

Sandeep Mittal, MD, FRCS, FAANS, FACS

CONTACT INFORMATION:

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EDUCATION:

Doctor of Medicine & Master of Surgery (MD,CM) 10/1993 to 05/1997
Faculty of Medicine, McGill University
Montreal, Quebec, Canada

Medical Preparatory Year (Med-P) 09/1992 to 05/1993
Faculty of Medicine, McGill University
Montreal, Quebec, Canada

Diploma of Collegial Studies (DCS) 09/1990 to 06/1992
Cégep de St-Hyacinthe
St-Hyacinthe, Quebec, Canada

POSTGRADUATE TRAINING:

Clinical Fellowship 07/2005 to 06/2006
Neuro-Oncological Surgery and Image-Guided Neurosurgery
Brigham and Women's Hospital, Harvard Medical School
Boston, Massachusetts

Clinical Fellowship 07/2004 to 06/2005
Epilepsy Surgery
Montreal Neurological Institute, McGill University
Montreal, Quebec, Canada

Clinical and Research Fellowship 07/2001 to 06/2003
Developmental Neurobiology
Montreal Neurological Institute, McGill University
Montreal, Quebec, Canada

Neurosurgery Residency Training Program 07/1997 to 06/2004
Montreal Neurological Institute, McGill University
Montreal, Quebec, Canada

ACADEMIC APPOINTMENTS:

<u>Chairman</u> Department of Neurosurgery Wayne State University School of Medicine, Detroit, Michigan	10/2015 to present
<u>Professor (Clinical Scholar)</u> Department of Neurosurgery (Primary Appointment) and Department of Oncology (Secondary Appointment) Department of Biomedical Engineering (Secondary Appointment) Wayne State University School of Medicine, Detroit, Michigan	08/2016 to present
<u>Faculty Member</u> Cancer Biology Graduate Program Wayne State University School of Medicine, Detroit, Michigan	03/2013 to present
<u>Scientific Member</u> Molecular Therapeutics Program Karmanos Cancer Institute, Wayne State University, Detroit, Michigan	06/2011 to present
<u>Faculty Member</u> Department of Physiology Graduate Program Wayne State University School of Medicine, Detroit, Michigan	12/2007 to present
<u>Associate Professor (Clinical Scholar)</u> Department of Neurosurgery (Primary Appointment) and Department of Oncology (Secondary Appointment) Wayne State University School of Medicine, Detroit, Michigan	10/2015 to 07/2016
<u>Associate Professor (Clinical Educator)</u> Department of Neurosurgery (Primary Appointment) and Department of Oncology (Secondary Appointment) Wayne State University School of Medicine, Detroit, Michigan	08/2013 to 09/2015
<u>Assistant Professor (Clinical Educator)</u> Department of Neurosurgery Wayne State University School of Medicine, Detroit, Michigan	07/2006 to 08/2013

CLINICAL APPOINTMENTS:

<u>Clinical Chair</u> Department of Neurosurgery Wayne State University Physician Group	10/2015 to present
<u>Specialist-in-Chief – Neurosurgery</u> Detroit Medical Center	11/2015 to present
<u>Clinical Service Chief – Neurosurgery</u> Karmanos Cancer Center, Detroit, Michigan	11/2015 to present

<u>Director</u> Multidisciplinary Neuro-Oncology Program Karmanos Cancer Center, Detroit, Michigan	12/2015 to present
<u>Director</u> Adult Epilepsy Surgery Program Wayne State University/Detroit Medical Center	07/2006 to present
<u>Co-Director</u> WSU/DMC Comprehensive Epilepsy Center Wayne State University, Harper University Hospital, Detroit, Michigan	01/2013 to present
<u>Vice-Chief of Neurosurgery</u> Harper University Hospital, Detroit, Michigan	06/2010 to present
<u>Co-Director</u> Multidisciplinary Neuro-Oncology Program Karmanos Cancer Center, Detroit, Michigan	11/2006 to 11/2015
<u>Medical Director</u> Surgical In-Patient Unit Karmanos Cancer Center, Detroit, Michigan	01/2008 to 11/2015

HOSPITAL AFFILIATIONS:

<u>Staff Neurosurgeon</u> Department of Neurosurgery Detroit Medical Center, Detroit, Michigan	07/2006 to present
<u>Staff Neurosurgeon</u> Surgical Neuro-Oncology Karmanos Cancer Center, Detroit, Michigan	07/2006 to present
<u>Staff Neurosurgeon</u> Division of Neurosurgery St Mary Mercy Hospital, Livonia, Michigan	10/2011 to present
<u>Staff Neurosurgeon</u> Department of Neurosurgery Brigham and Women's Hospital, Harvard Medical School, Boston, MA	07/2005 to 06/2006

MEDICAL LICENSURE

Michigan Board of Medicine License Number: 4301088303 (expiration on 01/31/2018)	06/2006 to present
Massachusetts Board of Registration License Number: 223796	03/2005 to 03/2008

BOARD CERTIFICATION IN NEUROSURGERY:

American Board of Neurological Surgery (valid until 12/31/2023) <i>Participating in ABNS Maintenance of Certification Program</i>	2013
Royal College of Surgeons of Canada (no expiration) <i>Participating in RCPSC Maintenance of Certification Program</i>	2005
American Board of Neurological Surgery (Primary Examination)	2004

PROFESSIONAL SOCIETIES:

<i>Member,</i>	American Association of Neurological Surgeons (AANS) Congress of Neurological Surgeons (CNS) AANS/CNS Section on Tumors AANS/CNS Section on Stereotactic and Functional Surgery American Epilepsy Society (AES) American Medical Association (AMA) American Society of Clinical Oncology (ASCO) American Society for Stereotactic and Functional Neurosurgery (ASSFN) International League Against Epilepsy (ILAE) Michigan Association of Neurological Surgeons (MANS) Society for Neuro-Oncology (SNO)
<i>Fellow,</i>	Royal College of Surgeons of Canada [FRCSC] American Association of Neurological Surgeons [FAANS] American College of Surgeons [FACS]

HONORS AND AWARDS:

<u>Best Doctors in America</u> Elected by peers	2009–2016
<u>Top Docs in Detroit</u> by Hour Magazine Elected by peers	2010–2016
<u>Dr. Michael J. Brennan Scientific Distinction Award</u> <i>Awarded for demonstrated leadership in research on breast cancer brain metastasis</i> Karmanos Cancer Institute	2013
<u>KCI/MidMichigan Pardee Fellowship</u> <i>Awarded to enhance cancer patient care in the region</i> Karmanos Cancer Center	2008
<u>Brain Science Foundation Fellowship</u> <i>Awarded for Clinical Fellowship in Neuro-Oncological Surgery and Image-Guided Surgery</i> Brigham and Women’s Hospital, Harvard Medical School, Boston, MA	2005–2006
<u>Wilder Penfield Award in Neurosurgery</u> <i>Awarded for best graduating resident in Department of Neurosurgery</i> Montreal Neurological Institute, McGill University, Montreal, Canada	2004
<u>Fonds de la Recherche en Santé du Québec Post-Doctoral Fellowship</u> <i>Awarded for Clinical and Research Fellowship in Developmental Neurobiology</i> Montreal Neurological Institute, McGill University, Montreal, Canada	2001–2003
<u>ANCQ Award</u> <i>First Prize for best platform presentation</i> Quebec Association of Neurological Surgeon’s Annual Meeting	2001
<u>Montreal Neurological Institute Travel Award</u> <i>Awarded for poster presentation at Society for Neuroscience Annual Meeting</i> Montreal Neurological Institute, McGill University, Montreal, Canada	2000
<u>ANCQ Award</u> <i>First Prize for best platform presentation</i> Quebec Association of Neurological Surgeon’s Annual Meeting	2000
<u>McGill Alma Mater Travel Grant</u> <i>Awarded for platform presentation at Annual Neurosurgery Meeting</i> McGill University, Montreal, Canada	2000
<u>H.L. Teuber Prize</u> Second Prize at Annual Student Research Day Montreal Neurological Institute, McGill University, Montreal, Canada	1999

HONORS AND AWARDS (cont'd):

<u>ANCQ Award</u> <i>First Prize for best platform presentation</i> Quebec Association of Neurological Surgeon's Annual Meeting	1998
<u>Winter Research Bursary</u> Medical Research Council of Canada	1996
<u>Winter Research Bursary</u> Fonds de la Recherche en Santé du Québec	1996
<u>Summer Research Fellowship</u> Muscular Dystrophy Association of Canada	1996
<u>Winter Research Bursary</u> Fonds de la Recherche en Santé du Québec	1995
<u>Summer Research Fellowship</u> Muscular Dystrophy Association of Canada	1995
<u>Merck, Sharp & Dohme Award in Therapeutics</u> <i>Awarded for remarkable research work in the field of therapeutics</i> McGill University, Faculty of Medicine, Montreal, Canada	1995
<u>Upjohn Achievement Award</u> <i>First Prize at Annual Medical Student Research Day</i> McGill University, Faculty of Medicine, Montreal, Canada	1995
<u>R.E. Powell Scholarship</u> <i>Awarded for academic excellence and qualities of leadership in community and school activities</i> McGill University, Faculty of Medicine, Montreal, Canada	1992–1995
<u>R.E. Powell Award</u> <i>Awarded for academic achievements in Medical School</i> McGill University, Faculty of Medicine, Montreal, Canada	1992–1994
<u>Summer Research Bursary</u> Fonds de la Recherche en Santé du Québec	1994
<u>Merck, Sharp & Dohme Award in Therapeutics</u> <i>Awarded for remarkable research work in the field of therapeutics</i> McGill University, Faculty of Medicine, Montreal, Canada	1994
<u>Upjohn Achievement Award</u> <i>First Prize at Annual Medical Student Research Day</i> McGill University, Faculty of Medicine, Montreal, Canada	1994

HONORS AND AWARDS (cont'd):

<u>Summer Research Bursary</u> Fonds de la Recherche en Santé du Québec	1993
<u>FRSQ "Prix d'Excellence" Award</u> <i>Awarded for outstanding research work</i> Fonds de la Recherche en Santé du Québec	1993
<u>Upjohn Achievement Award</u> <i>First Prize at Annual Medical Student Research Day</i> McGill University, Faculty of Medicine, Montreal, Canada	1993
<u>"Excellence par Excellence" Bursary</u> <i>Awarded for academic and extracurricular achievements in College</i> Cégep de St-Hyacinthe, St-Hyacinthe, Canada	1992
<u>Pure and Applied Sciences Bursary</u> <i>Awarded for highest academic standing in Science Program in College</i> Cégep de St-Hyacinthe, St-Hyacinthe, Canada	1992
<u>Governor General's Medal</u> <i>Awarded for highest overall academic standing</i> Government of Canada	1992

SERVICE:**1. Patient Care:**

Since joining the department, I have developed a strong academic practice primarily focused on cranial neurosurgery. My clinical work involves the surgical treatment of patients with medically-refractory epilepsy and brain tumors. As a member of WSUPG, I am a Teaching Attending on the Neurosurgery Service at Harper University Hospital (HUH), Detroit Receiving Hospital (DRH), and Karmanos Cancer Center (KCC).

