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## APPOINTMENTS

- Associate Professor- Division of Neurosurgery and Department of Neuroscience and Experimental Therapeutics, Albany Medical College, Albany NY August 2011-July 2015
- Affiliate Faculty- University of Massachusetts Worcester MA August 2011-2017
- Assistant Professor- Division of Neurosurgery, Department of Clinical Population and Health Research, Neuroscience, Director of Functional Neurosurgery University of Massachusetts Worcester, MA 2007-August 2011
- Clinical Instructor – Department of Neurosurgery, Rush University Chicago IL 2006-2007

## ACTIVE LICENSURE/BOARDS

- State of New York 2011

## PATENTS

- US 2011/0077504 A1 Fischer G, Cole C, Pilitsis JG. System and Method for Robotic Surgical Intervention

## GRANT AND CONTRACTS

### *NIH (Current)*

**NIH 1R01CA166379-01A1**

Fischer; Pilitsis MPI 5/17/2013-present  
AMC award of \$1.8M

#### ***MR-Guided Precision Conformal Ablation Therapy for Brain Tumors***

The major goals of this project are to provide new tools capable of targeting and ablating difficult-to-reach regions of human brain for treatment of cancer and other disorders.

**NIH/NIBIBR03EB024705**

Golestani Rad PI; key personnel  
7/1/2017-present \$50,000

***Computational Methodologies for Safety Assessment of MRI in Patients with Deep Brain Stimulation Implants*** The major goal of this project is to develop computational methodologies that consistently and reliably predict heating of brain tissue during MRI of patients with deep brain stimulation implants.

### *NIH (Completed)*

**NIH R43 NS064640-01A2**

Margolin Co-PI; Novak Co-PI;  
Pilitsis Co-Investigator  
12/15/2009 - 12/14/2010.  
Total direct cost \$202,186

**Software Guided Localization of the Subthalamic Nucleus during DBS Surgeries;**  
University of Massachusetts

**Investigator Sponsored Research (Active)**

**Boston Scientific**

Pilitsis (PI) 2/8/18-present  
\$71,088

***The Efficacy of Combination Subthreshold and Tonic Spinal Cord Stimulation in Chronic Pain Patients*** The major goal of this project is to compare the effects of simultaneously delivering concurrent tonic and subthreshold stimulation on outcomes.

**Abbott**

Pilitsis (PI) 6/2/17-present  
\$26,263

***Stimulation Change Effects on Quantitative Sensory Testing in Neuromodulation Patients***

This is a prospective study looking at the effects of bursting stimulation in SCS patients using quantitative sensory testing.

**Jazz Pharmaceuticals**

Pilitsis (PI) 7/29/17-present  
\$9,947

***Ziconotide treatment in rodent model of vincristine induced neuropathy***

The major goal of this project is to provide insight into how Ziconotide may be used to treat cancer complications, determine the dosage for optimal outcomes, and help define the mechanism of action.

**Jazz Pharmaceuticals**

Pilitsis (PI) 11/22/16-present  
\$109,638

***Prospective Study of Conservative Ziconotide Dosing as a First-Line Intrathecal Drug Therapy for Neuropathic Pain***

The major goal of this project is to prospectively analyze a conservative treatment algorithm developed retrospectively (in a previous study) from our pain population.

**General Electric Global Research**

Pilitsis (PI) 8/10/16-present  
\$241,168

***Deep Brain Stimulation for Parkinson's Disease***

The major goals of this project are to collaborate on a series of investigations for the improvement of magnetic resonance imaging (MRI) for patients receiving deep brain stimulation (DBS) therapy, using functional MRI to understand how changes in frequency affect brain activation following DBS. Improvements in perioperative scans were developed.

**General Electric Global Research**

Pilitsis (PI) 6/2/17-present  
\$32,400

***Use of Anesthesia Monitoring Tool to Optimize Propofol Dosing in SCS Patients***

This collaboration is intended to utilize the GE Propofol In Breath System (PIBS) machine during SCS surgery in order to better monitor and dose patients receiving propofol as standard anesthesia.

***Investigator Sponsored Research Completed***

**Boston Scientific**

Pilitsis (PI) 6/1/15-2017  
\$20,134

A4057: "CoverEdge Algorithm: Study to Characterize the Effects of Programming Features of the Boston Scientific Precision Spectra AM Spinal Cord Stimulator System Using the CoverEdge Surgical Leads."

**Medtronic**

Pilitsis (PI) 3/1/17-12/30/17  
\$11,910

"Correlation between active contacts on thoracic SCS and outcomes/demographics"

**Abbott**

Pilitsis (PI) 10/1/17-12/31/17  
\$4,590

"Retrospective review of pre-operative MRIs in patients having undergone lumbar spine surgery"

**Medtronic**

Pilitsis (PI) 4/6/17-12/31/17  
\$58,593

"The Efficacy of Shuffle High Frequency and Traditional Spinal Cord Stimulation in Chronic Pain Patients"

**Jazz Pharmaceuticals**

Pilitsis (PI) 10/1/15-8/30/16  
\$11,884

"Retrospective Analysis of Prialt as a First-Line Intrathecal Drug Therapy."

2008 -2009 **Worcester Biomedical Foundation Grant**

"Functional Imaging as a Marker for Parkinson's Disease"  
PI for \$30,000/yr grant; University of Massachusetts

***Industry Study Site- Active***

2017

**Boston Scientific**

"Precision Retrospective Outcomes (PRO) Study"

2017

**St. Jude**

"Post Market Clinical Follow Up Evaluating the Infinity Deep Brain Stimulation Implantable Pulse Generator System" (PROGRESS)

2017            **St. Jude**  
Prospective Evaluation Comparing the Effects of Constant Current versus Constant Voltage in Deep Brain Stimulation using Hybrid Systems” (PREFERENCE-H)

***Industry Study Site- Pending***

2017            **ReNeuron**  
Pilot Investigation of Stem Cells in Stroke (PISCES): “A Randomised, Controlled Study of the Efficacy and Safety of Intracerebral Stem Cells (CTX0E03 DP) in Subjects with Disability Following an Ischaemic Stroke”

2017            **Nevro**  
“A Multi-Center, Prospective, Pragmatic, Randomized, Controlled Clinical Trial to Compare HF10 Therapy to Conventional Medical Management in the Treatment of Non-Surgical Refractory Back Pain”

***Industry Study Site- Completed***

2017            **Boston Scientific Neuromodulation Corporation**  
“A prospective, multicenter, double-blinded, randomized, controlled study to evaluate the safety and effectiveness of motor function and overall quality of life in patients with the Vercise DBS System for the treatment of Parkinson's disease”

2017            **Boston Scientific**  
“RELIEF (A Global Registry to Evaluate Long-Term Effectiveness of Neurostimulation Therapy for Pain)”

2017            **Medtronic Inc.**  
“Prospective, Randomized Study of Multicolumn Implantable Lead Stimulation for Predominant Low Back Pain” (PROMISE)

5/2016            **St. Jude Medical Neuromodulation Division**, Site Primary Investigator  
“SUNBURST (A clinical evaluation for the management of patients with failed Back surgery syndrome.”

