Curriculum Vitae

October 2019

Name:

David I. Sandberg, M.D., F.A.A.N.S, F.A.C.S, F.A.A.P.

Present Title:

Director of Pediatric Neurosurgery, Professor of Pediatric Surgery and Neurosurgery, Dr. Marnie Rose Professorship in Pediatric Neurosurgery

Business Address:

University of Texas Health Science Center at Houston Department of Pediatric Surgery 6431 Fannin Street, Suite 5.144 Houston, Texas 77030 713-500-7210 (office) 713-500-7352 (fax) David.I.Sandberg@uth.tmc.edu

Citizenship:

United States of America

Undergraduate Education:

1989 - 1993 Harvard University, Cambridge, Massachusetts

B.A. – History, magna cum laude

Graduate Education:

1993 - 1997 Johns Hopkins University School of Medicine, Baltimore, Maryland

M.D. – Medicine

Postgraduate Training:

1997 - 1998	Weill Medical College of Cornell University, New York, New York New York Presbyterian Hospital - Cornell Campus, New York, New York, Surgical Intern
1998 - 2003	Weill Medical College of Cornell University, New York, New York New York - Presbyterian Hospital and Memorial-Sloan Kettering Cancer Center, New York, New York Resident in Neurosurgery

2000 Hospital for Sick Children; Toronto, Ontario, Canada

Visiting Fellow in Pediatric Neurosurgery

2003-2004 Children's Hospital Los Angeles, Los Angeles, California Fellow in

Pediatric Neurosurgery

Academic Appointments:

2004 – 2009	Assistant Professor of Clinical Neurological Surgery and
	Pediatrics, University of Miami Miller School of Medicine

2009 – 2010 Associate Professor of Clinical Neurological Surgery and

Pediatrics, University of Miami Miller School of Medicine

2010 – May 2012 Voluntary Associate Professor of Clinical Neurological

Surgery and Pediatrics, University of Miami Miller School of

Medicine

June 2012 – August 2016 Director of Pediatric Neurosurgery Mischer

Neuroscience Institute and Children's Memorial Hermann

Hospital

Associate Professor University of Texas Medical School at

Houston

Associate Professor and Co-Director of Pediatric Brain Tumor Program, University of Texas MD Anderson Cancer

Center (July, 2012)

Sept. 2016 – present Professor of Pediatric Surgery and Neurosurgery

McGovern Medical School, University of Texas Health

Science Center at Houston

Director of Pediatric Neurosurgery, Mischer Neuroscience

Institute and Children's Memorial Hermann Hospital

Co-Director of Pediatric Brain Tumor Program, University of

Texas MD Anderson Cancer Center

Hospital Appointments:

2004 – 2009 Miami Children's Hospital and Jackson Memorial Hospital,

Miami, Florida

2012 – Present Memorial Hermann/Children's Memorial Hospital, Houston,

Texas

2012 – Present Harris County Hospital District, Houston, Texas

2012 – Present The Woman's Hospital of Texas, Houston, Texas

2012 – Present UT M.D. Anderson Cancer Center, Houston, Texas

2012 – Present Shriner's Hospital for Children, Houston, Texas

<u>Licensure</u>:

Active:

2012 - Present Texas, License #**P3236**

Inactive:

1998 New York State License
2002 California State License
2004 Florida State License

Certifications:

American Board of Neurological Surgery, Primary Examination

American Board of Neurological Surgery, Diplomat American Board of Pediatric Neurological Surgery American Board of Surgery – General Surgery

Advanced Trauma Life Support Advanced Cardiac Life Support Pediatric Advanced Life Support

Professional Organizations:

Local:

2012 - Present Houston Pediatric Society, Secretary 2013

2012 - Present Harris County Medical Society

2013 - Present Dr. Marnie Rose Foundation – Honorary Board Member, 2013

Regional:

2012 - Present Texas Association of Neurological Surgeons, active member

National:

1999 - Present Congress of Neurological Surgeons (CNS) - resident member;

active member 2004 - present; Member International Fellowship Selection Subcommittee 2006, 2007; Annual Meeting Abstract

Reviewer 2011

1999 - Present American Association of Neurological Surgeons (AANS) - resident

member; active provisional member 2004, active member 2007 – present, Membership Committee, 2010 – 2013, Annual Meeting

Abstract Reviewer (2014 meeting).

2004 - Present Children's Oncology Group, Associate Member

2005 - Present Pediatric Section Member, AANS/CNS; 2010 - 2019 member of

Traveling Fellowship Committee; 2015 – 2019 Chairman of Traveling Fellowship Committee; Annual Meeting Abstract

Reviewer 2007, 2011, 2013; Member of Pediatric Section Annual Meeting Subcommittee 2017-2018; 2017 National Meeting Co-

Chairman

2007 - Present American Academy of Pediatrics, Fellow

2008 - Present	American Society of Pediatric Neurosurgeons, Member
2008 - Present	American College of Surgeons, Fellow
2012 - Present	Hydrocephalus Association, Active Member; 2015-2018 Member of Medical Advisory Board; Grant Reviewer 2017
2016 - Present	Pediatric Arachnoid Cyst Foundation, Board of Directors
2018 - Present	Cure4Kids, Intracranial GCT ACR Working Group
International: 2004 - Present	Foundation for International Education in Neurological Surgery; member, Board of Directors, 2004-present; Secretary and Member of Executive Committee, March, 2013 – March, 2018.

Honors and Awards: 1989 Valedictorian of class of 815 students. North Miami Beach Senior.

1989	Valedictorian of class of 815 students, North Miami Beach Senior High School
1989	National Merit Scholar
1990	Robert C. Byrd Honors Scholarship
1990	Detur Prize for Academic Achievement
1992	Samuel H. Abramson Research Fellowship
1992	John Harvard Scholarship
1993	Phi Beta Kappa
1994	National Institutes of Health, Summer Research Fellowship
1999	AANS/CNS Resident Traveling Fellowship in Pediatric Neurosurgery
2001	Kenneth Shulman Award from AANS/CNS for best paper presented at Pediatric Neurological Surgery Section meeting
2002	Cornell Medical Center Alumni Council Distinguished Housestaff Award
2010	Miami Children's Hospital Research Institute: Award for Excellence in Research
2013	AANS International Visiting Surgeons Fellowship Sponsor for Juan Bosco Gonzalez Torres, M.D.