I provide clinical care to in-patients (primary patients and consultations) at HUH, DRH, and KCC. In addition, I see patients in two ambulatory clinics located at the UPG Neurosurgery Clinic at Harper Professional Building and in the Wertz Clinic at KCC. Finally, I perform epilepsy and brain tumor surgery at HUH and KCC.

2. Wayne State University:**a) Departmental Service:**

<u>Member</u> , Neurosurgery Education Committee, Dept. of Neurosurgery, WSU Monthly meetings to discuss Neurosurgery Residency Curriculum, resident evaluations, etc.	2006 to present
<u>Member</u> , Residency Applicant Interview Committee, Dept. of Neurosurgery, WSU Formal review of applications, interviews and candidate evaluations, final selection and ranking of applicants for residency position	2006 to present
<u>Member</u> , Clinical Competency Committee, Dept. of Neurosurgery, WSU	2013 to present
<u>Faculty Mentor</u> , Resident/Faculty Mentoring Program, Dept. of Neurosurgery, WSU Neurosurgery residents: Dr. Neena Marupudi and Dr. Matthew Schreckinger	2013 to present
<u>Member</u> , Joint Promotion Advisory Committee, Depts. Neurology & Neurosurgery, WSU	2013
<u>Member</u> , Promotion and Tenure Committee, Dept. of Neurosurgery, WSU	2013–2014
<u>Member</u> , Selective Salary Review Committee, Dept. of Neurosurgery, WSU	2013–2014
<u>Member</u> , Compensation Committee, Dept. of Neurosurgery, WSU	2013–2014

b) School of Medicine Service:

<u>Coordinator</u> , Dept. of Neurosurgery Clerkship/Undergraduate Education, WSU Ensure that undergraduate and medical students have a quality undergraduate experience	2010 to present
<u>Judge</u> , Cancer Biology Graduate Program Annual Symposium, WSU	04/2014
<u>Member</u> , Dept. of Neurosurgery Chair Internal Review Committee Formal review of the Chairman's progress and standing over the prior 5 years	2009–2010

<u>Member</u> , Dept. of Neurology 5-year Review Committee, WSU Formal review of the Dept. of Neurology's progress and standing over prior 5 years	2007–2008
<u>Member</u> , Dept. of Neurology 5-year Review Administration and Finance Subcommittee	2007–2008
<u>Member</u> , Dept. of Neurology 5-year Review Medical Student Subcommittee	2007–2008

3. Affiliate Medical Organizations:

<u>President-Elect</u> , Medical Executive Committee, Karmanos Cancer Center Elected by peers (2-year term)	2014 to present
<u>Member</u> , Medical Staff Operations Committee, Harper University/Hutzel Hospitals Elected by peers (2-year term) <i>(1.5 hours per month)</i>	2014 to present
<u>Member</u> , Medical Executive Committee, Karmanos Cancer Center Development of measures to improve the overall quality of patient care services <i>(2 hours per month)</i>	2011 to present
<u>Member</u> , Surgery Committee, Karmanos Cancer Center Development of measures to improve the overall quality of surgical services <i>(1 hour every 3 months)</i>	2011 to present
<u>Medical Director</u> , Surgical In-patient Unit, Karmanos Cancer Center Provide leadership and guidance to the medical staff and nursing staff; Ensure effective implementation of best surgical oncology practice in the unit <i>(4 hours per month)</i>	2008 to present
<u>Member</u> , Hospital Performance Improvement Committee, Karmanos Cancer Center Review and advise on quality of care issues such as pain management, performance improvement measures, medication reconciliation, Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS), etc. <i>(1.5 hours per month)</i>	2008 to present
<u>Member</u> , Pharmacy & Therapeutics Committee, Karmanos Cancer Center Review and determine the best practice standards for the use of pharmaceuticals <i>(2 hours per month)</i>	2008 to present
<u>Co-Leader</u> , Neuro-Oncology Multidisciplinary Team, Karmanos Cancer Center Provide leadership for the multidisciplinary clinical service in Neuro-Oncology; Coordinate interdisciplinary collaboration among diverse though related clinical groups (Medical Oncology, Radiation Oncology, Neuropathology, Neuroradiology, Neuro-Oncology Nursing, etc.) to enhance the quality of patient care delivered by the team while promoting excellence in clinical research and education; Develop and implement measures to improve the overall quality of patient care services <i>(2-4 hours per week)</i>	2007 to present

<u>Member</u> , ICU Committee, Harper University Hospital Review and advise on intensive care issues, such as intracranial pressure monitoring devices, neurological evaluation, vital signs parameters, etc. <i>(1.5 hours per month)</i>	2007 to present
<u>Co-Director</u> , Multidisciplinary Neuro-Oncology Conference, Karmanos Cancer Center Formal case presentations and multidisciplinary discussion <i>(2 hours per week)</i>	2007 to present
<u>Co-Director</u> , Neuro-Oncology Administrative/Logistic Meeting, Karmanos Cancer Center Monthly review of issues in Neuro-Oncology Service including Gamma Knife, neuroimaging, and other of patient care issues, as well as addressing problems arising during the month <i>(1 hour per month)</i>	2006 to present
<u>Co-Organizer and Co-Director</u> , Neuro-Oncology Presentations, Karmanos Cancer Center Formal research/clinical presentations in conjunction with our weekly neuro-oncology conference <i>(0.5 hour per month)</i>	2006 to present
<u>Member</u> , Clinical Leadership Council, Karmanos Cancer Center Development of measures to improve overall quality of patient care services <i>(2 hours per month; replaced by Medical Executive Committee in 2011)</i>	2007 to 2011

4. Professional:

a) Service in National/Regional Professional Associations:

<u>Coordinator</u> , Special Interest Group on Tumor-Related Epilepsy American Epilepsy Society	2015 to present
<u>Member</u> , Guidelines Committee American Society for Stereotactic and Functional Neurosurgery	2014 to present
<u>Member</u> , Guidelines Committee American Association of Neurological Surgeons/Congress of Neurological Surgeons	2014 to present
<u>Member</u> , Response Assessment in Neuro-Oncology (RANO) Working Group	2014 to present
<u>Member</u> , Brain Tumor-Related Epilepsy Research Consortium	2012 to present
<u>Moderator</u> , Scientific Program Michigan Association of Neurological Surgeons Annual Meeting, Thompsonville, MI	06/2014
<u>Moderator</u> , Scientific Program Michigan Association of Neurological Surgeons Annual Meeting, Thompsonville, MI	06/2013
<u>Moderator</u> , Scientific Tumor Section Symposium American Association of Neurological Surgeons Annual Meeting, Washington, DC	04/2007

b) Executive Board/Council Membership:

<u>Secretary/Treasurer</u> , Michigan Association of Neurological Surgeons <i>Elected by peers (2-year term)</i>	06/2014 to present
<u>Executive Board Member</u> , Brain Tumor-Related Epilepsy Research Consortium	12/2013 to present
<u>Executive Board Member</u> , Michigan Association of Neurological Surgeons <i>Elected by peers (2-year term)</i>	06/2012–05/2014
<u>Member</u> , Professional Advisors of the Epilepsy Foundation of Michigan	02/2014 to present
<u>Member</u> , Medical Advisory Council of The Biotronic NeuroNetwork	05/2013 to present

5. Community Service:

<u>Interview</u> with Mr. Lloyd Jackson, host of WJR Radio's The Big Story Live interview on "Cell phone use and cancer risk"	05/31/2011
<u>Guest Speaker</u> , Epilepsy Foundation of Michigan's "Learn & Share" Conference Calls Allowed people with epilepsy and family members to connect with others and learn more about epilepsy surgery through a toll-free, conference call	04/2011
<u>Created Patient Education Videos</u> with Emery King To help patients with epilepsy and their families Available on various websites and social media forums (e.g YouTube, etc.) 1- <i>Decoding Epilepsy, Part I: What, Where, How</i> http://www.dmc.org/VideoLibrary/ShowVideo.aspx?Library=1&VideoID=11 2- <i>Decoding Epilepsy, Part II: Mapping the Brain's Mysteries</i> http://www.dmc.org/VideoLibrary/ShowVideo.aspx?Library=1&VideoID=12 3- <i>A Stimulating Discovery: VNS Stimulator for Epilepsy</i> http://www.dmc.org/VideoLibrary/ShowVideo.aspx?Library=1&VideoID=82	2007–2009
<u>Interview</u> with Mr. Paul W. Smith, host of WJR Radio's The Paul W. Smith Show Live interview on "Progress in the fight against brain cancer"	08/31/2009
<u>Guest Speaker</u> , Gilda's Club Metro Detroit Chapter (cancer support group) Interactive group discussion on "Living with a brain tumor"	02/09/2009
<u>Created print brochure</u> entitled: "Inside Neurosurgery: Epilepsy Surgery" Educational material for medical professionals	2008
<u>Technical (Medical) Advisor</u> , "Gifted Hands" movie Based on book by pediatric neurosurgeon Dr. Benjamin S. Carson Starring: Cuba Gooding Jr.; director: Thomas Carter; writer: John Pielmeier Release date: February 2009	2008