2012            **Advanced Neuromodulation Systems, Inc. D/B/A St. Jude Medical Neuromodulation Division**  
“A clinical evaluation for the management of patients with major depressive disorder, single or recurrent episode, with deep brain stimulation (Protocol C-07-01)

## **NATIONAL LEADERSHIP POSITIONS**

- 2018-current International Neuromodulation Society  
2018-current – INS Therapy Consensus Committee  
2018-2019 – Scientific Program Committee
- 2014-current NREF Development Committee Member
- 2018-current FDA Neurological Panel Member
- 2012-current Executive Board Member - ASSFN
- 2014-current North American Neuromodulation Society- Board of Directors  
2014- 2016 Founding Chair- Women in Neuromodulation
- 2015-2018 AANS Scientific Program Committee Member
- 2006-2017 AANS/CNS Pain Section  
2006-2008- Elected member of Executive Council  
2008-2011- Secretary Treasurer  
2011-2013 – Chair- Elect  
2013-2015- Chair  
2015-2017- Immediate Past Chair
- 2008-2015 Executive Council- AANS Women in Neurosurgery  
2011-2012- Secretary Treasurer  
2012-2013- Chair- Elect  
2013-2014- Chair  
2014-2015 Immediate Past Chair
- 2009-2015 Council of State Neurosurgical Societies  
2011-2013- Vice Chair- Workforce Committee  
2012-2015- Chair- Public Relations Subcommittee
- 2011-2014 Executive Council- AANS/CNS Section on Trauma  
2011-2013- Chair-publications committee
- 2012-2014 Education Committee- Congress of Neurological Surgeons
- 2012-2014 Think First Board of Directors
- 2008-2011 Scientific Program Committee- Congress of Neurological Surgeons
- 2008-2015 Guidelines Committee of AANS/CNS
- 2002-2008 Young Neurosurgeons Committee of the AANS

## **STUDY SECTIONS**

- 2015-present (ZRG1 SBIB-Q) PAR Panel: Academic-Industrial Partnerships Research for Cancer Diagnosis and Treatment; standing member

2017-present (BMIT-A) Biomedical Imaging Technology A Study Section; guest member

## **HONORS AND AWARDS**

2017 Sosa Academy of Medicine – Educational Development & Innovation Award Albany Medical College Graduation in 2017

2015 Sosa Academy of Medicine – Outstanding Mentor Albany Medical College- one award given annually or biennially to most deserving medical school faculty Albany Medical College Graduation in 2017

2011 Congress of Neurological Surgery- CSNS Section- Best poster- Medial Student Education in Neurosurgery

2010-11 Selected for Junior Faculty Development Program University of Massachusetts

2008,2009 Nominee- Deep Brain Stimulation Team Champions of Excellence Award; UMass Memorial Medical Center

2003 William H. Sweet Young Investigator Award Annual National award in Pain research- AANS/CNS Pain section

2003 Resident Award – Best research presentation Michigan Association of Neurological Surgeons

2003 Semifinalist- Student research National Neurotrauma Society

2001,2002,2003 Academic Achievement Award Dept. of Neurosurgery- Wayne State University

2001, 2002 Neuroscience Travel Award- Wayne State University

1999 Intern of the Year Department of Surgery- Wayne State University

1996,1997 Dean’s Certificate for Outstanding Research Endeavor Albany Medical College

## **EDUCATIONAL ACTIVITIES**

### ***Other Awards***

2018 Faculty mentor- AANS Third Place Eposter award given at 2018 AANS Annual Scientific Meeting; Recipient: Marisa DiMarzio BS “Use of functional MRI to understand modulation of chronic pain in Parkinson Disease patients with DBS”

- 2016 Faculty mentor- "Recognizing Excellence in Poster Presentation" award presented at Albany Medical College Graduate Student Awards Day; Recipient: Lucy Gee, PhD "The effects of subthalamic deep brain stimulation on sensory thresholds and sensory neurocircuitry in a 6-hydrodopamine rodent model of Parkinson's disease"
- 2010 Faculty mentor- AANS national medical student award- 1 award given annually; Recipient: Gina Deck BS "The effect of age and comorbidities on outcomes in subdural hematomas"
- 2009 Faculty mentor- AANS national medical student award Recipient: Anthony Burrows BS "Comparison of gait and cognitive function with STN v. ZI DBS in Parkinson's Disease"
- 2008 American Parkinson's Disease Association Summer Fellowship Faculty mentor- Anthony Burrows BD "Comparison of gait and cognitive function with STN v. ZI DBS in Parkinson's Disease" University of Massachusetts

***Teaching***

- 2011-2015 Co-director- National mentorship program for medical students in neurosurgery through Women in Neurosurgery
- 2012-current Founder/Organizer- Albany Medical College Educational Program for Parkinson's Disease patients May 19, 2012, June 5, 2013
- 2009-2011 Director of Medical Student rotation in Neurosurgery/ENT 3<sup>rd</sup> year medical student rotation (30-40 students); lecture to all Medical students in surgery
- 2007-2011 Founder/Organizer University of Massachusetts Educational Program for Parkinson's Dec 1, 2007; May 1, 2008, April 30, 2009, May 15, 2010; May 7, 2011 (150 community attendees; 5-10 medical student volunteers)
- 2010-2011 High School Summer Internship- (1 student for 1 month); exposure to clinical practice and research in neuroscience
- 2008-2011 Examiner, End of Third Year Examination (10 students)
- 2008- 2011 AMWA Faculty Advisor; supervise 4 events annually and fundraising; University of Massachusetts
- 2010 Judge- Worcester School District Science Fair Worcester, MA
- 2000-2002 Neurophysiology Course/Lab, Teaching Assistant, 15 students Wayne State University

***Advising***



## **Current**

- Aira Agrawal (Summer 2018) Summer Lab Student from Emma Willard
- Andrea Liss (Summer 2018) Summer Lab Student from SUNY Binghamton
- Harini Byraju (Summer 2018) Summer Lab Student from Shaker High School
- Maria Hancu (Summer 2018) Summer Lab Student from Shenendehowa High School
- Olga Khazen (Summer 2018) Summer Lab Student from Union College
- Shelby Sabourin (Summer 2018) Summer Lab Student from University of Rochester
- Drishti Panse (Fall 2017-current) Physician/Scientist student; thesis advisor for MDDR; use of FUS to treat chronic migraine.
- Ilknur Telkes (Fall 2017-current) Post-doctoral fellow; exploration of intraoperative LFPs and SUAs to find biomarkers with signal processing techniques for optimization of neuromodulation treatment in movement disorders and chronic pain
- Tanweer Rashid (Fall 2017-current) Post-doctoral fellow; understanding neural connectivity in Parkinson's disease deep brain stimulation

## **Past**

- Youngwon Youn (2014-2017) Medical Student; thesis advisor for MDDR; SCS patients and how high frequency stimulation affects pain and sensory thresholds
- Zohal Ghulam-Jelani (2017) Medical Student; prospectively analyzing data collected in neuropathic pain patients treated with ziconotide intrathecal drug therapy
- Hirah Khan (2017) Medical Student; analyzing use of anticoagulation therapies and SCS outcomes as well as working with our SCS database
- Yufan Lin (2017) Medical Student; propofol concentration in exhalation of SCS patients and understanding the interaction between location of active cathode contacts and SCS outcomes
- Amelia Stapleton (2017) Undergraduate student at Smith College; effects of subthalamic nucleus DBS with duloxetine on escape/avoidance behavior in a Parkinson's disease pain rodent model
- Tamana Kaderi (2015) Medical student; tremor rating scale outcomes in patients with DBS for PD

