpus Callosotomy follows Lateralization of Seizure Foci**
Victor Du, Pierre Megevand, Erin Yeagle, Jose Herrero, Miklos Argyelan, Ashesh Mehta

4:50 – 5:00 pm
Discussion and Questions

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**MONDAY, JUNE 20, 2016**

6:00 – 8:00 pm
**Renaissance Ballroom**
OPENING RECEPTION WITH EXHIBITORS

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6:30 am – 5:00 pm
**5th Floor Foyer**
REGISTRATION

7:00 – 8:00 am
**King Arthur Court**
BREAKFAST SEMINAR 2
**Incorporating Pain Therapies in Your Practice**
*Moderator: Nestor Tomycz*
*Speakers: Nicholas M. Boulis, Steven M. Falowski, Ahmed M. Raslan*
*Learning Objectives: Upon completion of this session, participants will be able to:*
• Apply pain management strategies to the functional neurosurgery practice.

7:30 am – 6:00 pm
**Renaissance Ballroom**
EXHIBIT HALL HOURS

8:00 – 9:50 am
**Grand Ballroom**
PARALLEL SESSION 1
**Neuroimaging: Pain and Psychiatry**
*Moderators: Mojgan Hodaei, Sepehr B. Sani*
*Speakers: A. Vania Apkarian, Michael V. Knopp, Helen S. Mayberg*
Learning Objectives: Upon completion of this session, participants will be able to:

- Review the pathological anatomy and imaging of nociception in the insula of primates.
- Learn the value of neuroimaging and its ability to control for placebo effect in clinical studies.
- Discuss the variance of anatomy as measured by diffusion tensor imaging and its impact on clinical outcomes.

8:00 – 8:20 am
The Role of Insula in Pain Modulation
A. Vania Apkarian

8:20 – 8:40 am
Neuroimaging of Placebo Effect
Michael V. Knopp

8:40 – 9:00 am
How DTI Can Influence Outcomes of DBS for Depression
Helen S. Mayberg

9:00 – 9:40 am
Open Papers

9:00 – 9:06 am
117 Structural and Functional MRI Characterization of Trial Spinal Cord Stimulation Responders in Failed Back Surgery Syndrome
Peter A. Pahapill, Guangyu Chen, Andrew Nencka, Hao Shu, Shekar N. Kurpad, Shi-Jiang Li

9:06 – 9:12 am
118 Role of the Motor Cortex Stimulation on Neurotransmitter Concentration in the Periaqueductal Gray Area (PAG)
Emerson Magno de Andrade, Raquel Martinez, Rosana Pagano, Patricia Lopes, Aline Auada, Ivo Lebrun, Manoel Teixeira, Erich T. Fonoff

9:12 – 9:18 am
119 A Study of Cognitive Function in Treatment-refractory Obsessive Compulsive Disorder Treated by Capsulotomy
Gong Feilong, Wei Wang

9:18 – 9:24 am
120 Single Unit Activity Increases in Response to Mechanical and Thermal Stimuli in Parkinson's Patients with Chronic Pain
Youngwon Youn, Abigail Belasen, Lucy Gee, Julia Prusik, Adolfo Ramirez-Zamora, Julie G. Pilitsis

9:24 – 9:30 am
121 Deep Brain Stimulation of Frontal Lobe Behavioral Networks for Alzheimer's Disease
Ali R. Rezai, Emily Weichart, Dylan Nielson, Jun Zhang, Punit Agrawal, Per Sederberg, Michael V. Knopp, Douglas W. Scharre
8:00 – 8:20 am
**When GPi DBS Fails for Dystonia: What Else?**
Ron L. Alterman

8:20 – 8:40 am
**Genetic Modulation: Update 2016**
Michael Gordon Kaplitt

8:40 – 9:00 am
**STN DBS Upregulates Growth Factor in the Brain**
D. Luke Fischer

9:00 – 9:50 am
**Open Papers**

9:00 – 9:06 am
**123 Pathway Selective Deep Brain Stimulation Derived from Patient-specific Models**
Kabilar Gunalan, Bryan Howell, Yuval Duchin, Remi Patriat, Guillermo Sapiro, Noam Harel, Cameron McIntyre

9:07 – 9:13 am
**124 The Value of Microelectrode Recording in DBS: Does it Guide Us Toward or Away from Our MRI-based Target?**
Zaman Mirzadeh, Tsinsue Chen, Kristina Chapple, Margaret Lambert, Rohit Dhall, Francisco A. Ponce