6. Scholarly Service:

a) Grant Review Committees:

<u>NIH/National Cancer Institute (NCI) Small Grants Program for Cancer Research</u> Review and critique of research grant proposals (R03 and R21)	2015
<u>Medical Research Council, United Kingdom</u> Review and critique of research grant proposals in immunotherapy for malignant gliomas	2015
<u>NIH/National Institute of Biomedical Imaging and Bioengineering (NIBIB)</u> Review panel [2015/01 ZEB1 OSR-C (J2)] on Biomedical Technology Resource Center (P41) grant application for Image Guided Therapy Center at Brigham and Women's Hospital, Boston	2014–2015
<u>Swiss Cancer League, Swiss Cancer Research Foundation</u> Review and critique of research grant proposals in immunotherapy	2013
<u>Blue Cross Blue Shield of Michigan Foundation – Investigator Initiated Program</u> Review and critique of research grant proposal in neurosurgical simulation	2013
<u>FDA Orphan Products Grants Program (Neuro-Oncology Panel)</u> Review and critique of research grant proposals in neuro-oncology	2011
<u>NIH Stimulus Grant proposals (Neuroimaging Panel)</u> Review and critique of research grant proposals	2009

b) Regional Medical Societies:

<u>Course Director</u> , Michigan Society of Medical Specialties (MSMS) Annual Meeting Course Title: Update on Primary and Metastatic Brain Tumors	10/2011
<u>Course Director</u> , Michigan Society of Medical Specialties (MSMS) Annual Meeting Course Title: Medical and Surgical Treatment of Epilepsy and Parkinson's Disease	10/2010

c) Editorship:

<u>Editor</u> Book Title: Targeting the Broadly Pathogenic Kynurenine Pathway (Springer International Publishing: Switzerland)	2015
<u>Guest Editor</u> Special Issue Title: The Future of Neurosurgical Oncology, <i>Journal of Spine & Neurosurgery</i>	2013

d) Reviewer for Scientific Journals:

2009 to present

Review and critique of clinical, basic, and translational research manuscripts for the following peer-reviewed journals (*4 hours per week*):

Antibodies
Behavioural Brain Research
Cancer Immunology and Immunotherapy
Clinical Neurology and Neurosurgery
Clinical Neuroradiology
Current Cancer Drug Targets
International Journal of Molecular Sciences
International Neuropsychiatric Disease Journal
Journal of Neurochemistry
Journal of Spine & Neurosurgery
JSM Neurosurgery and Spine
Lancet Diabetes & Endocrinology
Neuropathology
Neuropeptides
Neuropsychiatric Disease and Treatment
Neurosurgical Review
Neurosurgery
NMR in Biomedicine
Oman Medical Journal
Otolaryngology Open Access
World Neurosurgery

TEACHING:**1. Years at Wayne State:**

<u>Professor</u> (Clinical Scholar) Department of Neurosurgery (primary) Department of Oncology (secondary)	06/2016–present
<u>Associate Professor</u> (Clinical Scholar) Department of Neurosurgery (primary) Department of Oncology (secondary)	10/2015–06/2016
<u>Associate Professor</u> (Clinical Educator) Department of Neurosurgery (primary) Department of Oncology (secondary)	10/2013–09/2015
<u>Assistant Professor</u> (Clinical Educator) Department of Neurosurgery	07/2006–09/2013

2. Teaching at Wayne State University:**a) Undergraduate Students – Research Mentor:**

Student: <u>Mr. Kaushik Varadarajan</u> Course: Honors Directed Study (HON 4990) Project Title: Role of tryptophan 2,3 dioxygenase in gliomas and meningiomas Publications: 3 manuscripts, 1 book chapter, 3 published abstracts Honors: <i>Awarded the WSU Undergraduate Research and Creative Projects Award</i>	06/2012–05/2015
Student: <u>Mr. Keith Cordner</u> Project title: Role of the kynurenine pathway in glioblastoma Publications: 1 manuscript (in preparation) Honors: <i>Awarded the WSU Cancer Biology Summer Research Fellowship</i>	06–08/2015
Student: <u>Ms. Madhu Sanam</u> Course: Honors Directed Study (HON 4990) Project Title: Novel treatment options with indoleamine 2,3-dioxygenase (IDO) Honors: <i>Awarded the WSU Undergraduate Research and Creative Projects Award</i>	07/2013–12/2014
Student: <u>Mr. Keith Cordner</u> Project title: Effects of miR-139 on invasion of meningioma cells Publications: 1 manuscript (in preparation) Honors: <i>Awarded the WSU Cancer Biology Summer Research Fellowship</i>	06–08/2014
Student: <u>Ms. Megha Trivedi</u> (co-supervisor with Dr. Matt Galloway) Project Title: Neurochemical profiling of brain tumors using high-resolution magic angle spinning ¹ H-MRS Publications: 1 manuscript (in preparation), 3 published abstracts, 1 seminar	05/2010–08/2013

b) Graduate Students – Research Mentor:

- Student: Mr. Anthony Guastella (PhD candidate, Cancer Biology Graduate Program; primary mentor: Dr. Sandeep Mittal) June 2014–present
 Project Title: Role of tryptophan metabolism in human brain tumors
 Publications: 3 manuscripts, 3 book chapters, 3 published abstracts
 Honors: *Awarded the WSU Dean’s Diversity Doctoral Fellowship*
Won 1st prize at International Society for Tryptophan Research Conference (Sept. 2015)
Won 1st prize at Annual Symposium of Cancer Biology Graduate Program (April 2015)
- Student: Mr. Eric C. Brown (enrolled in MD/PhD program; primary mentor: Dr. Eishi Asano) 07/2011–06/2014
 Project Title: Correlation of speech and language function and gamma oscillations recorded during electrocorticography in patients undergoing epilepsy surgery
 Publications: 6 manuscripts
- Student: Mr. Dan Barkmeier (enrolled in MD/PhD program; primary mentor: Dr. Jeffrey Loeb) 07/2011–12/2012
 Project Title: EEG spiking in tumor-associated epilepsy
 Publications: 1 manuscript
- Student: Ms. Amy Buth (enrolled in MD/PhD program; primary mentor: Dr. Sandeep Mittal) 07/2010–12/2012
 Project Title: Role of tryptophan metabolism in human brain tumors
 Publications: 3 manuscripts, 5 published abstracts
 Honors: *Won 1st prize at Annual WSU Graduate Student Research Day*
- Student: Ms. Helen C. Wu (enrolled in MD/PhD program; primary mentor: Dr. Eishi Asano) 07/2010–06/2011
 Project Title: Correlation of picture naming and word reading with gamma oscillations recorded during electrocorticography in patients undergoing epilepsy surgery
 Publications: 1 manuscript
- Student: Mr. Tom Beaumont (enrolled in MD/PhD program; primary mentor: Dr. Jeffrey Loeb) 07/2009–08/2010
 Project Title: Pathophysiology of tumor-associated epilepsy
 Publications: 2 book chapters
- Student: Ms. Karen Chin (enrolled in Master of Science degree in Radiological Physics; primary mentor: Dr. Joseph Rakowski) 06/2009–07/2010
 Project Title: Effects of titanium mesh implant on dosimetry during Gamma Knife radiosurgery
 Publications: 1 manuscript
- Student: Mr. Carlos E. Batista (PhD candidate; primary mentor: Dr. Diane Chugani) 06–09/2010
 Project Title: Tryptophan metabolism in human brain tumors
 Publications: 1 manuscript
- Student: Mr. Jaladhar Neelavalli (PhD candidate; primary mentor: Dr. E. Mark Haacke) 03–09/2009
 Project Title: Susceptibility-weighted imaging in neurological disorders
 Publications: 1 book chapter

c) Graduate Students – Course Instructor:Graduate students in Cancer Biology Graduate Program, Dept. of Oncology

Principles in Cancer Therapy, CB 7240, 3 credits, 1 lecture 01/2016

Graduate students in Dept. of Biomedical Engineering

MR Imaging of Neurovascular Disease, BME 7720, 3 credits, 2 lectures 09/2015

MR Imaging of Neurovascular Disease, BME 7720, 3 credits, 2 lectures 10/2011

MR Imaging of Neurovascular Disease, BME 7720, 3 credits, 2 lectures 09/2009

MR Imaging of Neurovascular Disease, BME 7720, 3 credits, 2 lectures 02/2008

Graduate students in Dept. of Translational Neuroscience

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2015

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2014

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2013

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2012

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2011

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2010

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2009

Fundamentals of Neuropsychiatric Disorders, PYC 7150, 3 credits, 1 lecture 07/2008

d) Graduate Students – Committees:Student: Mr. Michael Monterey 2012

Thesis Title: Isocitrate dehydrogenase mutations: implications in the malignant progression of gliomas

Role: Member, Masters in Basic Medical Sciences Committee, Dept. of Physiology, WSU

Student: Dr. Todd Francis 04/2010

Thesis Title: Metabolic targeting of malignant gliomas

Role: Member, Doctoral Dissertation Examination Committee, Dept. of Physiology, WSU