- Stephan Owusu-Sarpong (2015) Medical student; low frequency subthalamic nucleus deep brain stimulation on chronic pain outcomes
- Stephanie Owusu (2015) Medical student; patient satisfaction with subparesthesia waveforms
- Claire Collison (2015-2016) Medical student; intraoperative neuromonitoring in determining physiologic midline in SCS
- Rasan Cherala (2015) Medical student; psychological assessment tool as a predictor for SCS outcomes
- Olivia Marola (2015-2016) Post-Bachelor student; expression of cfos in brain pain nuclei with neuromodulation
- Abigail Belasen (2014-2016) Medical student; effect of pinch stimulus on local field potentials
- Khizer Rizvi (2015-2016) Medical Student; effects of peripheral nerve stimulation on sensory thresholds
- Philip Yeung (2015-2016) Medical student; effects of neuromodulation on quantitative sensory testing
- Steve Roth (2012-2016) Medical Student; intraoperative monitoring for spinal cord stimulation; Resident in neurosurgery
- Lucy Gee (2014-2016) MD/ PhD student; thesis advisor; assessment of SCS/DBS on pain in PD rodent model
- Heather Smith (2014-2016) Medical student; neuropsychological effects of DBS long-term; Resident in neurosurgery
- Nita Chen (2014-2016) Medical student; effect of eye opening on local field potentials
- Tina Ramineni (2014-2016) Medical student; effect of SCS on sleep
- Priscilla De La Cruz (2014-2016) Medical student; directs research on animal and human pain and SCS
- Steve Lange (2014-2016) Medical student; effect of SCS on pedometry
- Brant Lai (2014-2016) Undergraduate student; effect of eye opening on local field potentials
- Hans Boggs (2014-2016) Medical student; the effects of DBS lead location on head tremor in essential tremor

- Sameah Haider (2014-2015) Medical student; complications/outcomes of neuromodulation; Resident in neurosurgery
- Samik Patel (2014-2015) Medical student; prospective SCS outcomes database
- Max Kahn (2014-2015) Medical Student; role of interleaving in DBS for Parkinson Disease; Neurosurgical content in medical education; Resident in neurosurgery
- Maheen Khan (2014) UKMC Medical student; case report on thoracic radiculopathy after spinal cord stimulator placement; Resident in neurosurgery
- Jessica Haller (2013-2015) Undergraduate Student SUNY Albany; research assistant for DBS/SCS patient studies
- Nicole Patel (2014) Medical student; effect of DBS on pre-pulse inhibition and startle response
- Chris Fama (2014-2016) Undergraduate Student University of Miami; research assistant for DBS/SCS patient studies
- David Levine (2012-2014) Medical student; directed research on accuracy of DBS lead placement; directed writing of trigeminal neuropathic pain chapter
- Vikas Parmar (2011-2014) Medical student; directed research on impact of DBS on impulse control disorders in a prospective cohort of DBS patients; directed writing of case report of Rosai Dorfman and paper on neurosurgical treatment of pain; Resident- Univ of Wisconsin; Madison
- Cailey Simmons (2013-2014) Medical student; assisted in editing text book and review papers.
- Elaina Pullano (2013) Undergraduate Student; Williams; peripheral nerve stimulation outcomes
- Sujoy Phookan (2012-2014) Medical Student; DBS for Essential Tremor chapter and work on SCS for failed neck surgery syndrome; Resident in medicine
- Sarah Keating (2013) Medical Student; SCS for failed back surgery syndrome; Resident in neurology
- Britney Atwater (2010-2013) Undergraduate Student; directed her research in outcomes in neurosurgery; current study on impact of DBS on stress in a rodent model of Parkinson's disease; Worcester Polytechnic Institute (2010-current)
- Anthony Burrows (2007-2011) Medical Student; directed his research in DBS, healthcare utilization, general neurosurgery; Resident in Neurosurgery- Mayo Clinic 2011-current
- Mary Linton Peters (2007-2011) Medical Student; directed her research in olfaction, DBS, and fMRI, and neurology/oncology; Resident in Medicine- BI

Deaconess 2011- current

- Jacob Kleinman (2008-2011) Medical Student; directed his research in olfaction and fMRI; MPH Student; Harvard University 2013; Resident in emergency medicine; Cancer research
- Gina Deck, MD (2008-2009) Medical Student; directed her research in outcomes after subdural hematomas; Resident; Neurology; Lahey Clinic 2010
- Micah Blais (2010-2011) Medical Student; directed his research in health care quality improvement; Resident; Orthopedic Surgery; Massachusetts General Hospital 2012
- Sandra Beverly (2010-2012) Medical Student; directed her research in medical education; Medical Student (4<sup>th</sup> year); University of Massachusetts; Resident in emergency medicine
- Julie Sargent (2010-2011) Undergraduate Student; directed her research in outcomes in neurosurgery; Hampton College 2010
- Cassandra Cruz (2010-2011) Undergraduate Student; Faculty Mentor for major qualifying project in health care quality improvement; Worcester Polytechnic Institute 2011
- Daniel Warden (2010-2011) Undergraduate Student; directed his research in outcomes in neurosurgery; UMass Lowell 2011; Medical Student- University of Massachusetts

***Thesis Committee: Advisor***

- Marisa DiMarzio (2017-current) /PhD; Advisor, Albany Medical College
- Abigail Hellman (2017-current) /PhD; Advisor, Albany Medical College
- Miriam Shao (2017-current) MD with Distinction in Research Committee; Advisor, Albany Medical College
- Tarun Prabhala (2017-current) MD with Distinction in Research Committee; Advisor, Albany Medical College
- Jacquelyn MacDonnell (2017-current) MD with Distinction in Research Committee; Advisor, Albany Medical College
- Vignesh Kumar (2015-2017) MD with Distinction in Research Committee; Advisor, Albany Medical College
- Arun Chockalingam (2015-2017) MD with Distinction in Research Committee; Advisor, Albany Medical College
- Brian Kaszuba (2015-2017) MD with Distinction in Research Committee; Advisor,

Albany Medical College

- Lucy Gee (2013-2016) MD/PhD; Advisor, Albany Medical College

***Thesis Committee: Committee Member***

- Wilson Yu (2012- 2015) PhD Candidate; Thesis committee member, Albany Medical College
- Manav Kumar (2014-2016) MDDR committee; Thesis Committee Member, Albany Medical College
- Paul MacMahon (2012-2014) MD with Distinction in Research Committee; Thesis Committee member, Albany Medical College
- Sujoy Phookan (2012-2014) MD with Distinction in Research Committee; Thesis Committee member, Albany Medical College
- Gregory Cole (2010-2012) PhD Candidate; Thesis committee member, Worcester Polytechnic Institute

**PROFESSIONAL MEMBERSHIPS**

***Neurosurgery***

2014-current	North American Neuromodulation Society
2014-current	International Neuromodulation Society
2008-current	American Association of Stereotactic and Functional Neurosurgery
2008-current	Council of Society of Neurological Surgeons
2004-current	AANS/CNS Section in Pain
2000-current	American Association of Neurological Surgeons
2000-current	Women in Neurosurgery
1999-current	Congress of Neurological Surgeons

***General***

2016-current	Alpha Omega Alpha (AOA) – Medical Honor Society
2011-current	Medical Society of the State of New York
2008-2011	Massachusetts Medical Society; Worcester District Society
2006-2007	Illinois Medical Society
1998-2006	Medical Society of the State of Michigan; Wayne County
1994-2011	American Medical Association

**CLINICAL SERVICE**

2017-Present	Finance Committee - Albany Medical Center
2015-Present	SAB Committee-Albany Medical Center
2012-2017	OR committee – Albany Medical Center
2012-2017	Anesthesia QIT committee- Albany Medical Center
2012-2018	Admissions Committee- Elected member-

2008-2011	University of Massachusetts Anesthesia QIT committee- University of Massachusetts
2008-2011	Quality Officer- Selected member Department of Surgery, University of Massachusetts
2008-2011	Founder/organizer Parkinson's Disease Support Group University of Massachusetts
2001-2006	Marshall American Association of Neurological Surgeons

### **EDITORIAL BOARD**

1. Neuromodulation
2. Journal of Neurosurgery: Neurosurgical Focus Issue; February 2018 (Topic Editor)
3. Operative Neurosurgery (Section Editor for Stereotactic and Functional)

### **REVIEWER**

1. Brain Sciences
2. Journal of Neurological Sciences
3. Journal of Pain Medicine
4. Journal of Neurosurgery
5. Neuromodulation
6. Neurosurgery
7. Neurocase
8. Operative Neurosurgery
9. World Neurosurgery

### **BIBLIOGRAPHY**

#### **Textbooks**

HS Smith, **JG Pilitsis** (Eds.), *The Art and Science of Palliative Medicine*. Hong Kong, China: AME Publishing Company, 2013

C Argoff, A Dubin, **JG Pilitsis** (Eds), *Pain Management Secrets 4E*, New York, Elsevier, 2018.