2015	Houston Men of Distinction Annual Award
2015	Hydrocephalus Association Medical Honoree Houston Walk
2016	Dr. Marnie Rose Professorship in Pediatric Neurosurgery
2018	Houston Business Journal Health Care Hero Honoree
2019	American Association of Neurological Surgeons Humanitarian Award

Additional Educational Activities:

- 1. Course Director, State of the Art Review: Pediatric Neurosurgery Course with Spanish Translation. AANS/CNS Pediatric Section Meeting, Miami, Florida, 2007.
- 2. Faculty, AANS Goodman Oral Board Review Course, Houston, Texas, 2009, 2010, 2011, 2012, 2013, 2014, 2015.
- Faculty, Society of Neurological Surgeons Boot Camp, Houston, Texas, 2012, 2015
- 4. Faculty, 1st Annual Combined Ventricular and Skull Base Endoscopy Course for Neurosurgeons, Saint Louis University, St. Louis, Missouri, 2013.
- 5. Course Co-Director, Pediatric Neuro-Oncology Symposium, The University of Texas MD Anderson Cancer Center, 2014.
- 6. Faculty, 2st Annual Combined Ventricular and Skull Base Endoscopy Course for Neurosurgeons, Saint Louis University, St. Louis, Missouri, 2014.
- 7. Course Co-Director, Pediatric Neuroscience Symposium, Children's Memorial Hermann Hospital, 2015.
- 8. Course Co-Director, Pediatric Neuroscience Symposium, Children's Memorial Hermann Hospital, 2016
- 9. Course Co-Director, Pediatric Neuroscience Symposium, Children's Memorial Hermann Hospital, 2017
- 10. Course Co-Director, Pediatric Neuroscience Symposium, Children's Memorial Hermann Hospital, 2018
- 11. Faculty, AANS Global Neurosurgical Practice Course, San Diego, CA, 2019

Editorial Positions:

1. Editor, ISPN Guide to Pediatric Neurosurgery, Tumor Section, 2011

- 2. Ad hoc reviewer, Neurosurgical Focus, 2005, 2006.
- 3. Ad hoc reviewer, Neurosurgery, 2007 2014, 2017, 2018, 2020
- 4. Ad hoc reviewer, Childs Nervous System, 2008 2012, 2014.
- 5. Ad hoc reviewer, Case Reports in Medicine, 2009.
- 6. Ad hoc reviewer, American Journal of Neuroradiology, 2009, 2010.
- 7. Ad hoc reviewer, The Open Neurology Journal, 2010.
- 8. Ad hoc reviewer, Future Neurology, 2010.
- 9. Ad hoc reviewer, International Journal of Neuroscience, 2011.
- 10. Ad hoc reviewer, Journal of Neuro-Oncology, 2012, 2018
- 11. Ad hoc reviewer, CNS Oncology, 2012.
- 12. Ad hoc reviewer, Pediatric Neurosurgery, 2014, 2017.
- 13. Reviewer and Section Editor, World Neurosurgery, 2015.; Ad hoc reviewer 2016
- 14. Ad hoc reviewer, Operative Neurosurgery, 2016
- 15. Ad hoc reviewer, JAMA Pediatrics, 2017.

Service on Other Hospital Committees:

Miami Children's Hospital Mortality Committee, 2008-2012

Miami Children's Hospital Performance Improvement Committee, 2011-2012

Children's Memorial Hermann Hospital Greatness Project, Steering Committee, 2016 Memorial Hermann Oncology Service Line Physician Strategic Steering Committee;

2016-2017

Faculty Appointments, Promotions, and Tenure Ad Hoc Committee, McGovern Medical School, 2019

Service to the Community:

Volunteer Neurosurgical Medical Trips Abroad:

1999	Guatemala City, Guatemala
2001	Guatemala City, Guatemala
2001	Tegucigalpa, Honduras – (FIENS) Foundation for International Education in Neurological Surgery.
2002	Tegucigalpa, Honduras – (FIENS) Foundation for International Education in Neurological Surgery.
2004	Lima, Peru – (FIENS) Foundation for International Education in Neurological Surgery.
2004	Tegucigalpa, Honduras – (FIENS) Foundation for International Education in Neurological Surgery.
2005	Tegucigalpa, Honduras – (FIENS) Foundation for International Education in Neurological Surgery.
2006	Mbale, Uganda – CURE International

2007	Port-au-Prince, Haiti – Project Medishare
2008	Port-au-Prince, Haiti – Project Medishare
2009	Guatemala City, Guatemala – (FIENS) Foundation of International Education in Neurological Surgery
2009	Port-au-Prince, Haiti – Project Medishare
2010	Port-au-Prince, Haiti – Project Medishare
2013	Port-au-Prince, Haiti – Project Medishare
2014	Port-au-Prince, Haiti – Project Medishare
2015	Port-au-Prince, Haiti – Project Medishare
2017	Port-au-Prince, Haiti – Project Medishare
2018	Port-au-Prince, Haiti – Project Medishare
2019	Port-au-Prince, Haiti – Project Medishare

Sponsorship of Undergraduate Students:

April 6, 2015 – June 5, 2015	Ashley Niemerski, Observership, University of Texas
	Health Science Center at Houston

Sponsorship of Medical Students:

May 27, 2014 – August 11, 2014	Eliel N. Arrey, Summer Research Program, University of Texas Health Science Center at Houston
May 26, 2015 – August 10, 2015	Joshua Gu, Summer Research Program, University of Texas Health Science Center at Houston
May 2016 – August, 2016	Claudia Martinez, Summer Research Program, University of Texas Health Science Center at Houston
May 2017 – August 2017	Joe Brewer, Summer Research Program, University of Texas Health Science Center at Houston
November 2018-present	Natasha Kharas, McGovern Medical School, sponsorship of primate research project

Sponsorship of International Observers:

May 1, 2013 – August 1, 2013

Juan Bosco Gonzalez, MD (Nicaragua), Observership awarded by the 2013 American Association of

Neurological Surgeons International Visiting Surgeons

Fellowship, University of Texas Health Science

Center at Houston.

May 2, 2016 – July 1, 2016 Ali Riazi, MD (Iran)

Mentoring Activities:

2012 - Present Observerships, University of Texas Health

Science Center at Houston

Supervision of medical students rotating through

pediatric neurosurgery

2014 – Present Summer Research Program, University of Texas

Health Science Center at Houston

Supervision of medical students performing summer

research projects in the Division of Pediatric

Neurosurgery

2018 – Present Goldie Scholars Program

Mentoring of Low Income College Scholarship

Recipients

Current Grant Support:

2019-2024 **R01 NS111292** (PI: Sirianni)

Funding institution NIH/\$1,660,000

Role: co-Investigator

Title: "Targeting leptomeningeal metastasis in

medulloblastoma"

2019-2024 **RO1 HD099543** (PI: Sirianni)

Funding Institution NIH/\$2,475,000

Role: co-Investigator

Title: "Intrathecal delivery of radiation sensitizing

nanoparticles in pediatric neuro-oncology"

Past Grant Support:

2001, 2002 Emily Dorfman Foundation. Co-investigator, \$100,000

research grant. Convection-Enhanced Delivery for the

Treatment of Diffuse Pontine Gliomas.