9:14 – 9:20 am
**125 Compensation of Functional Neurosurgeons, A National Survey**
Joshua M. Rosenow, Brian H. Kopell, Peter Konrad, Konstantin V. Slavin
Levodopa-induced Changes in Cortical Phase-amplitude Coupling in Parkinson’s Disease: An EEG Study
Andrew M. Miller, Svjetlana Miocinovic, Nicki Swann, Philip A. Starr

DBS of the STN in Parkinson’s Modulates the Value of Sensory Evidence
Dennis London, Michael Pourfar, Alon Y. Mogilner

9:34 – 9:50 am
Discussion and Questions

10:10 am – 12:00 pm
PARALLEL SESSION 3
Neuroimaging (Movement Disorders)
Moderators: Kathryn L. Holloway, Alon Y. Mogilner
Speakers: David Eidelberg, Kendall H. Lee, Rafael O’Halloran
Learning Objectives: Upon completion of this session, participants will be able to:
• Discuss recent discoveries in biomarkers for Parkinson’s disease.
• Discuss the value of tractography on tremor targeting for DBS.
• Identify the value of neuropharmaceutical microimaging in movement disorders and psychiatric disease.

10:10 – 10:30 am
Biomarkers for PD: Update
David Eidelberg

10:30 – 10:50 am
Connectivity and Its Value in DBS for Tremor
Rafael O’Halloran

10:50 – 11:10 am
Microimaging in Movement Disorders: At the Neuron Level
Kendall H. Lee

11:10 am – 12:00 pm
Open Papers

11:10 – 11:16 am
Automatic Detection of Local Geometric Distortion in Ultra-high-field MRI Using Computational Morphometry: Importance to Stereotactic Surgery
Jonathan C. Lau, Ali R. Khan, Keith MacDougall, Andrew G. Parrent, Terry M. Peters
11:17 – 11:23 am
129 Utilizing Quantitative Susceptibility Mapping for Direct Targeting of the Subthalamic Nucleus and Globus Pallidus Internus During Deep Brain Stimulation Surgery
Jonathan J. Rasouli, Ritesh Ramdhani, Catherine Cho, Brian H. Kopell

11:24 – 11:30 am
130 A Case Study of Image-guided Deep Brain Stimulation: MRI-based White Matter Tractography Shows Differences in Responders and Non-Responders
Rafael L. O’Halloran, Jonathan J. Rasouli, Brian Harris Kopell

11:31 – 11:37 am
131 Analyzing the Tradeoff Between Electrical Complexity and Accuracy in Patient-specific Models of Deep Brain Stimulation
Bryan Howell, Cameron McIntyre

11:38 – 11:44 am
132 Radiographic Imaging for Laser Induced Thermal Therapy: An Assessment of Optimal Image Sequences for Ablation Evaluation
Anthony Parisi, Sri Sundararajan, Rahul Garg, Eric L. Hargreaves, Nitesh V. Patel, Shabbar F. Danish

11:44 am – 12:00 pm
Discussion and Questions

10:10 am – 12:00 pm
ParlE球 Room
ParALLEl Session 4
The Art of Lesion
Moderators: G. Rees Cosgrove, Parag G. Patil
Speakers: W. Jeffrey Elias, Joseph S. Neimat, Robert Plunkett, David W. Roberts
Learning Objectives: Upon completion of this session, participants will be able to:
• Discuss the history and value of radiofrequency lesioning in functional neurosurgery.
• Discuss the history and value of laser ablation lesioning in functional neurosurgery.
• Discuss the history and value of focused ultrasound lesioning in functional neurosurgery.
• Discuss the history and value of radiation-based lesioning in functional neurosurgery.

10:10 – 10:30 am
RF Lesioning
David W. Roberts

10:30 – 10:50 am
MRI-guided Laser Ablation
Joseph Samir Neimat

10:50 – 11:10 am
High Intensity Focused Ultrasound
W. Jeffrey Elias
11:10 – 11:30 am
**Radiosurgical Ablation**
Robert Plunkett

11:30 – 11:50 am
**Panel Discussion**
David W. Roberts, Robert Plunkett, W. Jeffrey Elias, Joseph S. Neimat

11:50 am – 12:00 pm
**Discussion and Questions**

12:00 – 1:00 pm
**LUNCH AND HONORED GUEST TALK**
**Image-guided Asleep DBS Surgery**
Kim J. Burchiel