Student: Dr. Todd Francis 2006-2010

Project Title: Metabolic targeting of malignant gliomas

Role: Member, PhD Advisory Committee, Dept. of Physiology, WSU

e) Medical Students – Research Mentor:Student: Mr. Neil V. Klinger 05/2014 to present

Project title: Development of patient-derived xenograft models of human brain tumors

Publications: 3 manuscripts

Student: Mr. Rayyan Kadi 05/2015 to present

Project title: Calvarial mass as initial presentation of renal cell carcinoma

Publications: 1 manuscript submitted

Student:	<u>Ms. Sanila Sarkar</u>	05–08/2014
Project title:	Role of microRNA in human brain tumors	
Publications:	1 book chapter, 1 manuscript under preparation	
Student:	<u>Mr. Andrew Lozen</u>	06/2010–04/2011
Project title:	Low-grade gliomas	
Publications:	1 book chapter	
Student:	<u>Ms. Erin Neil</u>	06/2010–02/2011
Project title:	Intracranial Whipple’s disease	
Publications:	1 manuscript	
Student:	<u>Ms. Caitlin Shapiro</u>	05/2009–08/2010
Project title:	Neurochemical profile of human brain tumors using high resolution magic angle spinning 1H magnetic resonance spectroscopy	
Publications:	1 abstract (poster presentation at SFN meeting)	
Student:	<u>Mr. Justin Stenz</u>	11/2008–05/2009
Project title:	Temporal neocortical origin of pilomotor seizures	
Publications:	1 manuscript	
Student:	<u>Mr. Akin Oni-Orisan</u>	11/2008–05/2009
Project title:	Temporal neocortical origin of pilomotor seizures	
Publications:	1 manuscript	
Student:	<u>Ms. Alexandria Conley</u>	02/2008–06/2009
Project title:	Non-Langerhans cell histiocytosis of the central nervous system	
Publications:	1 manuscript	

f) Neurosurgery Residents and Fellows – Clinical Research Mentor:

Resident:	<u>Blake Walker, MD</u>	07/2014 to present
Project Title:	Diabetes insipidus after endoscopic transsphenoidal surgery	
Publications:	1 manuscript	
Resident:	<u>Farzana Tariq, MD</u>	07/2014 to present
Project Title:	Clinical outcomes of high-grade meningiomas	
Publications:	1 manuscript under preparation	
Resident:	<u>Arianne Boylan, MD</u>	07/2014 to present
Project Title:	New-onset epilepsy predicts transformation of low-grade gliomas	
Publications:	1 manuscript under preparation	
Resident:	<u>Gary Rajah, MD</u>	07/2014 to present
Project Title:	Treatment strategies for recurrent lymphocytic hypophysitis	
Publications:	1 manuscript	
Resident:	<u>Elizabeth Klein, MD</u>	07/2014 to present
Project Title:	Atypical representation of sensorimotor cortex in autism	
Publications:	1 manuscript under preparation	

Resident: Neena Marupudi, MD 07/2013 to present
 Project Title: Hyponatremia in patients with aneurysmal subarachnoid hemorrhage
 Publications: 2 manuscripts, 1 platform presentation
 Honors: Awarded 3rd prize for resident presentation

Resident: Matthew Schreckinger, MD 07/2012 to present
 Project Title: Complications following endoscopic transsphenoidal surgery
 Publications: 3 manuscripts

Resident: David Hong, MD (currently working at UCSD in San Diego, CA) 07/2012–06/2014
 Project Title: Complications following endoscopic transsphenoidal surgery
 Publications: 1 manuscript, 1 platform presentation

Resident: Neelesh Nundkumar, MD (currently working in Greensboro, NC) 01/2012–06/2013
 Project Title: Peritumoral edema after Gamma Knife radiosurgery for intraventricular meningiomas
 Publications: 2 manuscripts

Resident: Mark Hoeprich, MD (currently working in Akron, OH) 07/2006–06/2012
 Project Title: Spontaneous intratumoral infarction in meningiomas
 Publications: 1 manuscript, 1 book chapter, 1 platform presentation, 1 manuscript submitted

Resident: Todd Francis, MD, PhD (currently working at Cleveland Clinic) 07/2006–06/2011
 Project Title: Treatment strategies for recurrent lymphocytic hypophysitis
 Publications: 1 manuscript, 2 poster presentations

Resident: Jayant Jagannathan, MD (working in Madison Heights, MI) 07/2009–06/2010
 Project Title: Gamma Knife radiosurgery in the management of brainstem metastases
 Publications: 2 manuscripts, 4 published abstracts, 5 poster presentations

Fellow: Diaa Bahgat, MD (currently in Little Rock, AR) 07/2007–06/2008
 Project Title: Middle cerebral artery pseudoaneurysm formation following stereotactic biopsy
 Publications: 1 manuscript

Fellow: Sunil Manjila, MD (currently working in Cleveland, OH) 07/2008–06/2009
 Project Title: Non-Langerhans cell histiocytosis of the central nervous system
 Publications: 1 manuscript

g) Residents in Other Departments – Clinical Research Mentor:

Resident: Rahman Chaudhry, MD (Dept. of Pathology) 07/2015 to present
 Project Title: Mixed meningioma and neuroendocrine tumor as part of complex neurocristopathy
 Publications: 1 manuscript under preparation

Resident: Baraa Alesh, MD (Dept. of Pathology) 07/2014 to present
 Project Title: Genomic characterization of breast cancer brain metastases
 Publications: 1 manuscript

Resident: Seema Sethi, MD (Dept. of Pathology) 07/2013 to present
 Project Title: Role of microRNAs in brain metastases
 Publications: 3 manuscripts, 1 published abstract, 1 poster presentation
 Honors: *awarded 1st prize for the best scientific presentation*

Resident:	<u>Edward Jung, MD</u> (Dept. of Radiation Oncology)	07/2011–06/2012
Project Title:	Gamma Knife radiosurgery in the management of brainstem metastases	
Publications:	1 manuscript, 2 published abstracts, 2 poster presentations	
Resident:	<u>Michael E. Christensen, MD</u> (Dept. of Radiation Oncology)	07/2010–06/2011
Project Title:	MRI- vs PET-based planning of radiotherapy for glioblastoma	
Publications:	1 manuscript, 1 published abstract, 1 poster presentation	
Resident:	<u>Wazim Mohamed, MD</u> (Dept. of Neurology)	07/2010–06/2011
Project Title:	Isolated intracranial Whipple's disease	
Publications:	1 manuscript, 1 published abstract, 2 poster presentations	
Resident:	<u>Preeti Puntambekar, MD, PhD</u> (Dept. of Neurology)	07/2009–06/2010
Project Title:	Intracranial plasma cell granulomas presenting as a mass lesion	
Publications:	1 manuscript, 1 published abstract, 1 poster presentation	
Resident:	<u>Fadi Delly, MD</u> (Dept. of Neurology)	07/2008–06/2011
Project Title:	Gamma Knife radiosurgery in the management of brainstem metastases	
Publications:	1 manuscript, 2 book chapters, 3 published abstracts, 1 platform presentation, 2 poster presentations	
Resident:	<u>Hui Guan, MD</u> (Dept. of Pathology)	07/2009–06/2010
Project Title:	Non-Langerhans cell histiocytosis of the central nervous system	
Publications:	1 manuscript	
Resident:	<u>Gautam Bahl, MD</u> (Dept. of Radiology)	07/2008–06/2009
Project Title:	Differentiation of recurrent gliomas from radiation injury using MRI and PET	
Publications:	1 manuscript, 2 published abstracts, 2 platform presentations, 1 poster presentation	
Honors:	<i>Awarded 1st Place for the Education Exhibit Trainee Prize</i>	
Resident:	<u>Maysaa Basha, MD</u> (Dept. of Neurology)	07/2008–06/2009
Project Title:	Intracranial EEG analysis in tumor-related epilepsy	
Publications:	4 published abstracts, 4 poster presentations	
Resident:	<u>Mahmoud Rayes, MD</u> (Dept. of Neurology)	07/2006–06/2009
Project Title:	Pathogenesis of supratentorial neurenteric cysts	
Publications:	3 manuscripts, 1 book chapter, 3 published abstracts, 5 poster presentations	

h) Epilepsy Fellows (Dept. of Neurology) – Clinical Research Mentor:

Fellow:	<u>Kushak Suchdev, MD</u> (currently completing Neurocritical Care fellowship at WSU/DMC)	07/2013–06/2014
Project Title:	Surgical management of new onset refractory status epilepticus (NORSE)	
Publications:	1 published abstract, 1 poster presentation, 1 manuscript under preparation	
Fellow:	<u>Reena Nanjireddy, MD</u> (currently working in Shreveport, LA)	07/2013–06/2014
Project Title:	Cerebral vasospasm following temporal lobe epilepsy surgery	
Publications:	1 published abstract, 1 manuscript under preparation	
Fellow:	<u>Sudad Louis, MD</u> (currently working in Farmington Hills, MI)	07/2012–06/2013
Project Title:	Psychiatric co-morbidities after epilepsy surgery	

Publications: 1 published abstract, 1 poster presentation

Fellow: Tyson Burghardt, MD (currently at MSU, Lansing, MI) 07/2011–06/2012
 Project Title: Crying with sorrow evoked by electrocortical stimulation
 Publications: 1 manuscript

Fellow: Temenuzhka G. Mihaylova, MD, PhD (currently at University of Michigan, Ann Arbor, MI) 07/2010–06/2011
 Project Title: Intracranial EEG analysis in lesional and tumor-related epilepsy
 Publications: 3 published abstracts, 3 poster presentations

Fellow: Yvan Tran, MD (currently working in Grand Rapids, MI) 07/2009–06/2010
 Project Title: Complications following vagal nerve stimulation
 Publications: 1 manuscript, 3 published abstracts, 2 poster presentations