2005 Miami Children's Hospital Research Institute Seed Grant

Principal Investigator, \$20,000 grant. Chemotherapy

Administration into The Fourth Ventricle.

2007 Woman's Cancer Association of the University of Miami.

Principal Investigator, \$50,000 grant. Direct Administration

of Chemotherapy into the Fourth Ventricle of the Brain: A Novel Treatment Approach to Malignant Tumors of the Posterior Fossa in Children.

2008 Miami C

Miami Children's Hospital Foundation. Principal Investigator, \$25,000 grant. Direct Administration of Chemotherapy into the Fourth Ventricle: A Novel Treatment Approach for Malignant Posterior Fossa Brain Tumors of Childhood.

2010

Woman's Cancer Association of the University of Miami Principal Investigator, \$50,000 grant. Direct Administration of Chemotherapy into the Fourth Ventricle of the Brain in Primates: A Model for Treatment of Malignant Posterior Fossa Brain Tumors in Children.

2013 - 2015

Texas 4000 for Cancer

Principal Investigator, \$50,000 grant. Methotrexate Infusion into the Fourth Ventricle in Children with Malignant Fourth Ventricular Brain Tumors: A Pilot Study.

2013 - 2016

Cure Childhood Cancer, Inc.

Co-Principal Investigator, \$200,000 grant. Pilot study on administration of NK cells into the fourth ventricle for treatment of patients with posterior fossa brain tumors.

2015

Houston Men of Distinction Annual Award

Principal Investigator, \$100,000 grant. Local Delivery of Chemotherapy into the Fourth Ventricle of the Brain: A Novel Treatment Modality for Malignant Pediatric Brain Tumors.

2018

lan's Friends Foundation

Principal Investigator, \$125,000 grant to study local drug delivery in the brain for malignant brain tumors in children

Research Interests:

2004-present

Direct Administration of Chemotherapy into the Fourth Ventricle for Treatment of Malignant Posterior Fossa Tumors of Childhood. Principal Investigator, developed piglet and primate models for direct infusions into the fourth ventricle. Principal Investigator of Pilot Clinical Trial at UT Houston and University of Texas MD Anderson Cancer Center, 2012-present. Principal investigator of dose escalation trial at UT Houston, 2015-present. Co-Principal Investigator of clinical trial for infusion

of natural killer cells into fourth ventricle, University of Texas MD Anderson Cancer center, 2015-present.

2000-2002 Convection-Enhanced Delivery for the Treatment of

Diffuse Pontine Gliomas. Co-investigator; demonstrated safety and determined distribution parameters for brain stem

infusions in a rat model.

2005-2012 Novel Optical Guidance for Surgical Resection of

Pediatric Neoplastic and Epileptogenic Brain Lesions. Co-investigator, investigating intraoperative optical imaging

techniques.

Publications:

Abstracts (*Reviewed):

- 1. Frucht DM, Yeung C, **Sandberg D**, Holland SM. "Interleukin-12 Deficiency in Patients With Familial Disseminated Mycobacterium Avium Complex Infection." **Journal of Investigative Medicine Suppl.** 43(2): 364A, 1995.
- 2. **Sandberg D**, Watts M, Tyler B, Brem H. "Cytotoxicity of Taxotere in Vitro Against Human and Rat Malignant Glioma Cell Lines." American Association of Neurological Surgeons. Denver, Colorado, 1997. (poster presentation).
- 3. Watts M, **Sandberg D**, Sills A, Bohan E, Gibbons C, Brem H. "Chemotherapeutic Resistance Patterns of Tumor Specimens From Patients With Glioblastoma Multiforme and Glioma Cell Lines. American Association of Neurological Surgeons. Denver, Colorado, 1997. (poster presentation).
- 4. **Sandberg D**, Souweidane M. "Endoscopic-Guided Proximal Catheter Placement in Treatment of Posterior Fossa Cysts." AANS/CNS Section on Pediatric Neurological Surgery. Indianapolis, Indiana, 1998. (poster presentation).
- 5. **Sandberg D**, Bilsky M, Souweidane M, Bzdil J, Gargan-Klinger R, Gutin P. "Ventricular Access Devices for Leptomeningeal Disease: Techniques and Complications." Congress of Neurological Surgeons. Boston, Massachusetts, 1999. (poster presentation).
- Souweidane M, Sandberg D, Bilsky M, Gutin P. "Endoscopic Biopsy of Tumors of the Third Ventricle." Congress of Neurological Surgeons. Boston, Massachusetts, 1999. (oral poster presentation).
- 7. Souweidane M, **Sandberg D**, Rutka J, Resch L, Edgar M. "MIB-1 Staining Index of Pediatric Meningiomas." AANS/CNS Section on Pediatric Neurological Surgery. Atlanta, 1999. (oral presentation).
- 8. **Sandberg D**, Edgar M, Souweidane M. "Convection-Enhanced Delivery into the Brain Stem: An animal model." Congress of Neurological Surgeons. San Diego, California, 2001. (oral presentation).