1:00 – 2:50 pm
**PLENARY SESSION 5**
**Pain 1**
Moderators: Julie G. Pilitsis, Ashwin Viswanathan
Speakers: Giancarlo Barolat, Robert M. Levy, Erich O. Richter, Manoel Jacobsen Almeida de Oliveira Teixeira
Learning Objectives: Upon completion of this session, participants will be able to:
- Review the history and value of neurosurgical treatment of pain.
- Discuss the key anatomical landmarks for neurosurgical management of pain in the spinal cord.
- Discuss the recent advances in neuromodulation for pain regarding stimulation parameters and locations.
- Identify when spinal lesioning procedures should still be thought of in pain management.
- Describe when peripheral nerve interventions should be considered for pain management.

1:00 – 1:20 pm
**Why Neurosurgeons Should Be Interested in Pain**
Giancarlo Barolat

1:20 – 1:40 pm
**The Anatomy of Pain in the Spinal Cord**
Jennifer A. Sweet

1:40 – 2:00 pm
**What’s New in Spinal Neuromodulation: HF10, Burst, DRG**
Robert M. Levy

2:00 – 2:20 pm
**Spinal Lesioning Procedures that Still Work for Pain**
Ashwin Viswanathan

2:20 – 2:40 pm
**Peripheral Nerve Surgery for Pain**
Erich O. Richter
2:40 – 2:50 pm
Panel Discussion
Giancarlo Barolat, Robert M. Levy, Jennifer A. Sweet, Ashwin Viswanathan

2:50 – 3:10 pm
Refreshment Break with Exhibitors
Sponsored by: St. Jude Medical

3:10 – 3:30 pm
Renaissance Ballroom
POSTER SESSION WITH WINE & CHEESE
Moderators: Ben Jonker, Zelma HT Kiss, Kendall H. Lee, Andre Machado, Jonathan Miller, Nader Pouratian, Erich O. Richter, Philip A. Starr

3:30 – 5:30 pm
Grand Ballroom Balcony
POSTER SESSION WITH WINE & CHEESE
Moderators: Ben Jonker, Zelma HT Kiss, Kendall H. Lee, Andre Machado, Jonathan Miller, Nader Pouratian, Erich O. Richter, Philip A. Starr

5:10 – 6:00 pm
Grand Ballroom
ASSFN BUSINESS MEETING
Presiding Officer: Aviva Abosch

TUESDAY, JUNE 21, 2016

6:30 am – 2:00 pm
5th Floor Foyer
REGISTRATION

7:00 – 8:00 am
Camelot Room
BREAKFAST SEMINAR 3
Peripheral Nerve Stimulation for Non-traditional Indications
Speaker: Daniel Hwan Kim, Konstantin V. Slavin
Learning Objectives: Upon completion of this session, participants will be able to:
• Describe a spectrum of conditions treated with peripheral nerve stimulation outside of traditional neurosurgical applications.
• Discuss the current use of peripheral nerve stimulation for motor disorders such as diaphragmatic palsy and sleep apnea.
• Review indications for use of peripheral nerve stimulation for genitourinary and gastrointestinal disorders.

7:00 – 8:00 am
King Arthur Court
Non-CME Sponsored Breakfast
Advancing Epilepsy Treatment with Brain-responsive Neurostimulation: The NeuroPace RNS® System Experience
Speakers: Joseph S. Neimat, Martha J. Morrell

7:30 am – 3:30 pm
Renaissance Ballroom
EXHIBIT HALL HOURS
PARALLEL SESSION 5
Technology in Functional Neurosurgery 1
Moderators: Christopher Honey, David W. Roberts
Speakers: Phil Kennedy, Eric C. Leuthardt, Lee E. Miller, Chengyuan Wu
Learning Objectives: Upon completion of this session, participants will be able to:
• Provide examples of where brain machine interface technology has been applied in clinical trials.
• Describe the opportunity of technological advancement and innovation in functional neurosurgery.
• List examples of how robotic technology can be applied to functional neurosurgery.

