

**CURRICULUM VITAE OF
NATHANIEL PHILLIPS BROOKS, M.D.**

PERSONAL DATA

Office Address: Department of Neurological Surgery
University of Wisconsin – Madison
600 Highland Ave., Room K4/860 CSC
Madison WI 53792

Office: (608) 263-1410
Fax: (608) 263-1728
Mobile: (608) 469-3136
Pager: (608) 265-7000 page 2049

E-mail: brooks@neurosurgery.wisc.edu

EDUCATION

Undergraduate: University of Colorado, Boulder, CO
August 1991 – December 1995
Degree: B.A.
Majors: Philosophy and Biology

Graduate/Medical School: Medical College of Wisconsin, Milwaukee, WI
August 1998 - May 2002
Degree: M.D.

Residency:

June 2003 – June 2009 Resident, Department of Neurological Surgery, University
of Wisconsin – Madison

June 2002 – June 2003 Intern, Department of General Surgery, University of
Wisconsin – Madison

Postgraduate/Fellowship:

August 2009 – July 2010 Fellowship, Spine Surgery, Cleveland Clinic Spine
Institute, Cleveland, Ohio

CERTIFICATION AND LICENSURE

National Board of Medical Examiners Diplomate

American Board of Neurological Surgeons
Written Examination – May, 2006
Board Certification – May 7, 2014
Wisconsin Medical License # 47064 – 020
Ohio Medical License # 35.093762
National Provider Identifier - 1306802053

PRESENT APPOINTMENT/POSITION

2010 - Present Neurosurgeon, St. Mary's Hospital Medical Center, Madison, Wisconsin

2010 - Present Neurosurgeon, William S. Middleton Memorial Veterans Hospital, Madison, WI

2010 - Present Neurosurgeon, Meriter Hospital, Madison, Wisconsin

2010 - Present Neurosurgeon, University of Wisconsin Hospital and Clinics, Madison, WI

2010 – Present Assistant Professor of Neurosurgery, Department of Neurological Surgery, University of Wisconsin, Madison

PAST APPOINTMENTS/POSITIONS

2009 (July) Neurosurgeon (Locum Tenens), Mercy Hospital - Janesville, Wisconsin

2009 - 2010 Neurosurgeon, Cleveland Clinic Foundation – Huron Hospital, Cleveland, Ohio

PROFESSIONAL SOCIETY MEMBERSHIPS

1. American Association of Neurological Surgeons: 2003 - present
2. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves: 2006 – present
3. Congress of Neurological Surgeons: 2004 - present
4. North American Spine Society: 2010 – present

HONORS AND AWARDS

1. UW Neurosurgical Resident Academic Achievement Award – 2008
2. UW Neurosurgery Faculty Teaching Award – 2013

GRANT SUPPORT

Current

1. Research support awarded and continued:
 - a) A Multi-Center, Randomized, Placebo Controlled, Double-Blinded, Trial of Efficacy and Safety of Riluzole in Acute Spinal Cord Injury (RISCIS). – Approved as a study site. \$10,400 Startup, \$2600 per enrolled patient
Year of Award: Indefinite
PI: Nathaniel Brooks, MD