- 9. **Sandberg D**, Edgar M, Souweidane M. "Convection-Enhanced Delivery into the Rat Brain Stem: A Potential Delivery Mechanism for the Treatment of Diffuse Pontine Gliomas." AANS/CNS Section on Pediatric Neurological Surgery. New York, New York, 2001 (oral presentation).
- 10. **Sandberg D**, Edgar M, Souweidane M. "Convection-Enhanced Delivery into the Rat Brain Stem: A Potential Delivery Mechanism for the Treatment of Diffuse Pontine Gliomas." American Association of Neurological Surgeons. Chicago, Illinois, 2002 (oral presentation for Kenneth Shulman Award).
- 11. Ochiogrosso G, Sandberg D, Edgar M, Souweidane M. "Chronic Brain Stem Infusion as a Potential Delivery System for Diffuse Pontine Gliomas: An Animal Model." American Association of Neurological Surgeons. Chicago, Illinois, 2002 (oral presentation).
- 12. **Sandberg DI**, Souweidane MM, Kushner BH,, Laquaglia MP, Bilsky MH, Kushner BH. "Treatment of spinal involvement in neuroblastoma patients." Congress of Neurological Surgeons. Denver, Colorado, 2003 (oral presentation).
- 13. Oh BH, Krieger MD, **Sandberg DI**, Finlay J, McComb JG. "Neurofibromatosis 3: A Report of Patients Meeting Diagnostic Criteria for Both Neurofibromatosis 1 and 2." International Symposium on Pediatric Neuro-Oncology. Boston, MA 2004 (oral presentation).
- 14. Heller C, Krieger MD, Sandberg DI, Oh BC, McComb JG. "Programmable Versus Fixed-Pressure Valves for the Treatment of Hydrocephalus in Children." 32nd Annual Meeting of the International Society for Pediatric Neurosurgery. Buenos Aires, Argentina, 2004 (oral presentation).
- 15. **Sandberg DI**, McComb JG, Krieger MD, Gilles FH. "Why do arachnoid cysts enlarge?" 32nd Annual Meeting of the International Society for Pediatric Neurosurgery. Buenos Aires, Argentina, 2004 (oral presentation).
- 16. Heller C, Krieger MD, **Sandberg DI**, Oh BC, McComb JG. "Programmable Versus Fixed-Pressure Valves for the Treatment of Hydrocephalus in Children." AANS/CNS Section on Pediatric Neurological Surgery. San Francisco, CA, 2004 (oral presentation).
- 17. **Sandberg DI**, McComb JG, Krieger MD. "Chemical Analysis of Fluid Obtained From Intracranial Arachnoid Cysts in Pediatric Patients." AANS/CNS Section on Pediatric Neurological Surgery. San Francisco, CA, 2004 (oral presentation).
- 18. **Sandberg DI**, McComb JG, Krieger MD. "Craniotomy for Multiloculated Hydrocephalus in Pediatric Patients." AANS/CNS Section on Pediatric Neurological Surgery. San Francisco, CA, 2004 (oral presentation).
- 19. Berry C, Hoh DJ, **Sandberg DI**, Sosa IJ, Krieger MD, McComb JG. "The Use of Cranial Fixation Pins in Pediatric Neurosurgery." Congress of Neurological Surgeons. Boston, MA, 2005 (oral presentation).

- 20. **Sandberg DI**, Morrison G, Bhatia S, Olavarria G, Ragheb J, Duchowny M, Jayakar P, Lin W-C. "Optical Characterization of Pediatric Brain Tumors and Epileptogenic Lesions." AANS/CNS Section on Pediatric Neurological Surgery. Orlando, FL, 2005 (oral presentation).
- 21. Crandall, K, Kuluz J, Padgett K, Landrum J, Babino D, Petito CK, He D, Solano J, Gonzalez-Brito M, **Sandberg DI**. "A Novel Method of Chemotherapy Delivery to the Fourth Ventricle." Eastern-Atlantic Student Research Forum. Miami, FL, 2007 (oral presentation).
- 22. Farhat H, Delgado AL, Salame J, Sandberg D, Bhatia S, Ragheb J, Zauner A. "Safety and Efficacy of Neuroendovascular Procedures in Children." American Association of Neurological Surgeons. Washington, D.C., 2007 (oral presentation).
- 23. Bhatia S, Ragheb J, **Sandberg DI**, Morrison G, Jayakar P, Fernandez A, Lin WC. "In Vivo Characterization of Pediatric Epileptogenic Lesions Using Optical Spectroscopy. American Association of Neurological Surgeons. Washington, D.C., 2007 (oral presentation).
- 24. Brindle TI, Ragheb J, Bhatia S, Morrison G, **Sandberg DI**. "Management of Idiopathic Small Syringes in Pediatric Patients." AANS/CNS Section on Pediatric Neurological Surgery; Miami, FL 2007 (poster presentation).
- 25. Ragheb J, Bhatia S, **Sandberg D**, Morrison G, Lin W-C, Oh S, Fernald B. "Fluorescence and Diffuse Reflectance Spectroscopy for Intraoperative Guidance in Pediatric Brain Surgery." AANS/CNS Section on Pediatric Neurological Surgery; Miami, FL 2007 (oral presentation).
- 26. **Sandberg DI**, Crandall K, Petito CK, Padgett K, Landrum J, Babino D, He D, Solano J, Gonzalez-Brito M, Kuluz JW. "Direct Administration of Chemotherapy into the Fourth Ventricle in a Piglet Model." AANS/CNS Section on Pediatric Neurological Surgery; Miami, FL 2007 (oral presentation).
- 27. **Sandberg DI**, Crandall K, Petito CK, Padgett K, Landrum J, Babino D, He D, Benglis DM, Ramirez MA, Kuluz JW. "Distribution of Etoposide in Cerebrospinal Fluid After Infusions into the Fourth Ventricle in Piglets." American Society of Pediatric Neurosurgeons; Cabo San Lucas, Mexico, 2008 (oral presentation); published in J Neurosurg Pediatrics: 2008, April 1(4): 354A.
- 28. Oh S, Fernald B, Bhatia S, Ragheb J, Sandberg D, Johnson M, Lin W-C. "Differentiating Pediatric Epileptic Cortical Lesions from Normal Cortex by Using Time-Dependent Diffuse Reflectance Spectroscopy *In Vivo*." International Society of Optical Engineering; Orlando, FL, 2009 (oral presentation).
- 29. Ragheb J, Bhatia S, Sandberg D, McNeil A. "Pediatric Neurosurgery in Haiti." American Society of Pediatric Neurosurgeons. Kohala Coast, HI, 2009 (oral presentation).