8:00 – 8:40 am
Implantation of the Intact Human Speech Cortex
Phil Kennedy

8:40 – 9:00 am
Development of a Bi-directional Neural Interface to Restore Motion and Sensation in Spinal Cord Injury
Lee E. Miller

9:00 – 9:20 am
Tech Transfer for the Innovative Neurosurgeon
Eric C. Leuthardt

9:20 – 9:40 am
Robotics
Chengyuan Wu

9:40 – 9:50 am
Discussion and Questions

PARALLEL SESSION 6
Radiosurgery and Neuro-oncology
Moderators: Peter Konrad, Peter C. Warnke
Speakers: Costas G. Hadjipanayis, Peter Konrad, Shivanand P. Lad
Learning Objectives: Upon completion of this session, participants will be able to:
• List examples of laser ablation uses in tumor surgery.
• Discuss the cost benefit of radiosurgery in the treatment of trigeminal neuralgia.
• Provide examples when radiosurgery is indicated for movement disorders.

8:00 – 8:20 am
LITT: Its Use in Tumor Ablation
Costas G. Hadjipanayis

8:20 – 8:40 am
Radiosurgery for TGN: Is It Cost Effective Anymore?
Shivanand P. Lad
8:40 – 9:00 am
When Is Radiosurgery Indicated for Movement Disorders?
Peter Konrad

9:00 – 9:50 am
Open Papers

9:00 – 9:06 am
133 A Randomized Trial on the Efficacy of Topical Anesthesia on Pain Reduction During Frame Placement for Gamma Knife Radiosurgery
Sean Michael Duenas, Jonathan Pun, Hesham Radwan, Meredith Ackerman, Michael Schulder

9:07 – 9:13 am
134 Extended Glioma Resection by Prehabilitation Induced Plasticity
Josue Moises A�ecillas-Chasin, Osman Salazar, Paola Rivera, Marcos Rios-Lago, Sandra Sanchez-Casarrubios, Alvaro Pascual-Leone, Juan A. Barcia

9:14 – 9:20 am
135 Single Fraction Versus Fractionated Stereotactic Radiosurgery for Large Vestibular Schwannomas: Tumor Control and Clinical Outcomes
Sussan J. Salas, Jonathan P.S. Knisely, Michael Schulder, Mark B. Eisenberg, Maged Ghaly, Karen Black, Rona Racareanu

9:21 – 9:27 am
136 Stereotactic Robotic Assisted MRI Guided Laser Thermal Ablation of Radiation Necrosis and High Grade Glioma in the Posterior Cranial Fossa
Diem Kieu Tran, Alvin Chan, Sumeet Vadera

9:28 – 9:34 am
137 Robot Assisted Stereotactic Laser Ablation for a Hypothalamic Hamartoma
Nicholas James Brandmeir, Vinita Acharya, Michael D. Sather

9:34 – 9:50 am
Discussion and Questions

9:50 – 10:10 am
Renaissance Ballroom
Refreshment Break with Exhibitors

10:10 am – 12:00 pm
Grand Ballroom

PARALLEL SESSION 7
Technology in Functional Neurosurgery 2
Moderators: William S. Anderson, Francisco A. Ponce
Speakers: Emad N. Eskandar, Daniel Graupe, Warren Grill, Satinderpall S. Pannu
Learning Objectives: Upon completion of this session, participants will be able to:
• Describe the DARPA SUBNETS program and its potential research gains for functional neurosurgery.
• Review how microengineering discoveries are providing engineering solutions for feedback control of neural implants.

10:10 – 10:30 am
DARPA SUBNETS: What Are We Learning?
Emad N. Eskandar

10:30 – 11:15 am
Next Generation of Feedback Control for Implants

10:30 – 10:45 am
Warren Grill

10:45 – 11:00 am
Satinderpall S. Pannu

11:00 – 11:15 am
Daniel Graupe

11:15 am – 12:00 pm
Open Papers

11:15 – 11:21 am
138 Magnetic Resonance-guided Laser Ablation for Postradiosurgery Metastatic Recurrence or Radiation Necrosis: Institutional Experience
Robert Nicholas Hernandez, Purvee D. Patel, Shabbar F. Danish

11:22 – 11:28 am
139 Decoding Decision Outcomes from Single Realizations of Lateral Prefrontal Cortex Ensemble Activity
Chadwick Boulay, Adam J. Sachs

11:29 – 11:35 am
140 Restoration of Functional Hand Movements in a Human with Quadriplegia Using a Cortically Controlled Functional Electrical Stimulation Device
Ammar Shaikhouni, Marcia Bockbrader, Chad Bouton, Nicholas Annetta, David Friedenberg, Gaurav Sharma, Bradley Glenn, Austin Morgan, Milind Deogaonkar, Per Sederberg, Jerry Mysiw, Ali R. Rezai