Fellow: Marie Atkinson, MD (currently working in Spokane, WA) 07/2006–06/2007
 Project Title: Histopathological correlation of intraoperative hippocampal electrocorticography
 Publications: 2 published abstracts, 3 posters

i) Postdoctoral Fellows – Research Mentor:

Fellow: Edit Bosnyák, MD (primary mentor, Dr. Csaba Juhász) 07/2014 to present
 Project Title: Tryptophan metabolism in human brain tumors
 Publications: 4 manuscripts

Fellow: David Kamson, MD (primary mentor, Dr. Csaba Juhász) 07/2011–06/2013
 Project Title: Tryptophan metabolism in human brain tumors
 Publications: 8 manuscripts

Fellow: Balint Alkonyi, MD (primary mentor, Dr. Csaba Juhász) 07/2010–06/2012
 Project Title: Tryptophan metabolism in human brain tumors
 Publications: 2 manuscripts, 2 platform presentations, 1 poster presentation

Fellow: Katsuaki Kojima, MD (primary mentor, Dr. Eishi Asano) 07/2010–06/2012
 Project Title: Role of gamma oscillations in patients undergoing epilepsy surgery
 Publications: 3 manuscripts, 3 poster presentations

Fellow: Tetsuro Nagasawa, MD (primary mentor, Dr. Eishi Asano) 07/2010–06/2012
 Project Title: Role of gamma oscillations in patients undergoing epilepsy surgery
 Publications: 2 manuscripts, 2 poster presentations

Fellow: Zheng Wu, MD, PhD (primary mentor, Dr. E. Mark Haacke) 07/2008–06/2008
 Project Title: Susceptibility-weighted imaging in neurological disorders
 Publications: 3 manuscripts, 1 book chapter

GRANT SUPPORT – CURRENT:

Role: **Co-Principal Investigator** (with co-PI: Csaba Juhász, MD, PhD), Percent Effort: 15%
 Grant No.: R01 CA123451 (multi-PI grant)
 Title: “Tryptophan metabolism in human brain tumors”
 Goal: The goal of this study is to characterize the role of the immunosuppressive kynurenine pathway in the development and growth of brain tumors using *in vivo* molecular imaging and *in vitro* assays of patient-derived primary cell cultures and tumor tissues.
 Source: NIH/NCI
 Period: 02/01/2014 to 01/31/2019
 Direct Costs: \$1,195,705

Role: **Principal Investigator**
 Grant No.: Investigator-Initiated Study
 Title: “*In vitro* and *in vivo* response to inhibition of kynurenine production by IDO/TDO inhibitor in patient-derived brain tumor models”
 Goal: The goal of this project is to determine AMT uptake, kynurenine/tryptophan ratio and tumor growth rate in patient-derived glioblastoma cell lines and xenograft mice treated with an IDO/TDO inhibitor.
 Source: Roche Glycart AG
 Period: 04/01/2016 to 09/30/2017
 Direct Costs: \$246,600

Role: **Co-Principal Investigator** (with co-PI: Csaba Juhász, MD, PhD)
 Title: “Tryptophan metabolism in human brain tumors: For patients whose clinical treatment includes NovoTTF”
 Goal: The goal of this study is to determine if molecular imaging of tryptophan metabolism in brain tumors can detect a treatment response during NovoTTF therapy.
 Source: Novocure Ltd – Investigator-Initiated Study
 Period: 07/01/2014 to 12/31/2017
 Direct Costs: \$180,250

Role: **Co-Principal Investigator**
 Title: “Enrichment of oncogenic fusion genes in non-small cell lung cancer metastatic brain tumors”
 Goal: The goal of this study is to identify and map fusion genes in metastatic brain tumors and their matched primary non-small cell lung cancers.
 Source: McLaren/KCI – Molecular Therapeutics Program Pilot Study Grant
 Period: 5/01/2016 to 4/30/2017
 Direct Costs: \$15,000

GRANT SUPPORT – CURRENT (cont'd):

Role: **Principal Investigator**
Grant No.: Investigator-Initiated Study
Title: “Defining efficacy of combinations of TFields and chemotherapeutics on patient-derived primary and metastatic brain tumor cell lines”
Goal: The goal of this project is to treat patient-derived cell lines originating from primary or metastatic brain tumors with TFields singly and in combination with drugs *in vitro* and measure the rate of cell growth and viability.
Source: Novocure Ltd
Period: 12/01/2015 to 11/30/2016
Direct Costs: \$30,000

GRANT SUPPORT – COMPLETED:

Role: **Co-Investigator** (PI: Csaba Juhász, MD, PhD)
 Grant No.: RO1CA123451
 Title: “Tryptophan metabolism in human brain tumors”
 Goal: The goal of this study was to characterize the role of the immunosuppressive kynurenine pathway in the development and growth of brain tumors using *in vivo* molecular imaging.
 Source: NIH/NCI
 Period: 12/03/2007 to 11/30/2012 (no cost extension to 11/30/2013)
 Direct Costs: \$1,015,741

Role: **Principal Investigator**
 Title: Start-up Funds
 Goal: The goal was to establish the Translational Neuro-Oncology Research Lab.
 Source: WSU School of Medicine Fund for Medical Research and Education
 Period: 10/01/2006 to 09/30/2012
 Direct Costs: \$600,000

Role: **Principal Investigator**
 Title: “Cellometer K2 Image Cytometer”
 Goal: This competitive grant was awarded from the OVPR for the purchase of the Cellometer K2 Image Cytometer (Nexcelom Bioscience), a fully automated cell counter equipped with two fluorescence optics modules and a cell imaging system capable of performing live/dead screening as well as the detection of green fluorescent protein, and automated apoptosis assays.
 Source: Office of the Vice President for Research’s Research Equipment Program, WSU
 Period: 05/01/2015 to 04/30/2016
 Direct Costs: \$19,580

Role: **Principal Investigator**
 Title: “Xenograft Mouse Models of Human Brain Tumors for the Development of Novel Diagnostics and Therapeutics”
 Goal: The goal of this project is to develop xenograft mouse models of patient-derived primary and metastatic brain tumors for use in preclinical research to study tumor growth and test novel therapeutics.
 Source: KCI Strategic Research Initiative Grant
 Period: 01/01/2015 to 12/31/2015
 Direct Costs: \$42,402

Role: **Co-Principal Investigator** (with co-PI: Aashit K. Shah, MD)
 Title: “Correlation of plasma and cerebrospinal fluid (CSF) levels of lacosamide (LCM)”
 Goal: The goal of this study is to determine if the antiepileptic drug lacosamide efficiently crosses the blood-brain barrier in naïve and chronically treated patients.
 Source: UCB Pharma – Investigator-Initiated Study
 Period: 09/01/2011 to 12/31/2015
 Direct Costs: \$46,099

GRANT SUPPORT – COMPLETED (cont'd):

Role: **Principal Investigator**
 Title: "Targeted treatments for metastatic brain tumors"
 Goal: The goal of this study was to develop and characterize mouse xenograft models of human metastatic brain tumors derived from primary lung or breast cancer for the development of novel therapies.
 Source: McLaren/KCI – Molecular Imaging Program Short-Term Grant
 Period: 6/18/2014 to 9/30/2014
 Direct Costs: \$25,000

Role: **Principal Investigator** (with co-PI: Lawrence G. Lum, MD, DSc)
 Title: "Targeting recurrent glioblastoma with armed T cells"
 Goal: The goal of this study was to treat mice bearing human orthotopic patient-derived with brain tumors to determine safety and efficacy of armed activated T cell therapy.
 Source: McLaren/KCI – Clinical Trials Program Short-Term Grant
 Period: 6/03/2014 to 9/30/2014
 Direct Costs: \$15,000

Role: **Principal Investigator**
 Title: "Efficacy of kynurenine pathway inhibitors in mouse xenograft model of human meningioma"
 Goal: The goal of this study was to determine if inhibitors of tryptophan metabolism would alter the growth of human meningioma tumors in mouse xenograft models.
 Source: McLaren/KCI – Molecular Therapeutics Program Short-Term Grant
 Period: 5/01/2014 to 9/30/2014
 Direct Costs: \$20,000

Role: **Co-Principal Investigator** (with Co-PI: Jianjun Wang, PhD)
 Title: "A new cell converting therapy for glioma"
 Goal: The goal of this study was to determine if the embryonic stem cell proteins SOX2, Oct4 and Nanog would delay or reverse patient-derived glioma tumor growth in a xenograft mouse model.
 Source: McLaren/KCI – Tumor Biology and Microenvironment Program Short-Term Grant
 Period: 5/01/2014 to 9/30/2014
 Direct Costs: \$20,000

Role: **Co-Principal Investigator** (with co-PI: Aliccia Bollig-Fischer, PhD)
 Title: "Identification of candidate driver oncogenes from cytogenomic analysis of metastatic brain tumors"
 Goal: The goal of this study was to characterize metastatic brain tumors and identify a molecular signature that could be developed into predictive or diagnostic clinical tests to determine which patients with primary cancers would be at greater risk of developing central nervous system metastases.
 Source: KCI Strategic Research Initiative Grant
 Period: 10/01/2013 to 09/30/2014
 Direct Costs: \$50,000

GRANT SUPPORT – COMPLETED (cont'd):

Role: **Co-Principal Investigator** (with co-PI: Csaba Juhász, MD, PhD)
 Title: “Histopathological and molecular correlates of kynurenine pathway and aryl hydrocarbon receptor activation in primary gliomas and metastatic brain tumors”
 Goal: The goal of this study was to determine if activation of the kynurenine pathway in primary cultures of human brain tumor cells would lead to downstream activation of the aryl hydrocarbon receptor.
 Source: KCI Strategic Research Initiative Grant
 Period: 09/15/2012 to 07/31/2014
 Direct Costs: \$50,000