PUBLICATIONS

Refereed Articles

1. Page P, Wei Z, Brooks NP. “Motorcycle helmets and cervical spine injuries: a 5-year experience at a level one trauma center.” *JNS: Spine*. September 2017.
2. Dodd K, Brooks N. “The Development of Augmented Reality to Enhance Minimally Invasive Surgery.” *Surgical Technology International*. Vol. 31, 2017 Dec 22;31:19-24
3. Hamilton K, Rocque B, Brooks N. “Spine and Spinal Cord Injuries After Falls from Tree Stands During the Wisconsin Deer Hunting Season” *Wisconsin Medical Journal* 2017
4. Brooks NP, Potts E, O’Toole J. “The Impact of Guidelines on Clinical Practice: Survey of the Use of Methylprednisolone for Acute Spinal Cord Injury” *Neurosurgery*. Vol. 79, Number 3, September 2016, E516 – E520
Concept Development and Design
5. Brooks, NP. “Central Cord Syndrome.” *Neurosurgery Clinics of North America*. Elsevier Philadelphia, PA. Accept May 2016.
6. Lake, WB, Brooks, NP, Resnick DK. Comparative effectiveness research in spine surgery. *Journal of Comparative Effectiveness Research*. 2013 Jan;2(1):45-51.
7. Figueiredo N, Brooks NP, Hanna A, Baskaya MK, Trost GR, Resnick D. Intraspinal ependymomas: case series study of myxopapillary and intramedullary ependymomas. *Chirurgia*, accepted for publication October 2012.
8. Agrawal, B. M., Brooks, N. P., & Resnick, D. K. Wisconsin Spine Outcome Study–Pilot: preliminary data. *Neurosurgical FOCUS*, July 2012 33(1): E15.
9. Figueiredo N, Brooks NP, Resnick D. Evidence-based review and guidelines for the management of myxopapillary and intramedullary ependymoma. *Journal of Neurosurgical Sciences*, accepted for publication June 2012.

10. Brooks, N. P., Mexal, S., & Stitzel, J. A. Chrna7 genotype is linked with alpha7 nicotinic receptor expression but not alpha7 RNA levels. *Brain Research*, February 2009 1263(C), 1–9.
doi:10.1016/j.brainres.2009.01.026
11. Brooks NP, Turk, AS, Niemann, D, Pulfer K, Aagaard-Kienitz B. Frequency of Thromboembolic Events Associated with Endovascular Aneurysm Treatment: Retrospective Case Series. *J Neurosurg*. June 2008 108:1095-1100.
12. Kudret Tureyen, MD, Nathaniel Brooks, MD, Kellie Bowen, John Svaren, PhD and Raghu Vemuganti, PhD. Transcription Factor Early Growth Response-1 Induction Mediates Inflammatory Gene Expression and Brain Damage following Transient Focal Ischemia. *Journal of Neurochemistry*. *J Neurochem*. May 2008 105(4):1313-1324.
13. Jae-Hyuk Yi, PhD; Seung-Won Park, MD, PhD; Nathaniel Brooks, MD; Bradley T Lang, BS; Raghu Vemuganti, PhD. PPAR<gamma> agonist rosiglitazone is neuroprotective after traumatic brain injury via anti-inflammatory and anti-oxidative mechanisms. *Brain Research*. December 2008 1244:164-172.
14. Turk AS, Ahmed A, Niemann DB, Aagaard-Kienitz B, Brooks NP, Levine RL. Utilization of Self Expanding Stents in the Treatment of Intracranial Atherosclerotic Disease in the Distal Small Cerebral Vessels. *Neuroradiology*. 2007 Aug; 49(8): 659-63.

Non-Refereed Articles

1. Brooks NP. NEXUS Case: Percutaneous Pedicle Screw Instrumentation in Ankylosing Spondylitis. May 2017.
2. Brooks, N. P. (2016). Telemedicine Is Here. *World Neurosurgery*, 95, 603–604.
3. Brooks, N. P. (2017). In Reply to the Letter to the Editor "Privacy in Modern Healthcare Communications: The Lesson of Alan Turing". *World Neurosurgery*, 97, 737.

4. Brooks NP, Early physical therapy provides a statistical but not a clinical improvement for acute axial back pain. Published Nov. 2, 2015.
<https://www.cns.org/news-advocacy/neurosurgery-watch/early-physical-therapy-provides-statistical-not-clinical>
5. Badie B, Brooks N, Souweidane MM. Endoscopic and minimally invasive microsurgical approaches for treating brain tumor patients. J Neurooncol. 2004 Aug-Sep;69(1-3):209-19.