11:36 – 11:42 am
141 Patient-specific Models of Local Field Potentials Recorded from Deep Brain Stimulation Electrodes
Nicholas Maling, Scott F. Lempka, Cameron McIntyre

11:43 – 11:49 am
142 Spontaneous, Transient Adenosine Monitoring in Parkinson’s Disease Patients Using Paired-pulse Voltammetry During Deep Brain Stimulation Neurosurgery
Seungkin Paek, Aiyana D. Batton, Luis J. Lujan, Dong Pyo Jang, Christopher J. Kimble, Kevin Bennet, Kendall H. Lee
10:10 am – 12:00 pm
PARALLEL SESSION 8
Empire Ballroom

Epilepsy 2
Moderators: Joshua M. Rosenow, Peter C. Warnke
Speakers: Edward F. Chang, Jonathan Miller,
Ashwini Dayal Sharan

Learning Objectives: Upon completion of this session, participants will be able to:
• Discuss the advantages and disadvantages of open versus closed selective amygdalohippocampectomies for the treatment of mesial temporal epilepsy.
• List the reasons why to use stereo-encephalography for the diagnosis of focal epilepsy.
• Describe why epilepsy is generating large data analysis opportunities.

10:10 – 10:30 am
Selective Amygdalohippocampectomy: Open vs. Lesion
Edward F. Chang

10:30 – 10:50 am
SEEG vs. Grids: How to Choose?
Jonathan Miller

10:50 – 11:10 am
Management of Large Data Sets for Epilepsy
Ashwini Dayal Sharan

11:10 am – 12:00 pm
Open Papers

11:10 – 11:16 am
143 Rate and Complications of Epilepsy Surgery in North America: Analysis of Multiple Independent Databases
John David Rolston, Dario J. Englot, Robert C. Knowlton, Edward F. Chang

11:16 – 11:22 am
144 Impact of Insular Morphology on Feasibility of Long-Axis Cannulation for Stereoelectroencephalographic Recording
Michael J. Lang, Chengyuan Wu, Ashwini Dayal Sharan

11:22 – 11:28 am
145 Intraoperative MRI in Resective Epilepsy Surgery for Peri-eloquent Cortex Cortical Dysplasias and Heterotopias in Pediatric Subjects
Chima Oluigbo, Matthew Sacino, Cheng-Ying Ho, Jonathan Murnick, William Gaillard, John S. Myseros, Robert F. Keating
11:28 – 11:34 am
146 Minimally-invasive Corpus Callosotomy Technique and Outcomes: Stereotactic Radiofrequency and MR-guided Laser Ablation
Ashley K. Ralston, James Tao, Peter C. Warnke

11:34 – 11:40 am
147 Insular Triangulation Technique: A Novel Stereo EEG Technique for Investigation of Insular Lobe Epilepsy
Michael J. Lang, Chengyuan Wu, Ashwini Dayal Sharan

11:40 am – 12:00 pm
Discussion and Questions

12:00 – 1:00 pm
King Arthur Court
Non-CME Sponsored Lunch

The Latest Explorations in DBS Target and Patient Selection
Speakers: Paul S. Larson, Kathryn L. Halloway, Peter Konrad

Medtronic

1:00 – 3:00 pm
Grand Ballroom
PLENARY SESSION 6
Pain 2
Moderators: Erika A. Petersen, Oren Sagher
Speakers: Kim J. Burchiel, Kenneth A. Follett, Andre Machado, Ahmed M. Raslan, Konstantin V. Slavin, Byung Chul Son
Learning Objectives: Upon completion of this session, participants will be able to:
• List alternatives to systemic opioids in the management of pain.
• Discuss the role of DBS in the selection of patients with chronic pain.
• Review the selection of patients for lesioning in the management of cancer pain.
• Describe the role of occipital and trigeminal nerve stimulation for pain.
• Identify the role of motor cortex stimulation for the treatment of pain.
• Discuss when microvascular decompression should be considered in the treatment of trigeminal neuralgia.