Levin E, **Pilitsis JG**, Sagher O (Eds). *Cases in Pain Neurosurgery*. Oxford University Press. In Press.

Brown JA, **Pilitsis JG**, Schulder M (Eds). *Functional Neurosurgery: The Essentials*. Thieme Publishers. In Press.

#### **Peer reviewed journal articles**

1. **Pilitsis JG**, Kimelberg HK. Adenosine receptor mediated stimulation of intracellular calcium in acutely isolated astrocytes. *Brain Research* 1998 Jul; 798:294-303.

2. **Pilitsis JG**, Diaz FG, Wellwood J, O'Regan MH, Fairfax MR, Phillis JW, and Coplin WM. Quantification of free fatty acids in human cerebrospinal fluid. *Neurochemical Research* 2001 Dec;26:1265-70.
3. **Pilitsis JG**, Diaz FG, O'Regan MH, Phillis JW. Inhibition of Na<sup>+</sup>/Ca<sup>2+</sup> exchange by KB-R7943, a novel reverse mode antagonist, attenuates free fatty acid efflux in rat cerebral cortex during ischemia-reperfusion injury. *Brain Research* 2001 Oct;916:192-8.
4. **Pilitsis JG**, Diaz FG, O'Regan MH, Phillis JW. Inhibition of Na<sup>+</sup>/H<sup>+</sup> exchange by SM-20220, a novel selective antagonist, attenuates free fatty acid efflux in rat cerebral cortex during ischemia-reperfusion injury. *Brain Research* 2001 Sep;913:156-8.
5. Vinas F, **Pilitsis JG**, Wilner H. Spontaneous resolution of a syrinx. *Journal of Clinical Neuroscience*. 2001 Mar;8:170-2.
6. **Pilitsis JG**, Rengachary SS. The role of vertebroplasty in metastatic spine disease. *Neurosurgical Focus*. 2001 Dec;11:e9.
7. **Pilitsis JG**, Lucas DR, Rengachary SS. Bone healing and spinal fusion. *Neurosurgical Focus*. 2002 Dec;13:e1.
8. Phillis JW, O'Regan MH, Diaz FG, **Pilitsis JG**. Effects of immunosuppressants on free fatty acid efflux in rat cerebral cortex during ischemia-reperfusion injury. *Brain Research* 2002 Dec;957:12-24.
9. **Pilitsis JG**, Diaz FG, O'Regan, Phillis JW. Differential effects of phospholipase inhibitors on free fatty acid efflux in rat cerebral cortex during ischemia-reperfusion injury. *Brain Res* 2002 Sep;951:96-106.
10. **Pilitsis JG**, Coplin WM, O'Regan MH, Wellwood JM, Diaz FG, Fairfax MR, Michael DB, and Phillis JW. Free fatty acids in human cerebrospinal fluid following subarachnoid hemorrhage and their potential role in vasospasm: a preliminary observation. *Journal of Neurosurgery* 2002 Aug;97:272-9.
11. **Pilitsis JG**, Diaz FG, O'Regan MH, Phillis JW. Inhibition of mitochondrial Na<sup>+</sup>/Ca<sup>2+</sup> exchange by 7-chloro-5-(2-chlorophenyl)-1,5-dihydro-4,1-benzothiazepin-2-(3H)-one attenuates free fatty acid efflux in rat cerebral cortex during ischemia-reperfusion injury. *Neuroscience Letters* 2002 Mar;321:1-4.
12. **Pilitsis JG**, Coplin WM, O'Regan MH, Wellwood JM, Diaz FG, Fairfax MR, Michael DB, Phillis, JW. Free fatty acids in cerebrospinal fluids from patients with traumatic brain injury. *Brain Research* 2003 Oct;349:136-8.
13. **Pilitsis JG**, Coplin WM, O'Regan MH, Wellwood JM, Diaz FG, Fairfax MR, Michael DB, Phillis, JW. Measurement of free fatty acids in cerebrospinal fluids from patients with ischemic and hemorrhagic stroke. *Neuroscience Letters* 2003 Sep;985:198-201.
14. **Pilitsis JG**, Rezai AR, Boulis NM, Henderson JM, Busch RM, Kubu CS. A preliminary study of transient confusional states following bilateral

subthalamic stimulation for Parkinson's disease. *Stereotactic and Functional Neurosurgery*. 2005; 83:67-70.

15. Brown JA, **Pilitsis JG**. Percutaneous balloon compression for the treatment of trigeminal neuralgia: results in 56 patients based on balloon compression pressure monitoring. *Neurosurgical Focus* 2005 May;18:E10.
16. Brown JA, **Pilitsis JG**. Motor cortex stimulation for central and neuropathic facial pain: a prospective study of ten patients and observations of enhanced sensory and motor function during stimulation. *Neurosurgery* 2005 Feb;56:290-7.
17. Brown JA, **Pilitsis JG**. Motor cortex stimulation. *Pain Medicine*. 2006 May;7(Suppl S1):140-5.
18. Lee A, **Pilitsis JG**. Spinal cord stimulation: indications and outcomes. *Neurosurgical Focus* 2006 Dec;21:E3.
19. **Pilitsis JG**, Chu Y, Kordower J, Bergen D, Cochran E, Bakay RAE. Post-mortem study of deep brain stimulation of the anterior thalamus. *Neurosurgery* 2008 Feb; 62:E530-2.
20. **Pilitsis JG**, Verhagen LM, Toleikis JR, Hughes LE, Sani SB, Bakay RAE. Factors involved in long-term efficacy of deep brain stimulation of the thalamus for essential tremor. *Journal of Neurosurgery* 2008 Oct;109:640-6.
21. Wang Y, Cole GA, Su H, **Pilitsis JG**, Fischer GS. MRI compatibility evaluation of a piezoelectric actuator system for a neural interventional robot. *Conf Proc IEEE Eng Med Biol Soc*. 2009;1: 6072-5.
22. Cole G, **Pilitsis JG**, Fischer GS. Design of a Robotic System for MRI-Guided Deep Brain Stimulation Electrode Placement. *IEEE International Conference on Robotics and Automation*. 2009.
23. Burrows A, Moser RP, Weaver JP, Litwin DL, **Pilitsis JG**. Massachusetts health insurance mandate: effects on neurosurgical practice. *Journal of Neurosurgery* 2010 Jan;112:202-7.
24. Burrows AM, Smith TW, Hall W, **Pilitsis JG**. Ascending paralysis from malignant leptomeningeal melanomatosis. *Journal of Neurology Neurosurgery and Psychiatry* 2010 April;81:449-50.
25. Cole G, Harrington K, Su H, Camilo A, **Pilitsis JG**, Fischer GS. Closed-loop actuated surgical system utilizing real-time in situ MRI guidance. *International Symposium on Experimental Robotics* 2010.
26. Peters ML, Burrows A, Ravin P, Novak P, Swearer J, **Pilitsis JG**. Implanted Parkinson's disease patients show better olfaction than those treated medically. *Neurological Bulletin* 2011 Volume 2.