- 30. **Sandberg DI**, Solano J, Petito CK, Mian A, Mou C, Koru-Sengul T, Gonzalez-Brito M, Padgett KR, Luqman A, Buitrago JC, Alam F, Wilkerson JR, Crandall KM, Kuluz JW. "Safety and Pharmacokinetic Analysis After Methotrexate Administration Directly into the Fourth Ventricle in a Piglet Model." American Association of Neurological Surgery. Philadelphia, PA, 2010 (electronic poster).
- 31. Benglis D, Covington DB, Bhatia R, Bhatia S, Elhammady S, Ragheb J, Morrison G, **Sandberg DI**. "Outcomes in Pediatric Patients with Chiari I Malformation Treated Without Surgery." American Association of Neurological Surgery. Philadelphia, PA, 2010 (oral presentation).
- 32. Alghamdi S, Castellano-Sanchez A, Brathwaite C, Melnick S, **Sandberg D**, Olavarria G, Khatib Z, Giannini C, Burger P. "Diffuse Low Grade Leptomeningeal Glio-Neuronal Tumor Not an Oligodendrogliomatosis: Clinico-Pathological Features of 2 Cases". America Association of Neuropathologists, Seattle, WA, 2011 (poster presentation).
- 33. Nair S, **Sandberg DI**, Ragheb J, Khatib Z, Zoeller G, Thambuswamy M, Lee V, DeAngulo G. "Observation as a Strategy for Management of Solitary Calvarial Eosinophilic Granuloma." American Society of Pediatric Hematology Oncology. Baltimore, MD, 2011 (poster presentation).
- 34. **Sandberg DI**, Peet MM, Johnson MD, Cole P, Koru-Sengul T, Luqman AW. "Chemotherapy Administration Directly into the Fourth Ventricle in a Non-Human Primate Model." AANS/CNS Section on Pediatrics. Austin, TX, 2011 (oral presentation).
- 35. **Sandberg DI**, Nair S, Khatib Z, Ragheb J, Lee V, De Angulo G. "Non-operative Management of Solitary Eosinophilic Granulomas of the Calvarium." American Society of Pediatric Neurosurgeons, Puerto Rico, 2012 (oral presentation).
- 36. **Sandberg DI**, Zoeller G, Bhatia, S, Ragheb J. "Endoscopic Choroid Plexus Coagulation in Infants with Hydranencephaly and Hydrocephalus with Minimal Cortical Mantle." American Association of Neurological Surgery. Miami, FL 2012 (electronic poster presentation).
- 37. Chamiraju P, Sandberg DI, Ragheb J, Bhatia S. "Role of Endoscopic Third Ventriculostomy and Choroid Plexus Coagulation in Post-Hemorrhagic Hydrocephalus of Prematurity." AANS/CNS Section on Pediatric Neurological Surgery. St. Louis, MO, 2012 (oral presentation).
- 38. **Sandberg DI**, Soumen Khatua, M.D., Michael Rytting, M.D., Wafik Zaky, M.D., Marcia Kerr, R.N., Mary Tomaras, B.S., Tiffany Butler, R.N., Leena Ketonen, M.D., Ph.D., Uma Kundu, M.D., Bartlett D. Moore, Ph.D., Grace Yang, M.Ed., LPC. "Methotrexate Infusion Directly into the Fourth Ventricle in Children with Malignant Fourth Ventricular Brain Tumors: A Pilot Clinical Trial. AANS/CNS Section on Pediatric Neurological Surgery. Toronto, CA 2013 (oral presentation).
- 39. Sandberg DI, Austin MT, Nguyen H, Eberth JM, Heczey A, Hughes DP, Elting

- LS. "Health Disparities Impact Outcome in Children with CNS Malignancies." American Association of Neurological Surgeons Meeting. San Francisco, CA, 2014 (oral presentation).
- 40. **Sandberg DI**, Khatua S, Rytting, M, Zaky W, Tomaras M, Kerr M, Ketonen L, Kundu U, Moore BD, Yang G. "Methotrexate Infusion Directly into the Fourth Ventricle for Treatment of Recurrent Malignant Fourth Ventricular Brain Tumors: A Pilot Clinical Trial." American Society of Pediatric Hematology/Oncology. Chicago, IL, 2014 (poster presentation).
- 41. Steinbok P, **Sandberg D**, Hengel R, Dix D, Bhatia S, Limbrik D, Tamber M, Souweidane M, Handler M. "Non-operative management of suspected solitary calvarial histiocytosis in children." Histiocyte Society, 30th Annual Meeting, Toronto, CA, 2014 (poster presentation).
- 42. Ramani N, Kannan G, Zaky W, Morani A, **Sandberg D**, Ketonen L, Maher O, Corrales-Medina F, Meador H, Khatua S. Temozolomide, Bevacizumab with or without Irinotecan in Pediatric Brain Tumors MD Anderson Cancer Center Experience.16th International Symposium on Pediatric Neuro-Oncology, Singapore, 2014.
- 43. Maher O, **Sandberg D**, Kannan G, McGovern S, Ketonen L, Katua S, Zaky W. "Primary Leptomeningeal Primitive Neuroectodernal Tumor: Case Report. 19th Annual Scientific Meeting of the Society for Neuro-Oncology, Miami, FL 2014.
- 44. Arrey EN, Kerr ML, Fletcher S, Cox CS, **Sandberg DI**. "Linear Non-Displaced Skull Fractures in Children: Is Hospitalization Necessary?" AANS/CNS Section on Pediatric Neurological Surgery. Amelia Island, FL 2014 (oral presentation).
- 45. **Sandberg DI**. "Neurological Deterioration After Aggressive Resection of Midbrain Tumor." American Society of Pediatric Neurosurgeons, Kona, HI, 2015 (oral presentation).
- 46. **Sandberg DI,** Rytting M, Zaky W, Kerr M, Ketonen L, Kundu U, Moore BD, Yang G, Hou P, Sitton C, Cooper LJ, Gopalakrishnan V, Lee DA, Thall PF, Khatua S. "Pilot Clinical Trial Evaluating Chemotherapy Administration Directly into the Fourth Ventricle in Children with Malignant Fourth Ventricular Brain Tumors." AANS/CNS Section on Pediatric Neurological Surgery. Seattle, WA 2015 (oral presentation).
- 47. Khatua S, Sandberg DI, Keetonen L, Cooper LJ, Gopalakrishnan V, Lee DA, Moyes J, Liu D, Zaky W. "Phase I Study of Fourth Ventricular Infusions of Ex-Vivo Expanded Natural Killer Cells in Children with Recurrent/Refractory Malignant Posterior Fossa Tumors of the Central Nervous System." Society for Neuro-Oncology. San Antonio, TX 2015 (poster presentation).
- 48. **Sandberg DI**, Kerr M. "Technical Pearls: Ventricular Access Device Placement in the Fourth Ventricle to Treat Malignant Fourth Ventricle Brain Tumors." American Society of Pediatric Neurosurgeons, Aruba 2016 (oral

presentation).