1:00 – 1:20 pm
Intrathecal Pharmaceuticals: Alternatives to Systemic Opioids
Kenneth A. Follett

1:20 – 1:40 pm
DBS for Pain
Andre Machado
1:40 – 2:00 pm
Lesioning for Cancer Pain
Ahmed M. Raslan

2:00 – 2:20 pm
Occipital and Trigeminal PNS
Konstantin V. Slavin

2:20 – 2:40 pm
Motor Cortex Stimulation for Facial Pain
Byung Chul Son

2:40 – 3:00 pm
Microvascular Decompression: Still a First Option for TN?
Kim J. Burchiel

3:00 – 3:15 pm
Renaissance Ballroom
Refreshment Break with Exhibitors

3:15 – 4:00 pm
Grand Ballroom
ASSFN AWARD CEREMONY
Presenters: Peter Konrad, Konstantin V. Slavin

THANK YOU
TO 2016 ASSFN BIENNIAL MEETING SUPPORTER
Renaissance Ballroom,
5th Floor – Exhibit Hall
<table>
<thead>
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<tbody>
<tr>
<td><strong>AD-TECH</strong></td>
<td><a href="http://www.adtechmedical.com">www.adtechmedical.com</a> 262-634-1555</td>
<td>117</td>
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<tr>
<td>For over 25 years, epilepsy centers have made Ad-Tech their choice for invasive electrodes for brain mapping and epilepsy monitoring.</td>
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<td><strong>ALPHA &amp; OMEGA</strong></td>
<td><a href="http://www.alphaomega-eng.com">www.alphaomega-eng.com</a> 877-919-6288</td>
<td>205</td>
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<tr>
<td>The global leader in microelectrode recording. Our latest innovation in neuroscience is the Neuro Omega high-channel closed loop technology.</td>
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<td><strong>BRAINLAB</strong></td>
<td><a href="http://www.brainlab.com">www.brainlab.com</a> 708-409-1343</td>
<td>203</td>
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<tr>
<td>Brainlab, headquartered in Munich, develops, manufactures and markets software-driven medical technology, enabling access to and consistency of advanced, less invasive patient treatment.</td>
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<td><strong>COSMAN MEDICAL</strong></td>
<td><a href="http://www.cosmanmedical.com">www.cosmanmedical.com</a> 781-272-6561</td>
<td>114</td>
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<td>RF generators and electrodes for trigeminal neuralgia, DREZ, cordotomy, spinal pain and functional stereotaxy. With 60 years of experience, Cosman provides technologically advanced and cost-effective solutions.</td>
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<td><strong>ELEKTA</strong></td>
<td><a href="http://www.elekta.com">www.elekta.com</a> 770-300-9725</td>
<td>204</td>
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<tr>
<td>Elekta pioneers clinical solutions for treating brain disorders. With long-standing expertise in stereotaxy, Elekta creates solutions that are accurate and non-invasive in treating brain targets.</td>
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<td><strong>FHC</strong></td>
<td><a href="http://www.fh-co.com">www.fh-co.com</a> 207-666-8190</td>
<td>104</td>
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<tr>
<td>FHC serves the neuroscience community with a commitment to innovate through collaboration. Featuring neurosurgical support solutions and no capital investment options.</td>
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<td><strong>INSIGHTEC</strong></td>
<td><a href="http://www.insightec.com">www.insightec.com</a> 214-630-2000</td>
<td>108</td>
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<tr>
<td>INSIGHTEC develops and distributes the Exablate MRgFUS platform which provides non-invasive, clinically proven treatments for a variety of neurology*, oncology and gynecology indications.</td>
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<td><strong>INTEGRA LIFESCIENCES</strong></td>
<td><a href="http://www.integralife.com">www.integralife.com</a> 609-275-0500</td>
<td>110</td>
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<tr>
<td>Integra is a leader in neurosurgery, offering a vast portfolio of implants, devices, instruments and systems used in neurosurgery, neuromonitoring, neurotrauma, and critical care.</td>
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<tr>
<td><strong>LIVANOVA</strong></td>
<td><a href="http://www.seizurecontrol.com">www.seizurecontrol.com</a> 888-867-7846</td>
<td>116</td>
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<tr>
<td>VNS Therapy—short for vagus nerve stimulation—is a non-medication treatment that works with any seizure medication without adding drug-related side effects.</td>
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www.mazorrobotics.com  407-591-3461  109
Mazor Robotics is the leading innovator in spine and neurosurgery. Our vision is healing through innovation. We accomplish this by developing revolutionary robotic-based technology.

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ROSA™ by Medtech is a robotic surgical assistive device specifically designed for trajectory planning and guidance during functional neurosurgery.

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Medtronic Brain Therapy Solutions develops, manufactures, and markets a comprehensive line of medical devices and technologies that treat a wide range of neurological disorders and diseases.

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**MRI INTERVENTIONS**
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Building on the imaging power of MRI, MRI Interventions is creating innovative platforms for performing the next generation of minimally invasive surgical procedures in the brain and heart.