27. Novak P, Przybyszewski A, Barborica A, Ravin P, Margolin L, **Pilitsis JG**. Localization of the subthalamic nucleus in parkinson disease using multi unit activity. *Journal of Neurological Sciences* 2011 Nov;310:44-9.
28. Burrows A, Peters ML, Ravin P, Novak P, Dessureau B, Swearer J, **Pilitsis JG**. Limbic and motor function comparison of deep brain stimulation of the zona incerta and subthalamic nucleus. *Neurosurgery* 2012 Mar;70(1 Suppl Operative):125-30; discussion 130-1.
29. Toleikis JR, Metman LV, **Pilitsis JG**, Barborica A, Toleikis SC, Bakay RA. Effect of intraoperative subthalamic nucleus DBS on human single-unit activity in the ipsilateral and contralateral subthalamic nucleus. *Journal of Neurosurgery* 2012 May; 116(5):1134-43.
30. **Pilitsis JG**, Burrows A, Peters ML, Sargent J, Ng SC, Tseng J. Changing practice pattern of DBS in Parkinson disease and essential tremor in USA. *Stereotactic and Functional Neurosurgery* 2012; 90:25-9.
31. Verhagen Metman L, **Pilitsis JG**, Stebbins GT, Bot M, Bakay RA. Intraoperative x-ray to measure distance between DBS leads: A reliability study. *Mov Disord.* 2012 Jull 27(8): 1056-9.
32. Sutton AC, Yu W, Calos ME, Smith AB, Ramirez-Zamora A, Molho ES, **Pilitsis JG**, Brotchie JM, Shin DS. Deep brain stimulation of the substantia nigra pars reticulata improves forelimb akinesia in the hemiparkinsonian rat. *Journal of Neurophysiology.* 2013 Jan; 109:363-74.
33. **Pilitsis JG**, Atwater B, Warden D, Deck G, Carroll J, Smith J, Chau Ng S, Tseng J. Outcomes in octogenarians with subdural hematomas. *Clinical Neurology and Neurosurgery* 2013 Aug;115:1429-32.
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## Chapters

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57. Youn Y, Smith H, **Pilitsis JG** The Effect of High Frequency Stimulation on Sensory Thresholds in Chronic Pain Patients, North American Neuromodulation Society, Dec 11-14, 2014 Las Vegas, NV; Poster presentation.
58. Smith H, Youn Y, **Pilitsis JG** Successful use of high-frequency spinal cord stimulation following traditional treatment failure. North American Neuromodulation Society, Dec 11-14, 2014 Las Vegas, NV; Poster presentation.

59. Smith H, Gee L, Youn Y, **Pilitsis JG** The effect of subthalamic nucleus deep brain stimulation on impulsivity. North American Neuromodulation Society, Dec 11-14, 2014 Las Vegas, NV; Oral presentation
60. Youn Y, Smith H, Morris B, Argoff C, **Pilitsis JG**. The Effect of High Frequency Stimulation on Sensory Thresholds in Chronic Pain patients. Centennial American Medical Women's Association Meeting, April 24-26, 2015 Chicago, Illinois. Poster Presentation.
61. Roth SG, Haller J, Heran M, Lange S, Campbell JC, De La Cruz P, **Pilitsis JG**. Intraoperative monitoring allows for lateralization of Spinal Cord Stimulators. May 2015, AANS, Washington DC, Oral Presentation
62. **Pilitsis JG** et al. Low Back Pain Relief and Patient-Specific Programming Optimization with a new 32-Contact Spinal Cord Stimulation (SCS) Surgical Lead May 2015, AANS, Washington DC, Oral Presentation
63. Kumar V, Wilock M, Youn Y, **Pilitsis JG**. Alterations in Stimulation Parameters in Response to Changes in Body Position, International Neuromodulation Society, June 2015, Montreal CA Poster presentation
64. Gee L, Shin D, **Pilitsis JG**. Thalamic relay and interneurons may play a role in altered mechanical thresholds following subthalamic deep brain stimulation (STN DBS) in 6 hydroxydopamine lesioned rodents International Neuromodulation Society, June 2015, Montreal CA Poster presentation
65. Youn Y, Kumar V, Smith H, Wilock M, Argoff A; **Pilitsis JG**. High Frequency Stimulation Decreases Thermal Thresholds in Patients with Neuritis. International Neuromodulation Society 12th World Congress, June 6-8, 2015 Montreal, Quebec, Canada. Poster Presentation.
66. Ramimeni T, Kumar V, DeLaCruz P, **Pilitsis JG**. A prospective assessment of the impact of spinal cord stimulation on sleep quality International Neuromodulation Society 12th World Congress, June 6-8, 2015 Montreal, Quebec, Canada. Poster Presentation.
67. Golebiowski D, Petrosky K, Van der Marel K, Hutto E, Curran E, Balkanska-Sinclair E, Bishop N, Santos R, Macr SCi, Marti Dn, Gounis M, **Pilitsis JG**, Asaad W, Sena-Esteves M. Optimization of AAV vector design for safe expression of  $\beta$ -N-acetylhexosaminidase in the brain for Tay-Sachs disease gene therapy. ASGCT, May 2015, oral presentation
68. Paul AR, Kumar V, Roth SG, Gooch MR, **PilitsisJG**. Determining the Minimally Clinical Important Difference in Pain, Quality of Life, and Disability for Spinal Cord Stimulation for Failed Neck and Failed Back Syndromes. Neurosurgery. 2015 Aug;62 Suppl 1:205-6.
69. Walling I, Gee L, Neubauer P, Firth L, Williams E, Burdette C, **Pilitsis JG**. Pulse modulation of the occipital nerve using focused high intensity ultrasound improves mechanical thresholds in a chronic migraine rat model. National Center for Image

Guided Therapy in Bethesda, Maryland, 3/15/16 Poster presentation.