Role: **Principal Investigator**
 Title: “Safety and efficacy of activation T cells armed with bispecific antibodies against glioblastoma”
 Goal: The goal of this study was to complete preclinical studies using armed, targeted T cells as a treatment strategy in mouse xenograft models of human brain tumors.
 Source: KCI Strategic Research Initiative Grant
 Period: 06/01/2011 to 05/31/2012 (no cost extension to 07/31/2014)
 Direct Costs: \$50,000

Role: **Principal Investigator**
 Title: “Development of patient-derived xenograft mouse models of primary and metastatic brain tumors”
 Goal: These funds were used to develop patient-derived xenograft models of human brain tumors in immunodeficient mice.
 Source: KCI Animal Model and Therapeutics Evaluation Core
 Period: 12/10/2013 to 02/28/2014
 Direct Costs: \$2,000

Role: **Principal Investigator**
 Title: “Correlation between CSF hemoglobin and NIRS measurements on the forehead”
 Goal: The goal of this study was to evaluate the feasibility and reliability of near-infrared spectroscopy for measuring blood content in cerebrospinal fluid.
 Source: Leap Medical – Investigator-Initiated Study
 Period: 05/01/2012 to 04/30/2013
 Direct Costs: \$15,662

Role: **Principal Investigator – WSU Site**
 Title: “A pivotal clinical trial evaluating the safety and effectiveness of Adherus dural sealant when used as a dural sealant in cranial procedures”
 Goal: The goal of this study was to determine if Adherus dural sealant would improve patient outcomes when used after craniotomy.
 Source: HyperBranch Medical Technology, Inc. – Study NCT01158378
 Period: 02/01/2011 to 11/30/2012
 Direct Costs: \$57,552

GRANT SUPPORT – COMPLETED (cont'd):

Role: **Co-Investigator** (PI: Jeffrey A. Loeb, MD, PhD)
Title: "A computational model of human epilepsy"
Goal: The goal of this study was to develop a database and set of computational tools that would allow the correlation of diverse set of data (including electrophysiology, brain anatomy and gene expression data) providing a powerful integrative approach to the study of the underlying causes of epilepsy.
Source: WSU President's Research Enhancement Program Grant
Period: 05/31/2007 to 04/30/2008
Direct Costs: \$292,609

Role: **Co-Investigator** (PI: Vipin Chaudhary, PhD/Murali Guthikonda, MD)
Title: "Biocomputing and Bioengineering Tools for Surgical Applications"
Goal: The overall objective of this project was to develop infrastructure and a critical mass of multidisciplinary investigators that would advance research in computer-assisted surgery (CAS), leading to the adoption of new and innovative neurosurgical approaches.
Source: Michigan Economic Development Corporation Grant
Period: 08/01//2003 to 07/31/2008
Direct Costs: \$3,377,560

PUBLICATIONS (h-index = 21, i10-index = 46, citations = 2579):

* indicates a trainee who worked under my mentorship

1. Original Manuscripts (Peer-Reviewed):

1. Guastella AR, Michelhaugh SK, Klinger NV, Kupsky WJ, Polin LA, Muzik O, Juhász Ct, **Mittal S**†. Tryptophan PET imaging of the kynurenine pathway in patient-derived xenograft models of glioblastoma. **Molecular Imaging**, DOI: 10.1177/1536012116644881. PMID: 27151136. IF: 1.962
†contributed equally
2. Parajuli P, Anand R, Mandalaparty C, Suryadevara R, Sriranga PU, Michelhaugh SK, Cazacu S, Finniss S, Thakur A, Lum LG, Schalk D, Brodie C, **Mittal S**. Preferential expression of functional IL-17R in glioma stem cells: Potential role in self-renewal. **Oncotarget**, 7(5):6121-6135, 2016. PMID: 26755664. IF: 6.359
3. **Mittal S**, Barkmeier D*, Hua J, Pai DS, Fuerst D, Basha M, Loeb JA, Shah AK. Intracranial EEG analysis in tumor-related epilepsy: Evidence of distant epileptic abnormalities. **Clinical Neurophysiology**, 127(1):238-344, 2016. PMID: 26493495. IF: 3.097
4. Bosnyák E*, Kamson DO*, Robinette NL, Barger GR, **Mittal S**†, Juhász Ct. Tryptophan PET predicts spatial and temporal patterns of post-treatment glioblastoma progression detected by contrast-enhanced MRI. **Journal of Neuro-Oncology**, 126(2):317-325, 2016. PMID: 26514361. IF: 3.070.
†contributed equally
5. Bosnyák E*, Kamson DO*, Behen ME, Barger GR, **Mittal S**†, Juhász Ct. Imaging cerebral tryptophan metabolism in brain tumor-associated depression. **European Journal of Nuclear Medicine and Molecular Imaging Research**, 5(1):56, 2015. DOI: 10.1186/s13550-015-0136-9. PMID: 26475141.
†contributed equally
6. Johnson J, Ascierto ML, **Mittal S**, Newsome D, Kang L, Briggs M, Tanner K, Marincola FM, Berens ME, Vande Woude GF, Xie Q. Genomic profiling of an Hepatocyte growth factor-dependent signature for MET-targeted therapy in glioblastoma. **Journal of Translational Medicine**, 13:306, 2015. DOI: 10.1186/s12967-015-0667-x. PMID: 26381735. IF: 3.930
I was involved in study design, data collection, data analysis, and manuscript writing.
7. Michelhaugh SK, Basha M, Rhoney DH, Shah AK, **Mittal S**. Acute or chronic use of lacosamide does not alter its distribution between serum and cerebrospinal fluid. **Epilepsia**, 56(11):1732-1737, 2015. PMID: 26249845. IF: 4.571
8. Jeong JW, Juhász C, **Mittal S**, Bosnyak E*, Kamson DO*, Barger GR, Robinette NL, Kupsky WJ, Chugani DC. Multi-modal imaging of tumor cellularity and tryptophan metabolism in human gliomas. **Cancer Imaging**, 15(1):10, 2015. doi: 10.1186/s40644-015-0045-1. PMID: 26245742. IF: 2.066
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
9. Furgason JM, Koncar RF, Michelhaugh SK, Sarkar FH, **Mittal S**, Sloan AE, Barnholtz-Sloan JS, Bahassi EM. Whole genome sequence analysis links chromothripsis to EGFR, MDM2, MDM4, and CDK4 amplification in glioblastoma. **Oncoscience**, 2(7):618-628, 2015. PMID: 26328271.
I was involved in data collection, data analysis, and manuscript writing.
10. Michelhaugh SK, Guastella AR*, Varadarajan K*, Klinger NV*, Parajuli P, Ahmad A, Sethi S*, Aboukameel A, Kiousis S, Zitron IM, Ebrahim SA, Polin LA, Sarkar FH, Bollig-Fischer A, **Mittal S**. Development of patient-derived xenograft models from a spontaneously immortal low-grade meningioma cell line, KCI-MENG1. **Journal of Translational Medicine**, 13:227, 2015. doi: 10.1186/s12967-015-0596-8. PMID: 26174772. IF: 3.930

11. Bosnyak E*, Kamson DO*, Guastella A*, Varadarajan K*, Robinette NL, Kupsy WJ, Muzik O, Michelhaugh SK, **Mittal S**[†], Juhász C[†]. Molecular imaging correlates of tryptophan metabolism via the kynurenine pathway in human meningiomas. *Neuro-oncology*, 17(9):1284-1292, 2015. PMID: 26092774. IF: 5.562
†contributed equally
12. Bollig-Fischer A, Michelhaugh SK, Wijesinghe P, Dyson G, Kruger A, Palanisamy N, Choi L, Alesh B*, Ali-Fehmi R, **Mittal S**. Cytogenomic profiling of breast cancer brain metastases reveals potential for repurposing targeted therapeutics. *Oncotarget*, 6(16):14614-14624, 2015. PMID: 25970776. IF: 6.359
13. Ahmad A, Ginnebaugh KR, Sethi S*, Chen W, Ali R, **Mittal S**, Sarkar FH. miR-20b is up-regulated in brain metastases from primary breast cancers. *Oncotarget*, 6(14):12188-12195, 2015. PMID: 25893380. IF: 6.359
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
14. Kamson DO*, Lee TJ, Varadarajan K*, Robinette NL, Muzik O, Chakraborty PK, Snyder M, Barger GR, **Mittal S**, Juhász C. Clinical significance of tryptophan metabolism in the non-tumoral hemisphere in patients with malignant glioma. *Journal of Nuclear Medicine*, 55(10):1605-1610, 2014. PMID: 25189339. IF: 6.160
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
15. Ahmad A, Sethi S*, Chen W, Ali R, **Mittal S**, Sarkar FH. Up-regulation of microRNA-10b is associated with development of breast cancer brain metastasis. *American Journal of Translational Research*, 6(4):384-390, 2014. PMID: 25075255. IF: 3.402
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
16. Kamson DO*, **Mittal S**, Robinette NL, Muzik O, Kupsy WJ, Barger GR, Juhász C. Increased tryptophan uptake on PET has a strong independent prognostic value in patients with a previously treated high-grade glioma. *Neuro-Oncology*, 16(10):1373-1383, 2014. PMID: 24670609. IF: 5.562
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
17. Brown EC*, Muzik O, Rothermel R, Juhász C, Shah AK, Fuerst D, **Mittal S**, Sood S, Asano E. Evaluating signal-correlated noise as a control task with language-related gamma activity on electrocorticography. *Clinical Neurophysiology*, 125:1312-1323, 2014. PMID: 24412331. IF: 3.097
I was involved in study implementation, data collection, and manuscript writing.
18. Shah AK, **Mittal S**. Evaluation of MRI-negative drug-resistant epilepsy. *Annals of Indian Academy of Neurology*, 17:80-88, 2014. PMID: 24897094. IF: 0.599
19. Shah AK, **Mittal S**. Invasive EEG monitoring: Indications and presurgical planning. *Annals of Indian Academy of Neurology*, 17:89-94, 2014. PMID: 24791095. IF: 0.599
20. Christensen M*, Kamson DO*, Snyder M, Kim H, Robinette N, **Mittal S**, Juhász C. Tryptophan PET-defined gross tumor volume offers better coverage of initial progression than standard MRI-based planning in glioblastoma patients. *Journal of Radiation Oncology*, 3(2):131-138, 2014. doi: 10.1007/s13566-013-0132-5. PMID: 25414765
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
21. **Mittal S**, Shah AK, Barkmeier DT*, Loeb JA. Systems biology of human epilepsy applied to patients with brain tumors. *Epilepsia*, 54(Suppl 9):35-39, 2013. PMID: 24328870. IF: 4.571