**NEUROLOGICA (SAMSUNG)**
www.neurologica.com  978-564-8688  112
Intraoperative imaging with Samsung CereTom® and BodyTom® portable CT scanners is changing the landscape of DBS surgery. Stop by booth #112 to learn more.

**NEUROPACE, INC.**
www.neuropace.com  866-726-3876  115
NeuroPace is developing implantable devices to treat neurological disorders with responsive stimulation. Our initial focus is epilepsy, a debilitating disorder affecting over 20,000,000 people worldwide.

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www.nevro.com  650-251-0005  209
Nevro is focused on providing innovative therapies that improve the lives of chronic pain patients. Nevro’s Senza® SCS system delivers the company’s proprietary HF10™ therapy.
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<td><a href="http://www.nuvectramed.com">www.nuvectramed.com</a> 844-727-7897</td>
<td>206</td>
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<td>Nuvectra™ is a neurostimulation company committed to helping physicians improve the lives of people with chronic neurological conditions.</td>
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<td>PMT CORPORATION</td>
<td><a href="http://www.pmtcorp.com">www.pmtcorp.com</a> 952-470-0866</td>
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<td>PMT® Corporation is the premier supplier of an extensive line of neurosurgical products, offering Cortac®, Depthalon®, sEEG electrodes, and IOM electrodes for epilepsy monitoring.</td>
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<td>RENISHAW</td>
<td><a href="http://www.renishaw.com/neuro">www.renishaw.com/neuro</a> 847-286-9953</td>
<td>107</td>
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<tr>
<td>Renishaw’s neuromate® stereotactic robot provides a platform solution for functional neurosurgical procedures. It is used for DBS, SEEG, neuro-endoscopy, biopsy, as well as R&amp;D applications.</td>
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<td>SCENERAY COMPANY, LTD.</td>
<td><a href="http://www.sceneray.com">www.sceneray.com</a> +86 (512) 85662970</td>
<td>212</td>
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<tr>
<td>With the new wireless remote DBS system, Sceneray Co. Ltd., has answered the call for more patient-oriented, optimization technology for patients battling Parkinson's disease or tremor.</td>
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<td>ST. JUDE</td>
<td><a href="http://www.sjmneuro.com">www.sjmneuro.com</a> 972-309-8000</td>
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<tr>
<td>St. Jude Medical is a leading global medical device manufacturer and is dedicated to transforming the treatment of some of the world's most expensive epidemic diseases.</td>
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GENERAL INFORMATION

Exhibit Hall | Renaissance Ballroom
---|---
Sunday, June 19 | 2:45 pm – 8:00 pm
Monday, June 20 | 7:30 am – 6:00 pm
Tuesday, June 21 | 7:30 am – 3:30 pm

Registration | 5th Floor Foyer
---|---
Saturday, June 18 | 7:00 am – 6:00 pm
Sunday, June 19 | 6:30 am – 7:00 pm
Monday, June 20 | 6:30 am – 5:00 pm
Tuesday, June 21 | 6:30 am – 2:00 pm

No Smoking Policy
Smoking is not permitted at any official ASSFN Biennial Meeting events. The InterContinental Chicago Magnificent Mile Hotel is a non-smoking hotel.

Disclaimer
The material presented at the 2016 ASSFN Biennial Meeting has been made available by the ASSFN for educational purposes only. These materials are not intended to represent the only, nor necessarily the best method or procedure appropriate for the medical situations discussed, but rather are intended to present an approach, view, statement or opinion of the faculty, which may be helpful to others who face similar situations.

All drugs and medical devices used in the United States are administered in accordance with the Food and Drug Administration (FDA) regulations. These regulations vary depending on the risks associated with the drug or medical devices compared to products already on the market, and the scope of the clinical data available.

Some drugs and medical devices demonstrated or described within the print publication of the ASSFN jointly sponsored by the CNS have FDA clearance for use for specific purposes or for use only in restricted research settings. The FDA has stated that it is the responsibility of the physician to determine the FDA status of each drug or device he or she wants to use in compliance with applicable laws.

Neither the content (written or oral) of any course or presentation in the program, nor the use of a specific product in conjunction therewith, nor the exhibition of any materials by any parties coincident with the program, should be construed as indicating endorsement or approval of the views presented, the products used or the materials exhibited by the ASSFN jointly sponsored by the CNS, or its committees, commission or affiliates.