70. Gee L, Burdette C, Ghoshal G, Kumar V, Walling I, Prusik J, Shin D, **Pilitsis JG**. Interstitial directional high intensity focused ultrasound in a 6-hydroxydopamine lesioned rodent model of Parkinson's Disease. 84<sup>th</sup> AANS Annual Scientific Meeting, April 30-May 4th, 2016 Chicago, IL. Oral Presentation.
71. Belasen A, Youn Y, Prusik J, Lai B, Ramirez-Zamora A, Gee L, Rizvi K, Yeung P, Shin D, Argoff C, **Pilitsis JG**. The effect of mechanical and thermal stimuli on local field potentials and single unit activity in Parkinson's disease. 84<sup>th</sup> AANS Annual Scientific Meeting, April 30-May 4th, 2016 Chicago, IL. Oral Presentation.
72. Marola O, Prusik J, Fama C, Kumar V, Cherala R, Wilock M, Crimmins J, **Pilitsis JG**. BMI as a predictor of spinal cord stimulation success in chronic pain patients. 84<sup>th</sup> AANS Annual Scientific Meeting, April 30-May 4th, 2016 Chicago, IL. Poster Presentation.
73. Owusu-Sarpong S, Haider S, Peris-Celda M, Wilock M, Prusik J, Youn Y, **Pilitsis JG**. Cervical Spinal Cord Stimulation: Outcomes with Percutaneous and Paddle Leads. 84<sup>th</sup> AANS Annual Scientific Meeting, April 30-May 4th, 2016 Chicago, IL. Oral Presentation.
74. **Pilitsis JG**, Barolat G, Brill N, Lechleite K, Moffitt M. Characterization of Paresthesia Distributions with Transverse Current Steering in Spinal Cord Stimulation using a 4-column Surgical Lead. 2016 Congress of Neurological Surgeons (CNS) Annual Meeting. September 24-28th, 2016. San Diego, CA. Digital Poster Presentation.
75. Walling I, Gee L, Neubauer P, Frith L, Williams E, Burdette C, **Pilitsis JG**. Pulse Modulation of the Occipital Nerve Using Focused High-intensity Ultrasound Improves Mechanical Thresholds in a Chronic Migraine Rat Model. 2016 Congress of Neurological Surgeons (CNS) Annual Meeting. September 24-28th, 2016. San Diego, CA. Oral Presentation.
76. Youn Y, Walling I, Gee L, Neubauer P, Frith L, Williams E, Burdette C, **Pilitsis JG**. High Intensity Ultrasound for the Treatment of Vincristine Induced Neuropathic Pain. 2016 Congress of Neurological Surgeons (CNS) Annual Meeting. September 24-28th, 2016. San Diego, CA. Oral Presentation.
77. **Pilitsis J**. Advances in Neuromodulation. The Art and Science of Pain: A Clinical and Research Update. October 15, 2016. Saratoga Springs, NY. Oral Presentation.
78. **Pilitsis J**, Barolat G, Brill N, Lechleite K, Moffitt M. Transverse Current Steering in SCS using a 4-column Lead: Clinical Validation of Computational Modeling Data. North American Neuromodulation Society (NANS) Annual Meeting. January 19-22, 2017. Las Vegas, Nevada. Poster Presentation.
79. Prusik J, Prabhala T, Cherala R, Gruenthal E, Owusu S, Collison C, Wilock M, Hobson E, McCallum S, **Pilitsis JG**. Use of a Psychological Evaluation Tool as a Predictor of Spinal Cord Stimulation Outcomes. North American Neuromodulation Society (NANS) Annual Meeting. January 19-22, 2017. Las Vegas, Nevada. Poster Presentation.

80. Gruenthal E, Owusu S, Prusik J, Cherala R, Peng S, Feustel P, **Pilitsis, JG**. Prospective Evaluation of Patient Usage Patterns with Subparesthesia Waveforms. North American Neuromodulation Society (NANS) Annual Meeting. January 19-22, 2017. Las Vegas, Nevada. Poster Presentation.
81. Kumar V, Prusik J, Argoff A, **Pilitsis JG**. Therapeutic Efficacy of Alternating High Frequency Stimulation with Tonic Stimulation in the Treatment of Chronic Pain. North American Neuromodulation Society (NANS) Annual Meeting. January 19-22, 2017. Las Vegas, Nevada. Poster Presentation.
82. Walling I, Gee L, Kaszuba B, Kumar V, Gannon S, Hellman A, Neubauer, Frith L, Williams E, Ghoshal G, Shin D, Burdette C, **Pilitsis JG**. The use of high intensity focused ultrasound for the treatment of cutaneous allodynia associated with chronic migraine: pulse modulation vs nerve ablation. North American Neuromodulation Society (NANS) Annual Meeting. January 19-22, 2017. Las Vegas, Nevada. Poster Presentation.
83. Deuel L, **Pilitsis J**, Ramirez-Zamora A. Battery consumption and need for replacement in patients with Parkinson disease treated with interleaved deep brain stimulation. *Movement Disorders* 2017;32(Suppl 2):S145. International Congress of Parkinson's Disease and Movement Disorders. June 4-7, 2017. Vancouver, BC, Canada. Poster Presentation.
84. Khan H, **Pilitsis JG**, Prusik J, Smith H, McCallum SE. Pain remission at one year follow up with Spinal Cord Stimulation. North American Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.
85. Lin Y, **Pilitsis JG**, Feustel P, Sukul V, Prusik J, McCallum SE. Comparison of Active Cathode Locations in Patients with Tonic and Sub-Threshold Spinal Cord Stimulation. Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.
86. Gee L, Smith HC, Ghulam-Jelani Z, Khan H, Prusik J, Feustel PJ, McCallum SE, **Pilitsis JG**. Spinal cord stimulation for the treatment of chronic pain results in superior clinical outcomes when used without opioids. North American Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.
87. Lin Y, MacDonell, Prusik J, **Pilitsis JG**. BurstDR™ Stimulation Improves Pain Experience in Patients After Inadequate Relief with Tonic Stimulation. North American Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.
88. MacDonell, Prusik J, Gillogly M, **Pilitsis JG**. Usage Patterns During Simultaneous Administration of Tonic and Subthreshold wavefronts: A Pilot Study. North American Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.
89. Hwang R, Ghulam-Jelani Z, Chockalingam A, Kumar V, McCallum SE, Su W,

Hobson E, Sukul V, **Pilitsis JG**. The safety of deep brains stimulator lead placement in patients routinely on anticlotting drugs. North American Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.

90. Kumar V, Prusik J, Lin Y, Hwang R, Feustel P, **Pilitsis JG**. Efficacy of Alternating Conventional Stimulation and High Frequency Stimulation in Improving Spinal Cord Stimulation Outcomes: A Pilot Study. North American Neuromodulation Society (NANS) 21<sup>st</sup> Annual Meeting. January 11-14, 2018. Las Vegas, Nevada. Poster Presentation.
91. DiMarzio M, Gillogly M, Hancu I, Fiveland E, Rashid T, Joel S, Madhavan R, Prusik J, Molho E, Durphy J, Hanspal E, **Pilitsis JG**. Use of functional MRI to understand modulation of chronic pain in Parkinson Disease patients with DBS. 2018 AANS Annual Scientific Meeting in New Orleans, LA on April 28-May 2, 2018. E-poster.
92. Kaszuba B, Walling I, Feustel P, Stapleton A, Shin D, **Pilitsis JG**. "Neurosurgery Research Principles and Dynamics: Effects of Subthalamic Deep Brain Stimulation with Gabapentin and Morphine on Mechanical and Thermal Thresholds in 6-Hydroxydopamine Lesioned Rats". 2018 AANS Annual Scientific Meeting in New Orleans, LA on April 28-May 2, 2018. Oral Presentation.
93. Prabhala T, Hellman A, Walling I, Maietta T, Qian J, Clif Burdette C, Frith L, Shao M, Stapleton A, Thibodeau J, **Pilitsis JG**. High Intensity Focused Ultrasound Treatment for Neuropathic Pain Induced by Common Peroneal Nerve Injury. 2018 AANS Annual Scientific Meeting in New Orleans, LA on April 28-May 2, 2018. Oral Presentation.
94. Shao M, Maietta T, Walling I, Kaszuba B, Prabhala T, Stapleton A, Kim N, Shin DS, **Pilitsis JG**. "Subthalamic Nucleus Deep Brain Stimulation Combined with Duloxetine Changes Pain Behavior in Parkinsonian Rats." 2018 AANS Annual Scientific Meeting in New Orleans, LA on April 28-May 2, 2018. Oral Presentation.
95. Gee L, Smith HC, Ghulam-Jelani, Z, Khan H, Prusik J, Feustel PJ, McCallum SE, **Pilitsis, JG**. Spinal cord stimulation for the treatment of chronic pain reduces opioid use and results in superior clinical outcomes when used without opioids. 2018 AANS Annual Scientific Meeting in New Orleans, LA on April 28-May 2, 2018. Oral Presentation.
96. Shao MM, Maietta T, Walling I, Kaszuba B, Prabhala T, Stapleton A, Kim N, Shin DS, **Pilitsis JG**. Subthalamic Nucleus Deep Brain Stimulation Combined with Duloxetine Changes Pain Behavior in Parkinsonian Rats. American Society for Stereotactic and Functional Neurosurgery 2018 Biennial Meeting. Denver, CO. June 2-5, 2018. Oral Presentation
97. Gillogly M, Prusik J, Kumar V, MacDonell, Hwang R, **Pilitsis J**. A Pilot study of usage patterns during simultaneous administration of tonic and subthreshold waveforms. American Society for Stereotactic and Functional Neurosurgery 2018 Biennial Meeting. Denver, CO. June 2-5, 2018. Oral Presentation.
98. Telkes I, Paniccioli S, Grey R, Briotte M, McCarty K, **Pilitsis JG**. Effect of Spinal



Cord Stimulation on Intraoperatively Recorded EEG in Chronic Pain Patients.  
Accepted for presentation at the 2018 NYC Neuromodulation NANS Summer Series Meeting in New York, NY on August 23-26, 2018. Oral Presentation.