Chapters in Books

1. Vikas Parmar, Yiping Li, Nathaniel Brooks. "Posterior Thoracic Instrumentation with Pedicle Screws, Hooks, Wires, and Rods." Neurosurgical Operative Atlas: Spine and Peripheral Nerves, 3rd edition. Eds. Christopher Wolfla, MD and Daniel Resnick, MD. Thieme NY, NY. Publication in Fall 2016
2. Haldeman C, Bauer A, Resnick, D, Brooks NP. "Psychosocial Aspects and Work-related Issues Regarding Lumbar Degenerative Disc Disease" Advanced Concepts in Lumbar Degenerative Disk Disease. Eds. João Luiz Pinheiro-Franco, Alexander R. Vaccaro, Edward C. Benzel, and H. Michael Mayer. Springer, Westmont, NJ 2015.
3. Madura C, Resnick D, Brooks NP. "Cost Effective Spinal Surgery: Reality or Oxymoron? Advanced Concepts in Lumbar Degenerative Disease. Eds. João Luiz Pinheiro-Franco, Alexander R. Vaccaro, Edward C. Benzel, and H. Michael Mayer. Springer, Westmont, NJ 2015.
4. Brooks NP, Trost GR. Arthroplasty Materials and Tribology. In: Mummaneni, PV, Kanter A, Wang M, Haid R (eds.) Cervical Spine Surgery: Current Trends and Challenges. Quality Medical Publishing, St. Louis 2013.
5. Brooks NP, Resnick DK. Craniocervical Junction Deformities. In: Benzel EC (ed.) Spine Surgery: Techniques, Complication Avoidance, and Management, 3rd Edition. Elsevier, Amsterdam 2012.
6. Brooks NP, Steinmetz MP, Kager C, Vaccaro A, Benzel EC. Kyphotic Cervical Deformity Correction. In: Benzel EC (ed.) Spine Surgery: Techniques, Complication Avoidance, and Management, 3rd Edition. Elsevier, Amsterdam 2012.
7. Brooks NP, Resnick D. Cost Effective Spinal Surgery: Reality or Oxymoron? In: Vaccaro AR, Benzel EC, Pinheiro-Franco JL, Mayer H-M (eds.) Advanced Concepts in Lumbar Degenerative Disease. Dilivros, Rio de Janeiro, Brazil 2010.

8. Brooks N, Badie B. Transsphenoidal Approaches to the Sella and Suprasellar Region. In: Badie B. (ed.) Neurosurgical Operative Atlas , Neuro oncology 2nd edition. Thieme, New York 2007.
9. Medow, J, Brooks, N, Trost, G.R., "Premier Anterior Cervical Plate" In Kim, D., Vacarro, A. and Fessler, R. (eds.) Spinal Instrumentation: Surgical Techniques. Thieme, New York 2005.

Technical Reports/Other Publications

1. Brooks NP. Comment on: Spine patient outcomes research trial: do outcomes vary across centers for surgery for lumbar disc herniation? Neurosurgery. 2012 Oct;71(4):842.

Abstracts

1. Brooks NP. "Endoscopic Interlaminar Lumbar Microdiscectomy Technique." Spine Summit 2018 Meeting in Orlando, Florida March 14-17.
2. Page P, Wei Z, Brooks NP. Motorcycle Helmets and Cervical Spine Injuries: A Five Year Experience at a Level One Trauma Center. AANS Annual Scientific Meeting 2017. Los Angeles, CA.
3. Hamilton KM, Josiah D, Brooks NP. Surgical Practice Fracture Treatment with Regard to the TLICS and SLICS Systems: A Review of 58 Patients at the University of Wisconsin. Spine Summit: AANS/CNS Section On Disorders Of The Spine And Peripheral Nerves 2017 Annual Meeting. Las Vegas, NV.
4. Brooks, NP. Longitudinal Neurosurgical Skills Competency Evaluation: Pilot Data. Congress of Neurological Surgeons 2014 Annual Meeting.
5. Hamilton KM, Swanson K, Rocque BG, Brooks NP. Spine and Spinal Cord Injuries After Falls From Tree Stands During Wisconsin Deer Hunting Season. Congress of Neurological Surgeons 2013 Annual Meeting.
6. Brooks NP, Nickle C. Implementation of a Smart-Phone Based Neurosurgical Resident Surgical Competency Evaluation. Congress of Neurological Surgeons 2013 Annual Meeting.
7. Brooks NB, Rajpal S, Benzel, EC. Degree of Correction of Cervical Kyphosis Using Sub-Axial Facet Osteotomies. AANS/CNS Section On Disorders Of The Spine And Peripheral Nerves 2011 Annual Meeting.
8. Figueredo N, Brooks NP, Resnick DK. Evidence-Based Review And Guidelines For The Management Of Myxopapillary And Intramedullary Ependymoma. Congress of Neurological Surgeons 2012 Annual Meeting and AANS/CNS Section On Disorders of The Spine And Peripheral Nerves 2013 Annual Meeting