- 49. Gu JL, Johnson A, Kerr M, Moise KJ, Bebbington MW, Pedroza C, **Sandberg DI**. "Correlating Prenatal Imaging Findings of Fetal Ventriculomegaly with the Need for Surgical Intervention in the First Three Month After Birth." American Association of Neurological Surgeons, Chicago 2016 (oral presentation).
- 50. Frim, DM, Madsen JR, Boyle TP, Neuman MI, Tamber MS, Hickey RW, Heuer GG, Zorc J, Leonard JR, Leonard JC, Keating R, Chamberlain J, Zakrzewshi P, Klinge P, Merck LM, Piatt JH, Bennett JE, **Sandberg DI**, Boop FA. "Thermal Flow Detection Improves Diagnostic Accuracy of Shunt Malfunction: A Prospective, Multicenter, Operator-Blinded Study. American Association of Neurological Surgeons, Chicago 2016 (oral plenary presentation).
- 51. Patel, R, Sitton C, Kerr M, Fletcher S, Shah M, **Sandberg DI**. "Role of Cerebrospinal Fluid (CSF) Imaging in Evaluating Distribution of Infused Agents From the Fourth Ventricle to the Total Spine." American Society of Neuroradiology, Washington DC, 2016 (electronic poster presentation).
 - 52. Sandberg DI, Patel RP, Kerr M, Sitton CW, Ketonen LM, Ping Hou P, Johnson JM, Shah MN, Fletcher S, Zaky W, Rytting ME, Khatua S. "Phase-Contrast Cine Cerebrospinal Fluid (CSF) Flow Magnetic Resonance Imaging (MRI) in Evaluating Distribution of Infused Agents from the Fourth Ventricle to the Total Spine." AANS/CNS Section on Pediatric Neurological Surgery. Orlando, FL 2016 (oral presentation).
 - 53. Martinez CL, Fletcher S, Shah MN, Kerr M, **Sandberg DI**. "Survey of Techniques Used to Access Ventricular Shunts and Reservoirs." AANS/CNS Section on Pediatric Neurological Surgery. Orlando, FL 2016 (poster presentation).
 - 54. Venkataraman SS*, Herbert JP*, Turkmani AH, Kerr ML, Greives MR, Fletcher SA, **Sandberg DI**, Cox CS, Kitagawa RS, Day AL, Shah MN. "Pediatric Blunt Cerebrovascular Injury: the McGovern Experience." AANS/CNS Section on Pediatric Neurological Surgery. Orlando, FL 2016 (poster presentation).
 - 55. Grabell DA, Shah MN, Pinney SS, **Sandberg DI**, Greives MR, Hebert AA. "Lumbosacral Hemangiomas and Tethered Cord." Houston Dermatological Society; Houston, TX, 2016 (oral presentation).
 - 56. Grabell D, Shah M, Pinney S, **Sandberg DI**, Greives M, Hebert A. "Lumbosacral Hemangiomas and Tethered Cord." American Academy of Dermatology Annual Meeting; Orlando, FL, 2017. (poster presentation)
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- 3. Sandberg DI. "Arachnoid Cysts." Fundamentals of Operative Techniques in Neurosurgery. 2010
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- 4. Hospital Escuela; Tegucigalpa, Honduras. "Contemporary Management of Hydrocephalus." May, 2002.
- 5. Symposium on Pediatric Neurosurgery, New York Presbyterian Hospital; New York, NY. "Spinal Dysraphism: Definitions, Diagnosis, and Management." January, 2003.
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- 14. Eleventh Annual Brain Injury Symposium; Wyndham Miami Beach Resort, Miami Beach, FL. "Evaluation and Management of Pediatric Head Trauma." October, 2005.
- 15. Florida Cleft Palate and Craniofacial (FCPA) Winter Symposium. "The Child with a Craniofacial Condition." Coral Gables, FL. January, 2007.
- 16.XXVIII Annual Child Neurology Postgraduate Course, Miami Children's Hospital, Miami, FL. "Advances in Neuroendoscopy." May, 2007.
- 17. Seventh Hubert L. Rosomoff Research Day, University of Miami School of Medicine, Department of Neurological Surgery. "Direct Administration of Chemotherapy into the Fourth Ventricle: a Novel Therapeutic Approach for the Treatment of Malignant Posterior Fossa Tumors of Childhood." June, 2007.
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- 19.XII Pan-American Congress of Neurology, Santo Domingo, Dominican Republic. "Manejo Endoscópico de la Hidrocefalia: Una Visión Práctica." October, 2007.
- 20. Pediatric Brain and Spinal Cord Injury Conference, Coconut Grove, Florida. "Advances in Neuroendoscopy to Treat Brain Tumors in Children." November, 2007.
- 21.AANS/CNS Pediatric Section Meeting, Nurses Seminar, Miami, Florida. "Controversies in the Management of Chiari Malformations." November, 2007.
- 22. AANS/CNS Pediatric Section Meeting, State of the Art Review: Pediatric Neurosurgery Course with Spanish Translation. "Management of Posterior Fossa Tumors in Children." December, 2007.
- 23. Visiting Professor, Johns Hopkins University School of Medicine, Department of Neurosurgery. "Direct Administration of Chemotherapy into the Fourth Ventricle: A Novel Therapeutic Approach for the Treatment of Malignant Posterior Fossa Tumors of Childhood." March 6, 2008.

- 24. AANS, Breakfast Seminar on International Opportunities in Neurosurgery. "Neurosurgery in Developing Countries: A Collection of Experiences." April 28, 2008.
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- 28. Miami Children's Hospital Postgraduate Course: Perspectives in Pediatrics. Miami, FL. "Advances in the Management of Brain Tumors." March 9, 2009.
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- 32. XIV Congreso Peruano de Neurocirugia. "Tratamiento Endoscopico de Hidrocefalia." Lima, Peru, October, 2009.
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- 38. Congress of Neurological Surgeons. Luncheon Seminar: "Surgical Management of Chiari and Syringomyelia." New Orleans, October, 2009.
- 39.7th Annual Pediatric Brain and Spinal Cord Injury Conference. "Neurosurgical Challenges in Pediatric TBI and SCI." Miami, FL, October, 2009.
- 40. VIII Congreso Annual de la Sociedad Iberoamericana de Diagnóstico y Tratamiento Prenatal (SIADTP). "Ventriculomegaly and Arachnoid Cyst: Pediatric Neurosurgery Perspective." Miami, FL December, 2009.
- 41. Care of the Sick Newborn Conference, Jackson Memorial Hospital. "Management of Hydrocephalus in Neonates." Miami, FL; April, 2010.
- 42. American Association of Neurological Surgeons, Breakfast Seminar: "Current and Future Treatments for Hydrocephalus." Philadelphia, PA; May, 2010
- 43. XIII Curso de Educacion Continua en Neurocirugia Pediatrica; Federacion Latinoamerica de Neurocirugia. "Manejo de los Tumores de la Región Pineal." San Jose, Costa Rica, June, 2010.
- 44.XIII Curso de Educacion Continua en Neurocirugia Pediatrica; Federacion Latinoamerica de Neurocirugia. "Manejo de los Meduloblastomas." San Jose, Costa Rica, June, 2010.
- 45. XIII Curso de Educacion Continua en Neurocirugia Pediatrica; Federacion Latinoamerica de Neurocirugia. "Craneosinostosis: Trigonocefalia." San Jose, Costa Rica, June, 2010.
- 46. XIII Curso de Educacion Continua en Neurocirugia Pediatrica; Federacion Latinoamerica de Neurocirugia. "Tratamiento Endoscópico de los Tumores Intraventriculares." San Jose, Costa Rica, June, 2010.
- 47.XIII Curso de Educacion Continua en Neurocirugia Pediatrica; Federacion Latinoamerica de Neurocirugia. "Hidrocefalia: Alternativas al Shunt Ventrículo-Peritoneal." San Jose, Costa Rica, June, 2010
- 48. American Association of Neurological Surgeons, Breakfast Seminar: "Current and Future Treatments for Hydrocephalus." Denver, CO; April, 2011
- 49.XXXII Annual Child Neurology, Neurosurgery, and Psychiatry Postgraduate Course, Miami Children's Hospital. "Management of Neonatal Hydrocephalus." Miami, FL; July, 2011.
- 50. Congress of Neurological Surgeons, Section on Pediatric Neurological Surgery. "Medulloblastoma: Literature Review." Washington, DC; October, 2011.