99. Telkes I, Hwang R, Durphy J, Adam O, **Pilitsis JG**. Directional Local Field Potentials Recorded from Ventral Capsule/Ventral Striatum in Obsessive-Compulsive Disorder. Accepted for presentation at the 2018 NYC Neuromodulation NANS Summer Series Meeting in New York, NY on August 23-26, 2018. Oral Presentation.

## **INVITED LECTURES**

### ***Institutional:***

1. Emerging Applications of Deep Brain Stimulation. Dept of Neurology Grand Rounds; Sept 11, 2007
2. Invited Lecturer to Psychiatry Residents Deep Brain Stimulation for Depression; Dec 20, 2007
3. Parkinson's Disease- The Role of Deep Brain Stimulation; Institutional Combined Grand Rounds; January 25, 2008
4. The Science behind Deep Brain Stimulation; Frontiers in Science Program for K-12 Teachers; March 11, 2008
5. Invited Speaker – MD/PhD Annual Retreat; University of Massachusetts Medical School; March 13, 2008
6. Parkinson's Disease-The Role of Deep Brain Stimulation; University of Massachusetts Primary Care Day. March 13, 2008.
7. Deep Brain Stimulation: What Providers need to know.
  - a. Lecture to Neurosurgical Midlevels; Sept 11, 2007
  - b. Lecture to OR staff January 9, 2007
  - c. Lecture to ICU Midlevels: March 25, 2008
8. DBS for psychiatric indications- Dept of Neuropsychiatry; February 4, 2010
9. Olfaction as a biomarker in Parkinson's; Department of Psychiatry July 15, 2010
10. Neurosurgery for midlevels University of Massachusetts August 5, 2010
11. Olfaction as a biomarker in Parkinson's; GSBS University of Massachusetts September 2, 2010
12. Psychosurgery: Past, present and future; Department of Psychiatry Grand Rounds September 23, 2010
13. Deep Brain Stimulation; Frontiers in Science Program for K-12 Teachers; March 15, 2011
14. DBS for OCD- Dept of Neuropsychiatry; University of Massachusetts; March 2011
15. Restorative Neurosurgery: Neurosurgery CME event for PCPs, Albany Medical Center, September 12, 2012
16. Deep Brain Stimulation Grand Rounds Department of Anesthesia, November 2012
17. Stimulation: Neurosurgery CME event for PCPs, Albany Medical Center, October 2013
18. What's new in neuromodulation? Grand Rounds Department of Neurology, February 2014
19. Whose Pain is it anyway?: Neurosurgery CME event for PCPs, Albany Medical Center, October 2014
20. Establishing a Paradigm for Translational Research at AMC. Grand Rounds for Department of Psychiatry, Albany Medical Center, October 12, 2016

21. Advances in Pain Neuromodulation. Grand Rounds for Department of Medicine, Albany Medical Center, October 27, 2016
22. What's New in Neuromodulation in Pain. Grand Rounds for Department of Neurosciences, Albany Medical Center, March 23, 2017
23. Psychosurgery: Past, Present and Future. Grand Rounds for Department of Psychiatry, Albany Medical Center, November 1, 2017.

***Regional:***

1. Parkinson's Disease: Information for patients about surgical options; Springfield, MA October 20, 2007
2. Low Back Pain: The role of surgery; Harrington Memorial Hospital, Southbridge, MA December 6, 2007
3. Low Back Pain: The role of surgery; Marlborough Hospital, Marlborough, MA December 7, 2007
4. Parkinson's Disease- The Role of Deep Brain Stimulation Holyoke Medical Center; Holyoke, MA January 8, 2008
5. The role of surgery in the treatment of psychiatric disorders. Presentation to MA Health Directors on Psychiatric Disease February 7, 2008
6. Parkinson's Disease: Information for patients about surgical options; Heywood Hospital PD Support Group; Gardner, MA February 27, 2008
7. Parkinson's Disease- The Role of Deep Brain Stimulation; Neurology Grand Rounds; St. Vincent's Hospital; Worcester, MA February 28, 2008
8. Parkinson's Disease- The Role of Deep Brain Stimulation; Grand Rounds; HealthAlliance Hospital; Leominster, MA May 20, 2008
9. Parkinson's Disease- The Role of Deep Brain Stimulation; Grand Rounds; Marlborough Hospital, Marlborough, MA May 20, 2008
10. Parkinson's Disease: Information for patients about surgical options; Springfield PD Support Group; Springfield, MA October 7, 2008
11. Frontiers in PD; UMass PD Support Group; Worcester, MA October 8, 2008
12. Frameless DBS for PD; APDA Annual Educational Event; Sturbridge, MA November 14, 2008
13. Spinal Cord Stimulation for Pain- Grand Rounds; Leominster Hospital, Leominster MA December 8, 2009
14. Deep Brain Stimulation- VNA of Worcester- December 9, 2009
15. Presenter- Deep Brain Stimulation Hanover Wellness Fair- April 14, 2010 Worcester MA
16. Spinal Cord Stimulation for Pain- Grand Rounds; Harrington Hospital, April 15, 2010
17. Blood in the Brain- Grand Round; Wing Hospital Palmer, MA May 21, 2010
18. Functional neurosurgery- where we are and where we are going Albany Medical College January 2012
19. Deep Brain Stimulation- Attleboro Support Group- April 13, 2011
20. Deep Brain Stimulation- Saratoga Support Group- January 12, 2012
21. Neurostimulation for pain- Kingston Hospital- May 10, 2012
22. Deep brain stimulation- what to expect; Parkinson's Education Event May 19, 2012
23. Deep brain stimulation- what to expect; Essential Tremor Education Event September 19, 2012
24. Women in Medicine: Perspectives of the Female Physician. April 9, 2013
25. Deep brain stimulation- what's new; Parkinson's Education Event May, 2013

26. Lunch and Learns- Deep brain stimulation- Fall 2013- multiple events
27. Management of low back pain; Parkinson's Education Event April 2014
28. Translational Pain and Neuromodulation. The New York State Pain Society, Annual Meeting. West Harrison, New York. April 1, 2017
29. Deep Brain Stimulation for Parkinson's Disease. The Healthcare Seminar Series for GE. Niskayuna, NY. August 30, 2017