9. Brooks NP, Yi J, Iskandar B, Dempsey RJ, Vemuganti R. Effect of Folic Acid Treatment On The Concentration of Neural Progenitor Cells In The Mammalian Central Nervous System After Traumatic Brain Injury. Congress of Neurological Surgeons 2007 Annual Meeting.

Invited Research Presentations

Local

1. University of Wisconsin Department of Neurosurgery Research Day, Madison, WI – “Exploring the Surgical Interface” (November 2015)
2. University of Wisconsin Department of Neurosurgery Research Day, Madison, WI – “Innovation in Neurosurgery: Crossing the Valley of Death” (October 2014)
3. University of Wisconsin Department of Neurosurgery Research Day, Madison, WI – “Wireless Power for Medical Devices” (October 2013)
4. University of Wisconsin Department of Neurosurgery Research Day, Madison, WI – “Wireless Stimulation and Measurement of Bone Growth” (November 2012)

Patents

1. System and Method for Percutaneous Spine Fusion Pat# US 2016/0038132 A1 (Feb.11, 2016)

Educational Activities & Presentations

Classroom Teaching

1. University of Wisconsin School of Medicine and Public Health Medical Student Neuroscience Program - **Neurological Surgery Department Clerkship Director** – July 2012 – Present
 - a) Lecture “Neurosurgery is Awesome” – Monthly introductory lecture for neurosurgery rotation
 - b) Lecture “Concussion” – Monthly
 - c) Mentor medical students on neurosurgery rotation – New students mentored on a bi-weekly basis
2. University of Wisconsin School of Medicine and Public Health “Fundamentals of Spine Surgery Resident Course” – **Course Director** – Weekly Spine Conference: Mentor residents in organization of case presentations and didactic lectures. – 2010 – Present

CME Presentations

UWSMPH/Hospital

1. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – October 2017 – Lecture – “Secondary Survey”
2. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – July 2016 – Skill Station – “X-ray Identification of Thoracic Injuries”
3. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – July 2016 – Lecture – “Thoracic Trauma”
4. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – October 2015 – Skill Station – “X-ray Identification of Spine Injuries”
5. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – October 2015 – Lecture – “Head Trauma”
6. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – October 2015 – Skill Station – “X-ray Identification of Thoracic Trauma”
7. University of Wisconsin Hospital and Clinics Advanced Trauma Life Support Course Instructor – October 2015 – Lecture – “Shock”
8. University of Wisconsin Carbone Cancer Center Grand Rounds “Spine Tumor Management” (February 2013)
9. Anesthesiology Grand Rounds, Madison “Outcome Measures: Selection and Implementation” (January 2011)

State & Regional

1. Finley Hospital Oncology Conference, Dubuque, Iowa – “Spine Tumor Management” (December 18, 2013)
2. Reedsburg Hospital CME, Reedsburg, WI – “Radiating Leg Pain: Lumbar Radiculopathy and Stenosis” (June 2012)
3. Meriter Primary Care Lunch Lectures, Madison, WI – “The Treatment of Lumbar Radiculopathy and Stenosis” (December 2011, March 2012)
4. 43rd Annual Emergency Care and Trauma Symposium, Wisconsin Dells, WI “Spinal Cord Injury” (June 2011)
5. Meriter Hospital Pediatric Grand Rounds “Major Sequelae of Minor Head Injury” (June, 2006)