Opening Reception with Exhibitors
Renaissance Ballroom | Sunday, June 19 | 6:00 – 8:00 pm
Enjoy a lavish array of food and refreshments while reconnecting with colleagues and making new contacts with exhibiting companies at the Opening Reception. Each medical attendee registered for the meeting will receive one complimentary ticket.

Poster Session with Wine and Cheese
Grand Ballroom Balcony | Monday, June 20 | 3:10 – 5:10 pm
Enjoy a pre-dinner glass of wine during this uninterrupted time dedicated to viewing the scientific posters.
Accreditation
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Congress of Neurological Surgeons and the American Society for Stereotactic and Functional Neurosurgery. The Congress of Neurological Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA Credit Designation Statement
The CNS designates this live activity for a maximum of 29.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME Credit
*A maximum of 21.75 AMA PRA Category 1 Credits™ may be earned for scientific sessions only.

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Speakers who have disclosed a relationship with commercial companies whose products may have a relevance to their presentation are listed below. Planners are designated by P and faculty by F.

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Consulting Agreement - Nuvectra (2); Honoraria - Boston Scientific (2)

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Consulting Agreement - MRI Interventions, Inc., Neuralstem, Inc., Oxford Biomedica, Q Therapeutics, ReGenX, Therapeutics (2); Salary - Above and Beyond, LLC (7)

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Consulting Agreement – Cerestim, Intrinsic Therapeutics (2); Ownership Interest – Tivorsan, Vassol, Watermark/SleepMed (6)

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Yuval Duchin F
Consulting Agreement - Surgical Information Sciences (2)

Howard M. Eisenberg, MD F
Grants - Department of Defense, Focused Ultrasound Foundation, Insightec, NFL (6)

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Other - Focused Ultrasound Foundation and InSightec, Research funding provided by Focused Ultrasound Foundation and InSightec (6)

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Warren Grill
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Robert E. Gross, MD, PhD
Consulting Agreement – Medtronic, MRI Interventions, NeuralStem, Neupacpe, SanBio (2)

Costas G. Hadjipanayis, MD, PhD
Consulting Agreement - NX Development Corp (2); Grants - NX Development Corp (6)

Noam Harel, PhD
Ownership Interest - Surgical Information Sciences (6)

Mojgan Hodaie, MD, MSc, FRCS
Grants - Elekta (6); Honoraria - Medtronic (6)

Kathryn L. Holloway, MD
Other – Medtronic, St Jude (6)

Michael Gordon Kaplitt, MD, PhD
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Salary - NeuroPace, Inc. (5)

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Ownership Interest - Neural Signals Inc. (7)

Peter Konrad, MD, PhD
Consulting Agreement - Medtronic (2); Ownership Interest - Neurotargeting (7)

Brian H. Kopell, MDF
Consulting Agreement - Medtronic SNT, MRI Interventions, St Jude Neuromodulation, Boston Scientific (2)

Shivanand P. Lad, MD, PhD
Consulting Agreement – Medtronic, St. Judes (2)

Paul Larson, MD
Grants - Michael J. Fox Foundation, MRI Interventions, Voyager Therapeutics, Medtronic (6)

Eric C. Leuthardt, MD
Consulting Agreement - Intellectual Ventures, Monteris, (2); Intellectual Fees - Allied Minds (6); Ownership Interest - General Sensing, Neurulotions, Osteovantage (7)

Robert M. Levy, MD, PhD
Consulting Agreement - Bioness Incorporated, Medtronic Neurological, Nevro, Incorporated, Spinal Modulation, St. Jude Medical Neuromodulation, Vertos Medical (2)

Darlene Angela Lobel, MD
Consulting Agreement - St Jude Medical (2)

Andres M. Lozano, MD
Consulting Agreement - Boston Scientific, Medtronic, St. Jude (2); Ownership Interest - Functional Neuromodulation (7)

Andre Machado, MD, PhD
Consulting Agreement - Functional Neuromodulation, Icahn School of Medicine at Mount Sinai, St Jude (2); Other - Medtronic, Inc., ATI, Cardionomics (6); Ownership Interest - Enspire (2)

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Consulting Agreement - Medtronic (2)
Helen S. Mayberg, MD, PhD, RN
Consulting Agreement - St Jude Medical Neuromodulation (6); Other - Medtronic (6)

Cameron McIntyre, PhD
Consulting Agreement - Boston Scientific Neuromodulation (2); Ownership Interest - Surgical Information Sciences (2)

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