22. Parajuli P, **Mittal S**. Role of IL-17 in glioma progression. *Journal of Spine and Neurosurgery*, S1, 2013. doi: 10.4172/2325-9701.S1-004. PMID: 25419530
23. Kumar G*, **Mittal S**, Moudgil SS, Kupsy WJ, Shah AK. Histopathological evidence that hippocampal atrophy following status epilepticus is a result of neuronal necrosis. *Journal of the Neurological Sciences*, 334(1-2):186-191, 2013. PMID: 23992920. IF: 2.474
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
24. Jung EW*, Rakowski JT, Delly F*, Jagannathan J, Konski A, Guthikonda M, Kim H, **Mittal S**. Gamma Knife radiosurgery in the management of brainstem metastases. *Clinical Neurology and Neurosurgery*, 115(10):2023-2028, 2013. PMID: 23870233. IF: 1.127
25. Juhász C, Buth A*, Chugani DC, Kupsy WJ, Chugani HT, Shah AK, **Mittal S**. Successful surgical treatment of an inflammatory lesion associated with new-onset refractory status epilepticus. *Neurosurgical Focus*, 34(6):E5, 2013, doi:10.3171/2013.3.FOCUS1336. PMID: 23724839. IF: 2.105
26. Zitron IM, Thakur A, Norkina O*, Barger GR, Lum LG, **Mittal S**. Targeting and killing of glioblastoma with activated T cells armed with bispecific antibodies. *BMC Cancer*, 13:83, 2013, doi: 10.1186/1471-2407-13-83. PMID: 23433400. IF: 3.362
27. Kamson DO*, **Mittal S**, Buth A*, Muzik O, Kupsy WJ, Robinette NL, Barger GR, Juhász C. Differentiation of glioblastomas from metastatic brain tumors by tryptophan uptake and kinetic analysis: a PET study with MRI comparison. *Molecular Imaging*, 12(5):327-337, 2013. PMID: 23759373. IF: 1.962
I was involved in study design, implementation, data collection, data analysis, and manuscript writing.
Selected for cover illustration.
28. Kojima K*, Brown EC*, Matsuzaki N, Rothermel R, Fuerst D, Shah A, **Mittal S**, Sood S, Asano E. Gamma activity modulated by picture and auditory naming tasks: Intracranial recording in patients with focal epilepsy. *Clinical Neurophysiology*, 124(9):1737-1744, 2013. PMID: 23688918. IF: 3.097
I was involved in study implementation, data collection, and manuscript writing.
29. Zitron IM, Kamson DO*, Kiousis S, Juhász C, **Mittal S**. *In vivo* metabolism of tryptophan in meningiomas is mediated by indoleamine 2,3-dioxygenase 1. *Cancer Biology and Therapy*, 14(4):333-339, 2013. PMID: 23358471. IF: 3.072
Selected for cover illustration.
30. Nundkumar N*, Guthikonda M, **Mittal S**. Peritumoral edema following Gamma Knife radiosurgery as primary treatment for intraventricular meningiomas. *Journal of Clinical Neuroscience*, 20:616-618, 2013. PMID: 23313525. IF: 1.253
31. Kamson DO*, Juhász C, Buth A*, Kupsy WJ, Barger GR, Chakraborty P, Muzik O, **Mittal S**. Tryptophan PET in pretreatment delineation of newly-diagnosed gliomas: MRI and histopathologic correlates. *Journal of Neuro-Oncology*, 112(1):121-132, 2013. PMID: 23299463. IF: 3.070
Selected for cover illustration.
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ISBN-10: 3319118692
ISBN-13: 978-3-319-11869-7
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18. Kamson DO*, Lee T, Varadarajan K*, Robinette N, Muzik O, Chakraborty P, Barger G, **Mittal S**, Juhász C. Tryptophan metabolism in the non-tumoral hemisphere: A PET study of 99 glioma patients. *Neuro-Oncology*, 15(Suppl 3):iii198, 2013.

19. Juhász C, Kamson DO*, Robinette NL, Muzik O, Chakraborty PK, Barger GR, **Mittal S**. Low tryptophan uptake in contrast-enhancing lesions predicts long-term survival in patients with a previously treated glioblastoma: A pet study. *Journal of the Neurological Sciences*, 333(Suppl 1):e614, 2013.
20. Sethi S*, Ahmad A*, Ali-Fehmi R, **Mittal S**, Dyson G, Sarkar FH. Molecular microRNAs, target genes and signaling pathways of breast cancer brain metastasis: implications in clinical medicine. *American Journal of Clinical Pathology*, 140(Suppl 1):A148, 2013.
Dr. Sethi won 1st prize for the best scientific – molecular pathology presentation.
21. Nanjireddy R*, Narayanan S, **Mittal S**, Loeb J, Basha M. Cerebral vasospasm following temporal lobe epilepsy surgery demonstrated on conventional angiography. *Neurology*, 80:P03.137, 2013.
22. Xie Q, Johnson J, Ascierto MA, Kang L, Bradley R, **Mittal S**, Furge K, Briggs M, Tanner K, Berens ME, Marincola FM, Vande Woude GF. Genomic determinants and signature of MET-targeted therapy in glioblastoma. *Cancer Research*, 78(Suppl 8):73:2896, 2013.
23. Parajuli P, Mandalaparty M, Brodie C, Lum L, Thakur A, **Mittal S**. Role of Th17/IL-17 inflammatory axis in the progression of malignant gliomas. *Journal of Immunology*, 190 (Suppl 1):170.4, P2095, 2013.
24. Louis S*, Basha M, **Mittal S**, Loeb J, Shah A. Are patients with postictal psychiatric episodes at increased risk for developing psychiatric co-morbidities after epilepsy surgery? *Epilepsy Currents*, 13(Suppl 1):3.171, 2013.
25. Kojima K*, Brown EC*, Rothermel R, Carlson A, Fuerst D, Matsuzaki N, Shah A, Atkinson M, Basha M, **Mittal S**, Sood S, Asano E. Auditory-language-related gamma activity: a consecutive series of 74 epileptic patients. *Epilepsy Currents*, 13(Suppl 1):2.083, 2013.
26. Juhász C, Buth A*, Kamson D*, Kupsky WJ, Barger GR, **Mittal S**. Quantitative analysis of tryptophan PET can help differentiate glioblastomas from lung and breast cancer metastases. *Neuro-Oncology*, 14(Suppl 3):iii122, 2012.
27. Kamson D*, Juhász C, Buth A*, Kupsky WJ, Muzik O, Robinette NL, Barger GR, **Mittal S**. Improved delineation of infiltrating gliomas by positron emission tomography: A volumetric study. *Neuro-Oncology*, 13(Suppl 3):iii121, 2012.
28. **Mittal S**, Buth A*, Kupsky WJ, Kamson D*, Barger GR, Juhász C. Imaging tumor cell density in malignant gliomas: A stereotactic image-histologic analysis using tryptophan PET. *Neuro-Oncology*, 13(Suppl 3):iii122-123, 2012.
29. Christensen ME*, Kamson D*, Snyder M, Hallock A, Kim H, **Mittal S**, Juhász C. Tumor volume for glioblastoma as defined by tryptophan PET offers superior coverage of recurrence site than standard MRI based GTV. *Int J Radiat Oncol Biol Phys*, 84(3 Suppl):S271, 2012.
30. Jung EW*, Delly F*, Rakowski J, **Mittal S**, Tang K, Kim H, Jagannathan J. Repeated stereotactic radiosurgery for progressive brain metastases from melanoma after initial treatment. *Int J Radiat Oncol Biol Phys*, 84(3 Suppl):S629, 2012.
31. Shah A, Basha M, Atkinson M, **Mittal S**. Clinical spectrum and course in individuals with adult onset medically intractable epilepsy and anti-GAD antibody. *Neurology*, 78(Suppl 1): P02.157, 2012.