National/International

1. North American Spine Society, Orlando FL– (October 2017)

Section on Minimally Invasive Procedures: Advanced Minimally Invasive Procedures
(a) CME Lecture - "Thoracic Retropleural Approach"

2. Cleveland Clinic Spine Review – Invited Faculty (July 2017)

CME Lectures/Panel Discussion –

- 1) "Working with the Non-Operative Medical Specialists"
- 2) "Cost Effectiveness of Spinal Surgery"
- 3) "Surgical Controversies: Using the Evidence"
- 4) "Ventral Exposures and Techniques: Thoracic and Thoracolumbar Spine"

Surgical Lab Demonstration – "The Oblique Lumbar Interbody Fusion"

Surgical Skills Lab Faculty

3. American Association of Neurological Surgeons Annual Scientific Meeting "Shoulder vs Spine: Differentiating Shoulder and Cervical Spine Pathology" 4/26/2017. Los Angeles, CA.
4. American Association of Neurological Surgeons Annual Scientific Meeting – "Aging Epidemiology" 4/23/2017. Los Angeles, CA
5. North American Spine Society Meeting. "What is the Definition of a Minimally Invasive Procedure?" – 10/25/2016. Boston, MA.
6. North American Spine Society Meeting – "Spinal Fluid Leak Management"- 10/25/2016. Boston, MA
7. North American Spine Society Meeting – "Is MIS the New Standard in a Value Based Setting?" – 10/25/2016
8. Cleveland Clinic Spine Review – Lectures: "Panel Discussion – The Role of the Non-Operative Medical Specialist and How They Work with Surgeons" (August 2016)
9. Cleveland Clinic Spine Review: Hands-on 2016 – Live Surgery Lab Demonstration: "1) Minimally Invasive Transforaminal Interbody Fusion. 2) Oblique Pre-psoas approach to the anterior lumbar spine" (August 2016)
10. Cleveland Clinic Spine Review – "Bone and Bone Biologics" (August 2016)
11. Cleveland Clinic Spine Review – "Cost Effectiveness of Spinal Surgery" (August 2016)
12. Cleveland Clinic Spine Review – "Ventral Exposures and Techniques: Thoracolumbar Spine" (August 2016)
13. Cleveland Clinic Spine Review – "Surgical Controversies: Using the Evidence (August 2016)
14. American Association of Neurological Surgeons Annual Scientific Meeting "Shoulder vs Spine: Differentiating Shoulder and Cervical Spine Pathology" 5/3/2016

15. American Association of Neurological Surgeons Annual Scientific Meeting – “Aging Epidemiology” 4/30/2016
16. Congress of Neurological Surgeons 2015 Annual Meeting “Cervical Spondylotic Myelopathy and Radiculopathy: Treatment Approaches and Options” 9/26/2015
17. “Debate: Adult De novo Scoliosis” Innovative and Advanced Surgery of the Degenerative and Deformed Lumbar Spine Course Directors: Ronald A. Lehman, Jr., MD, Lawrence G. Lenke, MD, Todd J. Stewart, MD. Practical Anatomy & Surgical Education (PASE), St. Louis University, MO (August 2015)
18. “Transthoracic Approach for Thoracic Disc Herniation” Innovative and Advanced Surgery of the Degenerative and Deformed Lumbar Spine Course Directors: Ronald A. Lehman, Jr., MD, Lawrence G. Lenke, MD, Todd J. Stewart, MD. Practical Anatomy & Surgical Education (PASE), St. Louis University, MO (August 2015)
19. “MIS Correction of Deformity/ Lateral Interbody Fusion: When is it Indicated/Complications” Innovative and Advanced Surgery of the Degenerative and Deformed Lumbar Spine Course Directors: Ronald A. Lehman, Jr., MD, Lawrence G. Lenke, MD, Todd J. Stewart, MD. Practical Anatomy & Surgical Education (PASE), St. Louis University, MO (August 2015)
20. Cleveland Clinic Spine Review – “Cost Effectiveness of Spinal Surgery” (July 2015)
21. Cleveland Clinic Spine Review: Hands-on 2015 – Live Surgery Lab Demonstration: “1) Minimally Invasive Transforaminal Interbody Fusion. (July 2015)
22. American Association of Neurological Surgeons Annual Scientific Meeting. Breakfast Seminar 105 Shoulder vs. Spine: Differentiating Shoulder and Cervical Spine Pathology – “Shoulder vs. Spine: Brachial Plexus” 5/4/2015
23. American Association of Neurological Surgeons Annual Scientific Meeting. Practical Course: Spine Management in the Aging Population. – “Aging Epidemiology” 5/2/2015
24. American Association of Neurological Surgeons Annual Scientific Meeting. Practical Course: Spine Management in the Aging population. – “Non-op treatment of Odontoid fractures” 5/2/2015
25. American Association of Neurological Surgeons Annual Scientific Meeting. Practical Course: Spine Management in the Aging population. – “Surgical Controversies: Using the Evidence” 5/2/2015
26. Congress of Neurological Surgeons Practical Course: Cervical Spondylotic Myelopathy and Radiculopathy: Treatment Approaches and Options. – “Cervical Spondylotic Myelopathy: Anterior Approaches” (October 2014)
27. Cleveland Clinic Spine Review – “Surgical Controversies: Using the Evidence” (July 2014)