- 51. American Association of Neurological Surgeon, Breakfast Seminar on Current and Future Treatments for Hydrocephalus. "Endoscopy: Role in Current and Future Treatment of Hydrocephalus." Miami, FL; April, 2012.
- 52. Twelfth Hubert L. Rosomoff Research Day, University of Miami Miller School of Medicine, Department of Neurological Surgery. "Chemotherapy Administration Directly into the Fourth Ventricle in Non-Human Primates." Miami, FL, May, 2012.
- 53.XVI Congreso Venezolano de Neurocirugia. "Tratamiento Endoscopico de los Tumores Intraventriculares." Valencia, Venezuela, May, 2012.
- 54.XVI Congreso Venezolano de Neurocirugia. "Tercer Ventriculostomia Endoscopica: Indicaciones, Tecnicas, y Resultados." Valencia, Venezuela, May, 2012.
- 55. XVI Congreso Venezolano de Neurocirugia. "Tumores de la Fosa Posterior: Como Hacerlo, Principios de Tecnica Quirurciga." Valencia, Venezuela, May, 2012.
- 56. Grand Rounds, The Woman's Hospital of Texas. "Management of Neonatal Hydrocephalus." Houston, TX, September 2012.
- 57. Grand Rounds, Department of Pediatrics, University of Texas-Houston Health Science Center. "Minimally Invasive Endoscopic Neurosurgery." Houston, TX, September 2012.
- 58. Congress of Neurological Surgeons, Section on Pediatric Neurological Surgery. "Volunteer Opportunities in Pediatric Neurosurgery." Chicago, IL, October 2012.
- 59. Conquer Chiari Research Conference. "Outcomes in Pediatric Chiari Patients Followed Without Surgery." Chicago, IL, November 2012.
- 60. Grand Rounds, UT-Houston Department of Neurosurgery. "International Volunteer Opportunities in Neurosurgery." Houston, Texas, January 2013.
- 61. First Annual Neuro ICU Symposium: Cutting Edge Management of Neurological and Neurosurgical Emergencies and Critical Care; University of Texas-Houston. "Modern Management of Hydrocephalus." Houston, Texas, March, 2013.
- 62. Grand Rounds, UT-Houston Department of Pathology and Laboratory Medicine. "Chemotherapy Administration Directly into the Fourth Ventricle: From Animal Models to Human Clinical Trial." Houston, Texas, April, 2013.
- 63. Houston Pediatric Society. "Modern Management of Hydrocephalus." Houston, Texas, April, 2013.

- 64. MIT Enterprise Forum. "Navigating in the Ventricles of the Brain: Making Neurosurgery Safer and Minimally Invasive." Houston, Texas, May 2013.
- 65. FLANC Pediatric Neurosurgery Course. "Concepts in Epilepsy Surgery." Los Mochis, Mexico (via video conference), June, 2013.
- 66. FLANC Pediatric Neurosurgery Course. "Management of Pineal Region Tumors." Los Mochis, Mexico (via video conference), June, 2013.
- 67. 1st Annual Combined Ventricular and Skull Base Endoscopy Course for Neurosurgeons, Saint Louis University. "Endoscopic Biopsy/Resection of Intraventricular Brain Tumors." St. Louis, Missouri, September, 2013.
- 68. Texas Pediatric Society Annual Meeting. "Modern Management of Hydrocephalus in Children: An Update for Pediatricians." Galveston, Texas, September, 2013
- 69. Pediatric Neuro-Oncology Symposium, MD Anderson Cancer Center. "Local Delivery of Chemotherapy into the Fourth Ventricle of the Brain: A Novel Treatment Modality for Malignant Posterior Fossa Brain Tumors." Houston, Texas, February 2014.
- 70. Second Annual Neuro ICU Symposium: Cutting Edge Management of Neurological and Neurosurgical Emergencies and Critical Care; University of Texas-Houston. "Modern Management of Hydrocephalus To Shunt or Not to Shunt." Houston, Texas, March, 2014
- 71. American Association of Neurological Surgeons Annual Meeting. Practical Clinic, Goodman Oral Board Review. "Pediatric Neurosurgery Cases for Oral Board Examination." San Francisco, CA, April, 2014.
- 72. University of Texas MD Anderson Cancer Center, Institutional Grand Rounds. "Chemotherapy Administration Directly into the Fourth Ventricle of the Brain: A Novel Means of Treating Malignant Fourth Ventricular Brain Tumors." Houston, TX, July 2014.
- 73. 2st Annual Combined Ventricular and Skull Base Endoscopy Course for Neurosurgeons, Saint Louis University. "Endoscopic Biopsy/Resection of Intraventricular Brain Tumors." St. Louis, Missouri, September, 2014.
- 74. Third Annual Neuro ICU Symposium: Cutting Edge Management of Neurological and Neurosurgical Emergencies and Critical Care. "Pediatric Neurosurgery." Houston, Texas, March, 2015.
- 75. Global Academic Programs Conference 2015: "Delivery of Chemotherapy into the Fourth Ventricle of the Brain: A Novel Therapeutic Approach for Malignant Pediatric Brain Tumors." Houston, Texas, April 2015.