***National:***

1. Spinal Cord Stimulation- AANS/CNS Section on Pain Biennial Symposium; April 25, 2008; Chicago, IL
2. Deep Brain Stimulation for Movement Disorders- 2008 Annual Clinical Assembly of Osteopathic Specialists; Sept 14, 2008, Boca Raton, FL
3. Deep Brain Stimulation for Pain - 2008 Annual Clinical Assembly of Osteopathic Specialists; Sept 14, 2008, Boca Raton, FL
4. Integrated Medical Learning Moderator- AANS/CNS Section on Pain; Organizer of Session; Congress of Neurological Surgeons; Sept 23, 2008, Orlando, FL
5. Spinal Cord Stimulation for Failed Back Surgery Syndrome; Congress of Neurological Surgeons Sept 23, 2008, Orlando, FL
6. Neuromodulation for Residents- American Association of Neurological Surgeons; May 5, 2009; San Diego, CA
7. Review of the 2009 Pain Literature- Congress of Neurological Surgeons – October 2009; New Orleans LA
8. Intrathecal Pumps and Complications; AANS/CNS Pain Section Biennial Event April 30, 2010; Philadelphia, PA
9. Moderator- Scientific Session- AANS Philadelphia, PA May 3, 2010
10. Neuromodulation for Residents- American Association of Neurological Surgeons; May 2010; Philadelphia PA
11. Moderator- Scientific Session- Coding for Pain Procedures; CNS; October 2010 San Francisco, CA
12. Coding of Intrathecal Pumps- CNS October 2010; San Francisco CA
13. Neuromodulation for Residents- American Association of Neurological Surgeons; April 2011 Denver, CO
14. Geriatric Brain Injury American Association of Neurological Surgeons; April 2011 Denver, CO
15. Medical Student Education Council of State Neurosurgical Societies April 2011 Denver CO
16. DBS for pain; American Academy of Pain Management; Las Vegas NV September 2011
17. Course Director- Integrating Pain into your practice CNS Washington DC October 2011;
18. Moderator- Complications of pain surgery; CNS; Washington DC October 2011
19. Moderator- General Plenary Session; CNS; Washington, DC; October 2011
20. What to expect from your Surgery: APDA/NPF young onset annual conference; Providence RI; October 2011.
21. Spinal Cord Stimulation for Neuromodulation for Residents- American Association of Neurological Surgeons; April 2012 Miami, FL
22. Geriatric Brain Injury American Association of Neurological Surgeons; April 2012 Miami FL
23. The role of microelectrode recording- Surgical Management of Parkinson's Disease

- American Association of Neurological Surgeons; April 2012 Miami FL
24. Course Director- Integrating Pain into your practice CNS Washington DC October 2012;
  25. Spinal Cord Stimulation for Neuromodulation for Residents- American Association of Neurological Surgeons; April 2013 New Orleans, LA
  26. Geriatric Brain Injury American Association of Neurological Surgeons; April 2013 New Orleans, LA
  27. Complication Avoidance- Surgical Management of Parkinson's Disease American Association of Neurological Surgeons; April 2013 New Orleans, LA
  28. Participant- Webinar- Functional Board Review- CNS- May 2013
  29. Moderator- Neuromodulation Update- CNS San Francisco, October 19, 2013
  30. Spinal Cord Stimulation: Patient Selection- CNS San Francisco, October 20, 2013
  31. Pathophysiology of pain through spinal mechanisms- CNS San Francisco Oct 23, 2013
  32. Blue Water Strategies for practice development- AANS/CNS Section on Pain; San Francisco; April 2014
  33. Intrathecal Pumps- AANS/CNS Section on Pain, San Francisco AANS, April 2014
  34. Anticoagulants and head injury- AANS Practical Course, April 2014
  35. Surgical Management of Parkinson Disease: Patient Selection; San Francisco, April 2014
  36. Moderator and Participant- Webinar- Functional Board Review- CNS- May 2014
  37. SCS- Awake or Asleep; Invited Lecture; ASSFN Washington, DC June 1, 2014
  38. Moderator- Scientific Section- ASSFN Washington, DC June 1, 2014
  39. Moderator, Participant CNS Board Review Chicago Aug 8, 2014
  40. Starting from Scratch, Practical Course CNS, Boston MA October 2014
  41. Troubleshooting and Salvage, Practical Course CNS, Boston MA, October 2014
  42. Mentorship, Section on Women in Neurosurgery, CNS, Boston MA, October 2014
  43. Moderator- Deep brain stimulation- North American Neuromodulation Society, Las Vegas, December 2014
  44. Patient Selection for Cancer pain intervention- North American Neuromodulation Society, Las Vegas, December 2014
  45. Blue Water Strategies for practice development- AANS/CNS Section on Pain; AANS, Washington DC; May 2015
  46. Anticoagulants and head injury- AANS Practical Course, May 2015; Washington DC
  47. Course Director, AANS Practical Course; Integrating Spine into your pain practice, AANS, Washington DC, May 2015
  48. Mentorship for Medical Students, AANS, Section on Women in Neurosurgery, AANS, April 2015, Washington DC.
  49. Introduction of Osler Lecturer AANS, Washington DC, May 2015
  50. Commentary- Petraglia et al: Delays from Pain Diagnosis to SCS Treatment Result in Higher Health-care Use Post-implantation AANS, Washington DC, May 2015
  51. Advances in Pain Neuromodulation. West Virginia University Visiting Professor Series; October 18, 2016
  52. What's new in neuromodulation for pain. 2017 Richard Lende Meeting Neurosurgery Conference. Snowbird, Utah. February 3, 2017
  53. Reimbursement Economics, billing for procedures, financial aspects of starting a practice, network development. American Association of Neurological Surgeons: The AANS/CNS Joint Section on Pain. Chicago, IL. May 20, 2017.
  54. A Translational Approach to Neuromodulation. Department of Neurosurgery; Vanderbilt University, Nashville, TN. September 20, 2017
  55. Moderator – Surgical Management of Pain and Hemifacial Spasm. 2017 CNS Annual

- Meeting. Boston, MA. October 8, 2017.
56. Moderator – Parkinson’s and Other Movement Disorders. Neurotech Investing and Partnering Conference. Boston, MA. May 2, 2018
  57. Surgery for Chronic Pain and Movement Disorders: Building a Practice and Coding. American Society for Stereotactic and Functional Neurosurgery 2018 Biennial Meeting. Denver, CO. June 2, 2018
  58. Moderator – Parallel Session on Pain. American Society for Stereotactic and Functional Neurosurgery 2018 Biennial Meeting. Denver, CO. June 5, 2018
  59. Diversity in Neurosurgery: Patients and Providers. Neurosurgery Grand Rounds at the Second Annual Carole A. Miller, MD Lectureship and Resident Research Day, The Ohio State University, Columbus, Ohio. July 5, 2018.

***International:***

1. Deep Brain Stimulation for Chronic Pain; International Neuromodulation Society, Montreal, CA June 2015
2. Deep Brain Stimulation for Obesity; International Neuromodulation Society, Montreal, CA June 2015
3. Neuromodulation for Eating Disorders: Potential Targets and Rationale. International Neuromodulation Society 13<sup>th</sup> World Congress. Edinburgh, Scotland. May 27-June June, 2017.
4. Psychological evaluations to predict spinal cord stimulation success. 2018 Neuromodulation Society of Australia and New Zealand; 13th Annual Scientific Meeting in Sydney, Australia. April 6-8, 2018.
5. Intracranial Neuromodulation – Fact or fantasy? 2018 Neuromodulation Society of Australia and New Zealand; 13th Annual Scientific Meeting in Sydney, Australia. April 6-8, 2018.
6. Spinal Cord Stimulator Implantation in Asleep Patients: Intraoperative Neuromonitoring. 2018 Neuromodulation Society of Australia and New Zealand; 13th Annual Scientific Meeting in Sydney, Australia. April 6-8, 2018.