28. Cleveland Clinic Spine Review – “Cost Effectiveness of Spinal Surgery” (July 2014)
29. Cleveland Clinic Spine Review - “Evidence and Outcomes: Making Sense of the Literature” (July 2013)
30. Cleveland Clinic Spine Review – “Cost Effectiveness of Spinal Surgery” (July 2012)
31. Congress of Neurological Surgeons, Washington, DC - “Perioperative Infection” (October 2011)
32. Cleveland Clinic Neurosurgical Grand Rounds, Cleveland, OH “Decoding CPT Coding” (May 2010)
33. Congress of Neurological Surgeons Annual Meeting “Effect of Folic Acid Treatment on the Concentration of Neural Progenitor Cells in the Mammalian Central Nervous System after Traumatic Brain Injury” (September 2007)
34. CNS/ASITN Joint Section, Orlando, FL “Ischemic Frequency Associated with Endovascular Procedures: Retrospective Case Series” (February, 2006)

Clinical Teaching

1. University of Wisconsin Spine Surgery Lab Course – (an annual resident hands-on spine lab) – **Course Director** – April 2011 – present.
2. University of Wisconsin Operating Room Skills – **Course Director** – September 2012, October 2014
3. Cleveland Spine Review – Invited Faculty July 2009 – 2016
4. Innovative and Advanced Surgery of the Degenerative and Deformed Lumbar Spine Course Directors: Ronald A. Lehman, Jr., MD, Lawrence G. Lenke, MD, Todd J. Stewart, MD. Practical Anatomy & Surgical Education (PASE), St. Louis University, MO – Invited Faculty - August 2015
5. ATLS – Invited Faculty – October 2015 –Present
6. American Association of Neurological Surgeons Annual Scientific Meeting - Course Co-director– “You Are Never Too Old for Surgery: Spine Management in an Aging Population” 4/30/2016
7. “Enhancing Perioperative Pain Management” - **Course Director**. Spine Summit: AANS/CNS Section On Disorders Of The Spine And Peripheral Nerves 2017 Annual Meeting. Las Vegas, NV.
8. “Quality, Healthcare Policy and General Breakout” – **Moderator**. Spine Summit: AANS/CNS Section On Disorders Of The Spine And Peripheral Nerves 2017 Annual Meeting.

9. "You Are Never Too Old for Surgery: Spine Management in an Aging Population"
American Association of Neurological Surgeons Annual Scientific Meeting - **Course**
Co-director 4/23/2017.