- 76. XI Brazilian Congress of Pediatric Neurosurgery. "Local Delivery of Chemotherapy and Other Agents into the Fourth Ventricle." Belem, Brazil, June, 2015.
- 77. XI Brazilian Congress of Pediatric Neurosurgery. "Pediatric Neurosurgery Certification." Belem, Brazil, June, 2015.
- 78. XI Brazilian Congress of Pediatric Neurosurgery. "Treatment of Intraventricular Tumors." Belem, Brazil, June, 2015.
- 79. Grand Rounds, Department of Pediatrics, The Woman's Hospital of Texas. "Modern Management of Hydrocephalus. Houston, TX, April, 2016.
- 80. IX Reunion Internacional de Neurocirugia Pediatrica. "Tratamiento Quirúrgico de Mielomeningocele." Veracruz, Mexico, May, 2016
- 81. IX Reunion Internacional de Neurocirugia Pediatrica. "Asociacion Entre Malformacion de Chiari y Craneosinostosis." Veracruz, Mexico, May, 2016
- 82. IX Reunion Internacional de Neurocirugia Pediatrica. "Entrega Local de Quimioterapia y Otros Agentes Directamente en el Cuarto Ventrículo Para Tratar Tumores Malignos Pediátricos." Veracruz, Mexico, May, 2016
- 83. 8th Annual Symposium, SETRAC Regional Healthcare Preparedness Coalition. "Emergency Care of Children with Head Injuries The Pespective of a Pediatric Neurosurgeon. Galveston, Texas, October, 2016
- 84. Grand Rounds on the Green Neurosurgery Symposium. "Local Delivery of Chemotherapy and Novel Agents Directly into the Fourth Ventricle of the Brain to Treat Malignant Pediatric Brain tumors." Sea Island, Georgia, October, 2016.
- 85. Visiting Professor, LSU Department of Neurosurgery. "Local Delivery of Chemotherapy and Novel Agents Directly into the Fourth Ventricle of the Brain to treat Malignant Pediatric Brain Tumors." New Orleans, LA, October, 2016.
- 86. Neuroscience Update in Pediatric Neuro-Oncology. "Direct Drug Delivery into the Fourth Ventricle of the Brain to Treat Recurrent Malignant Posterior Fossa Tumors." Houston, Texas, April, 2017.
- 87. Grand Rounds, Division of Pediatric, The University of Texas MD Anderson Cancer Center. "Endoscopic Management of Brain Tumors in Children." Houston, Texas, May, 2017.
- 88. Global Academic Program, The University of Texas MD Anderson Cancer Center. "Phase-Contrast Cine Cerebrospinal Fluid Flow Magnetic Resonance Imaging (MRI) in Evaluating Distribution of Infused Agents from The Fourth Ventricle to the Total Spine." Houston, Texas, May, 2017.

- 89. Visiting Professor, Department of Neurosurgery, Weill Medical College of Cornell University. "Local Delivery of Chemotherapy and Novel Agents Directly into the Fourth Ventricle of the Brain to treat Malignant Pediatric Brain Tumors." New York, NY, May, 2017.
- 90. IX Congreso CentroAmericano de Neurocirugia. "Controversias en el Manejo de la Malformacion Chiari I." Guatemala City, Guatemala, May, 2017.
- 91. IX Congreso CentroAmericano de Neurocirugia. "Entrega Local de Quimioterapia y Otros Agentes Directamente en el Cuarto Ventrículo Para Tratar Tumores Malignos Pediátricos." Guatemala City, Guatemala, May, 2017.
- 92. Society of Neurological Surgeons. "Innovations in Pediatric Brain Tumor Treatment." Houston, TX, May, 2017.
- 93. Ian's Friends Foundation WhatIFF Symposium. "Local Drug Delivery Directly Into the Fourth Ventricle of the Brain: A Novel Treatment Approach for Malignant Tumors of the Posterior Fossa." Atlanta, GA, September, 2017.
- 94. International Society for Pediatric Neurosurgery. "Neuro-endoscopy: Indications and Techniques for Treating Hydrocephalus, Tumors, and Cysts in Children." Denver, CO, October, 2017.
- 95. XVIII Congreso Peruano de Neurocirugia. "Tratamiento Endocopico de la Hidrocefalia." Lima, Peru, October, 2017.
- 96. XVIII Congreso Peruano de Neurocirugia. "Tumores de la Fosa Posterior y Anatomia Quirurgica Relevante." Lima, Peru, October, 2017.
- 97. XVIII Congreso Peruano de Neurocirugia. "Manejo de Tumores en Region Pineal." Lima, Peru, October, 2017.
- 98. XVIII Congreso Peruano de Neurocirugia. "Asociacion de la Malformacion Chiari con Craneosinostosis de las Suturas Multiples." Lima, Peru, November, 2017.
- 99. XVIII Congreso Peruano de Neurocirugia. "Entrega Local de Quimioterapia y Otros Agentes Directamente en el IV Ventriculo Para Tumores Malignos Pediatricos." Lima, Peru, November, 2017.
- 100. XVIII Congreso Peruano de Neurocirugia. "Tratamiento Endocopico de los Tumores Intraventriculares." Lima, Peru, November, 2017.
- 101. XVIII Congreso Peruano de Neurocirugia. "Controversias en el Manejo do la Malformacion Chiari I." Lima, Peru, November, 2017.

- 102. AANS/CNS Pediatric Section Meeting Advance Practice Provider Seminar. "Overview of Pediatric Brain Tumors." Houston, Texas, November, 2017.
- 103. Texas Association of Neurological Surgeons Annual Meeting. "Update on Local Delivery Techniques to Treat Malignant Posterior Fossa Tumors in Children." Houston, Texas, February, 2018.
- 104. Harvard University. "Advancing Neurosurgical Care in Developing Countries: A Top-Down Approach to Improving Global Health. Cambridge, Massachusetts, May, 2018.
- Chiari and Syringomyelia Foundation Symposium. "Outcomes in Pediatric Patients With Chiari I Malformations Followed Without Surgery. Houston, Texas, October, 2018.
- 106. Visiting Professor, LSU/Shreveport Department of Neurosurgery. "Local Delivery of Chemotherapy and Novel Agents Directly into the Fourth Ventricle to treat Malignant Pediatric Brain Tumors in Children." Shreveport, LA, December, 2018.
- American Association of Neurological Surgeons, Global Neurosurgical Practice Course. "Myelomeningocele Repair." San Diego, CA, April, 2019.
- 108. Ian's Friends Foundation WhatIFF Symposium. "Development of Panobinostat Cyclodextrin Networks for Intraventricular Drug Delivery." Atlanta, GA, September, 2019.
- 109. Pediatric Brain Tumor Consortium Novel Drug Delivery Systems Symposium. "Direct Delivery of Chemotherapy into the Fourth Ventricle for Malignant Posterior Fossa tumors. Denver, CO, October, 2019.

<u>Visiting Professorships</u>:

2008	Johns Hopkins Hospital, Department of Neurosurgery
2016	Louisiana State University, New Orleans, Department of Neurosurgery
2017	Weill Medical College of Cornell University, Department of Neurosurgery
2018	Louisiana State University, Shreveport, Department of Neurosurgery