Mentoring

Undergraduates

Kaitlyn Mayer
Terah Hennick
Alexander Nguyen
Stephen Monette
Keith Dodd

BME Masters Student

Alexander Nguyen

Medical Students

Jimmy Xu

Biomedical Engineering Students

BME 301 Design Project: Expandable Bone Graft (January 2016)

Annamarie Ciancio
Brian Yasosky
Kristen Driscell
Trenton Roeber

BME 301 Team: Wearable Digital Loupe Magnification Device
(January 2016)

Douglas Streeten
Keith Dodd
Andrew Hajek
Austin Gehrke

BME 402: Inflatable vertebral body distractor (January 2016)

Joaquin Herrera
Joshua Plantz
Ellis Cohen
Herman Feller

(Fall 2015) Team names – BME 200/300 Digital-Loupe
BME Inflatable Distractor Group
BME Design Fall 2015 – Steerable Catheter

Team Members: Joaquin Herrera
David Piotrowski
Jared Muench
Rodrigo Umanzor
Keith Dodd
Jeremy Rogers

Chris Larsson
Karam Khateeb
Lane Van Epern
Joaquin Herrera

BME Team – Inflatable Vertebrae Distractor 2.0 (Fall 2014)

Bridget Smith
Ryan Serbin
Samantha Bremner

BME Team – Expandable Bone Graft 2.0 (Fall 2014)

Sarah Dicker
Reed Bjork
Brendan Drackley
Alexandria Craig

BME – Stereotactic Navigation with Wii or Kinect (Fall 2013) –

Awards:

Qualcomm Innovation Competition 2015 – [Third Place](#)
Computer Science NEST Competition 2015 – [First Place](#)

Stephan Monette
Matthew Boyer
Jacob Levin
Alexander Nguyen
Alex Yueh

BME Group 4 – Inflatable vertebral Distractor (Fall 2013)

Myranda Schmitt
Taylor Lamberty
Douglas Ciha
Catharine Moran

BME Group 2 – Expandable Bone Graft (Fall 2013)

Katherine Jeffris
Terah Hennick
Taylor Weis
Michael Scherer
James Dorrance

BME Group 1 – Perc Fusion Design Team (Fall 2013) - **Patented**

Meghan Anderson
Hannah Pezzi
Hanna Meyer
Andrea Schuster
Amy Slawson

Neurosurgery Residents

Paul Page, MD

Demi Dawkins, MD

Other

1. Biomedical Engineering 400 Student Projects –Expandable Bone Graft, Expandable Intervertebral Distractor, Digital Loupes and Electro-active Polymers for Catheter Development - August – December 2015
2. Biomedical Engineering 515 Lecture – “Neurosurgical Devices and Techniques”
4/22/2015 Audience: Biomedical Engineering Students
University of Wisconsin Department of Neurological Surgery Grand Rounds -
“Training the Next Generation of Neurosurgeons” (September 2014)
3. UW Multidisciplinary Spine Tumor Conference – **Director** - September 2014 – Present
4. Biomedical Engineering 400 Student Projects – Expandable Bone Graft and Expandable Intervertebral Distractor - August – December 2014
5. UW Multidisciplinary Spine Case Conference – **Director** – February 2014 – Present
This is a bi-monthly meeting. This program was established to provide multidisciplinary discussion of management of spine patients. The meetings include specialists in spine surgery (Neurosurgery and orthopedics), radiology and rehabilitation medicine.
6. Biomedical Engineering 399 Independent Study – Visible Light Computerized Stereotactic Navigation Device and Augmented Surgical Imaging
7. University of Wisconsin Department of Neurological Surgery Grand Rounds - “Surgical Management of Thoracolumbar Deformity: From Maximal to Minimal” (September 2013)
8. University of Wisconsin Neurosurgery Nurse Lecture Series, Madison, WI – “Perioperative Infection” (December 2011)
9. University of Wisconsin Department of Neurological Surgery Grand Rounds, Madison, WI. “Results: Outcome Measures and Their Implementation in Neurological Surgery” (September 2010)
10. Case Western, Cleveland, OH “Stimulators for Neurosurgery” (May 2010)
11. University of Wisconsin Neurological Surgery Spine Review – **Course Director** - January – March 2008 & 2009
12. Neurosurgical Grand Rounds “CPT Coding: Who, What, Why, When, Where and How?” (January 2009)
13. Neurosurgical Grand Rounds “Neuroregeneration in the Spinal Cord” (February 2008)

14. Neurosurgical Grand Rounds “Neural Protection and Regeneration” (2007)
15. Neurosurgical Grand Rounds “Major Sequelae of Minor Head Injury” (April, 2006)
16. Neurosurgical Grand Rounds “Traumatic Brain Injury: Axonal Injury” (2005)
17. Neurosurgical Grand Rounds “Mechanisms of Cerebral Edema in Traumatic Brain Injury” (2004)

Service Activities

Departmental

1. Established the **Surgical Interface Design Lab** – June 2015 – present
 - a. This lab was established to explore the utility and development of visualization, navigation and robotics technology to improve the surgeon’s ability to perform minimally invasive surgical procedures

Student Employees

Stephen Monette – Biomedical Engineering
 Alex Nguyen – Graduate Student, Biomedical Engineering
 Keith Dodd – Biomedical Engineering
 Andrew Hajek – Biomedical Engineering

2. UW Neurological Surgery Clinic Upgrade December 2014 – February 2015
 Facilitate the coordination of nursing, administration and clinician input to improve clinic presence and flow.

UWSMPH/HOSPITAL ADMINISTRATIVE COMMITTEES

1. UW Health Guiding Coalition – June 2017 - Present
2. UW Health Sciences Institutional Review Board Member – June 2016 – September 2016
3. University of Wisconsin Medical Board – September 2016 – August 2018
4. University of Wisconsin Medical Foundation Rehab Hospital Executive Committee – Vice President – August 2016 – Present
5. University of Wisconsin Medical Foundation Rehab Hospital Executive Committee Member – 2015 – July 2016

6. UW Health Medical Record Committee Restructure Project – November 2014 – August 2015
7. UW Health/The American Center Quality Improvement Performance Excellence Council – November 2015 to Present
8. UW Health/UW Hospital Quality Improvement Neurosurgery Urinary Retention Dashboard Project – November 2015 – Present
9. UW School of Medicine and Public Health Surgical and Procedural Care Design Team Curriculum Redesign Committee Member – April 2015 – Present
10. University of Wisconsin Medical Board – September 2012 to August 2014
11. UW Health/UW Hospital Clinical Competency Committee December 2013 – Present
12. UW Health/UW Hospital Problem List and Care Plan Task Force – May 2013 – May 2014
13. University of Wisconsin Neurological Surgery Neuroscience Clerkship Director - July 2012 – Present
14. HIMC Clinical Advisory Team 2010 – 2012
15. University of Wisconsin Health Medical Records Committee - 2010 – Present

COMMUNITY

1. Doc Talk – monthly meeting with startup companies at innovation hub 100 State to provide a “boots on the ground” understanding of the technology needs of physicians. 2014-2015
2. Think First: Pediatric Brain and Spine Injury Prevention Program – 2004 – 2005

OTHER ACTIVITIES

NATIONAL AND INTERNATIONAL COMMITTEES

1. AANS/CNS Section on Spine and Peripheral Nerves – Scientific Program Committee Member – March 2016 – Present
2. NASS Minimally Invasive Procedures Committee October 2015 to Present
 - a. Chair – October 2017 - Present
 - b. Vice Chair – October 2016 - October 2017
3. NASS Robotics & Navigation Committee – October 2015 to Present
4. AANS/CNS Quality Committee – May 2015 – Present
5. AANS/CNS Joint Guidelines Committee October 2013 – May 2015
6. CNS/AANS Joint Spine Section – Guidelines Committee October 2012 – November 2015

EDITORIAL BOARDS

1. Congress of Neurological Surgeons Web Editorial Board: 2005 - 2009
2. Annals of Surgery – Ad Hoc Reviewer 2010
3. Neurosurgery – Editorial Peer Reviewer 2011 – present
4. The Spine Journal – Editorial Peer Reviewer November 2012 – present
5. World Neurosurgery – Ad Hoc Peer Reviewer 2015 - present