32. Suchdev K*, Basha M, Atkinson M, **Mittal S**, Shah A. Refractory status epilepticus: Is surgery effective? *Neurology*, 78(Suppl 1):P01.072, 2012.
33. Shah AK, Basha M, Atkinson MD, **Mittal S**, Chakraborty PK, Juhász C. Autoantibody profile of patients with pharmacoresistant localization related epilepsy. *Epilepsy Currents*, 12(Suppl 1):2.156, 2012.
34. Brown EC*, Rothermel R, Muzik O, Matsuzaki N, Juhász C, Shah AK, Fuerst D, **Mittal S**, Sood S, Diwadkar V, Asano E. Reverse Speech Control Task Not Validated by Electrocorticography. *Epilepsy Currents*, 12(Suppl 1):2.123, 2012.
35. Nagasawa T*, Matsuzaki N, Juhász C, Shah A, **Mittal S**, Sood S, Asano E. Occipital gamma-oscillations modulated during eye movement tasks: simultaneous eye tracking and electrocorticography recording in epileptic patients. *Epilepsy Currents*, 12(Suppl 1):2.122, 2012.
36. Kojima K*, Brown EC*, Rothermel R, Carlson A, Matsuzaki N, Shah A, **Mittal S**, Fuerst D, Sood S, Asano E. Language mapping using cortical stimulation and event-related gamma-oscillations in patients with left-side language dominance on Wada test. *Epilepsy Currents*, 12(Suppl 1): 2.120, 2012.
37. Juhász C, **Mittal S**, Altinok D, Robinette N, Muzik O, Chakraborty PK, Barger G. Tryptophan kinetics measured by AMT-PET in low-perfusion and high-perfusion brain tumors. *Neuro-Oncology*, 13(Suppl 3):iii137, 2011.
38. Delly F*, Jagannathan J, Deckard N, **Mittal S**, Folbe A, Hornyak M, Guthikonda M. Endoscopic Transsphenoidal Surgery for Pituitary Adenoma in Cushing's Disease: Results and Outcomes. *Skull Base*, 21:A062, 2011.
39. Jung E*, Jagannathan J, Delly F*, Rakowski JT, Guthikonda M, Kim H, **Mittal S**. Gamma Knife radiosurgery in the management of brainstem metastases. *Int J Radiat Oncol Biol Phys*, 81(2 Suppl):S648, 2011.
40. Deli F*, **Mittal S**, Ransom A, Hulsebus D, Kim H, Guthikonda M, Jagannathan J. Timing of radiosurgery to the resection cavity in the management of brain metastases. *Int J Radiat Oncol Biol Phys*, 81(2 Suppl):S301-302, 2011.
41. Parajuli P, **Mittal S**, Chinni S, Lum L, Thakur A, Guthikonda M. Interaction between tumor and myeloid cells induce/expand Th17 cells in malignant gliomas. *Journal of Immunology*, 186:48.28, 2011.
42. Juhász C, Barger G, Kupsy WJ, Chugani DC, Muzik O, Chakraborty PK, **Mittal S**. Tight correlation between glioma proliferative activity and tryptophan transport measured by PET. *Neurology*, 76(Suppl 4):A182-183, 2011.
43. Alkonyi B*, Barger GR, **Mittal S**, Muzik O, Bahl G*, Chakraborty PK, Juhász C. Differentiation of recurrent gliomas from radiation necrosis by kinetic analysis of α -[11C]methyl-L-tryptophan PET. *Neurology*, 76(Suppl 4):A182, 2011.
44. Mohamed W*, Neil E*, Kupsy WJ, Juhász C, **Mittal S**, Santhakumar S. Isolated intracranial Whipple's disease—Report of a rare case and review of the literature. *Neurology*, 76(Suppl 4):A278, 2011.
45. Mihaylova T*, Tran Y*, Fuerst D, Loeb J, **Mittal S**, Barkmeier D*, Shah A. Spatial and temporal relationship of HFO and interictal spikes in patients with medically refractory non-lesional epilepsy. *Epilepsy Currents*, 11(Suppl 1):1.086, 2011.

46. Tran Y*, Temenuzhka M*, Shah A, Fuerst D, Loeb J, Barkmeier D*, **Mittal S**. Interictal spike and HFO occurrence frequency in tumor-related refractory epilepsy. *Epilepsy Currents*, 11(Suppl 1):2.052, 2011.
47. Shah A, Barkmeier D*, Tran Y*, Fuerst D, Loeb J, Pai D, Hua J, **Mittal S**. Epileptogenic zones are often far removed from brain tumors: an intracranial EEG analysis. *Epilepsy Currents*, 11(Suppl 1):2.244, 2011.
48. Brown EC*, Muzik O, Rothermel R, Nagasawa T, Juhász C, Shah AK, Fuerst D, **Mittal S**, Sood S, Asano E. Variability of naming-related function as observed with event-related electrocorticography. *Epilepsy Currents*, 11(Suppl 1):1.112, 2011.
49. Alkonyi B*, Muzik O, Chugani DC, Zitron I, Chugani HT, Sood S, **Mittal S**, Chakraborty PK, Juhász C. Metabolic and molecular imaging characteristics of epileptogenic dysembryoplastic neuroepithelial tumors (DNETs). *Epilepsy Currents*, 11(Suppl 1):3.173, 2011.
50. **Mittal S**, Zitron IM, Kupsy WJ, Alkonyi B*, Sood S, Juhász C. Cytokine-mediated inflammation in epileptogenic dysembryoplastic neuroepithelial tumors. *Neuro-Oncology*, 12(Suppl 4):iv32, 2010.
51. Zitron IM, Juhász C, **Mittal S**. Indoleamine 2,3-dioxygenase expression in human meningiomas. *Neuro-Oncology*, 12(Suppl 4):iv32, 2010.
52. Juhász C, **Mittal S**, Muzik O, Chugani DC, Chakraborty PK, Bahl G*, Barger GR. Accurate identification of recurrent gliomas by kinetic analysis of α -methyl-L-tryptophan unidirectional uptake on PET. *Neuro-Oncology*, 12(Suppl 4):iv113, 2010.
53. Puntambekar P*, Santhakumar S, **Mittal S**, Kupsy W, Tselis A. A case of intracranial plasma cell granuloma presenting as a mass lesion. *Neurology*, 74(Suppl 2):A536, 2010.
54. Shah AK, Fuerst D, Zitron I, Atkinson M, Kupsy W, **Mittal S**. Spontaneous seizures recorded intraoperatively on hippocampal electrocorticography (IH-ECoG) and hippocampal pathology. *Neurology*, 74(Suppl 2):A198-199, 2010.
55. Bahl G*, Barger G, **Mittal S**, Chakraborty P, Kupsy WJ, Juhász C. Detection of recurrent gliomas using alpha-[11C]methyl-L-tryptophan Positron Emission Tomography. *American Journal of Roentgenology*, 194(5_Suppl):A308-A317 (E593), 2010.
Dr. Bahl awarded 1st Place for the Education Exhibit Trainee Prize.
56. Mihaylova T*, Barkmeier D*, Fuerst D, **Mittal S**, Basha M*, Loeb J, Shah A. Quantitative interictal spike component analysis on intracranial EEG in patients with refractory non-lesional epilepsy shows better correlation with initial phase of the spike in the epileptogenic zone. *Epilepsia*, 50(Suppl 11):19, 1.036, 2009.
57. Basha M*, Barkmeier D*, Fuerst D, Mihaylova T*, **Mittal S**, Loeb J, Shah A. Interictal spike morphology correlate with epileptogenic zone than tumor location in patients with primary brain tumors undergoing subdural electrocorticography for epilepsy surgery. *Epilepsia*, 50(Suppl 11):21, 1.039, 2009.
58. Zitron IM, Norkina O*, Al-Kadhimi Z, Barger GR, Lum LG, **Mittal S**. Targeting of glioblastoma with activated T cells armed with anti-CD3xanti-HER2/neu (HER2Bi) and anti-CD3xanti-EGFR (EGFRBi) bispecific antibodies. *Journal of Clinical Oncology*, 27(Suppl), 3038, 2009.
59. Zitron I, Rayes M*, Shah A, Loeb J, **Mittal S** (2008). CREB activation in cortical neurons correlates with interictal spike frequency in patients with lesional epilepsy due to brain tumors. *Epilepsia*, 49(Suppl 7):173-174, IW.18, 2008.

60. Basha M, **Mittal S**, Fuerst D, Zitron I, Rayes M, Shah A. Quantitative interictal intracranial EEG monitoring helps define the epileptogenic focus in patients with primary brain tumors. *Epilepsia* 49(Suppl 7):3, 2008.
61. Shah A, Atkinson M*, Rayes M*, Zitron I, Kupsky W, **Mittal S**. Relationship of seizures recorded during intraoperative hippocampal electrocorticography and hippocampal pathology. *Epilepsia* 49(Suppl 7):287, 2008.
62. Basha M*, Shah A, Fuerst D, **Mittal S**. Relationship between tumor and epileptogenic zone in patients with tumor-related epilepsy evaluated with prolonged intracranial EEG monitoring. *Neuro-Oncology*, 10(5):911, 2008.
63. Shah AK, Atkinson M*, Loeb JA, Watson CE, **Mittal S**. Intraoperative hippocampal electrocorticography following temporal neocortical resection exhibits frequent electrographic seizures. *Epilepsia* 48(Suppl 6):128, 2007.
64. **Mittal S**, Farmer JP. Treatment of spasticity with intrathecal baclofen administration. *Canadian Journal of Neurological Sciences* 32:S5-81, 2005.
65. **Mittal S**, Jacques L. Ineffectiveness of distal repair in the presence of proximal nerve injury. *Canadian Journal of Neurological Sciences* 31:S5-95, 2004.
66. **Mittal S**, Montes JL, Farmer JP, Rosenblatt B, Andermann F, Olivier A. Surgical treatment of temporal lobe epilepsy in pediatric patients. *Child's Nervous System* 17:442, 2001.
67. **Mittal S**, Farmer JP, Rosenblatt F, Andermann F, Montes JL, Villemure JG (2000). Refractory seizures following functional hemispherectomy: Important lessons learned from an unusual case. *Canadian Journal of Neurological Sciences* 27(Suppl 2):S49, 2000.
68. **Mittal S**, Montes JL, Farmer JP, Sadikot AF, Rosenblatt B, Andermann F. Surgical management of gelastic epilepsy related to hypothalamic hamartomas. *Child's Nervous System* 16:541, 2000.
69. **Mittal S**, Sirhan DJ. Cranial base approach to treat a case of Benedikt's syndrome. *Skull Base Surgery* 10(Suppl 1):21, 2000.

INVITED LECTURES/PRESENTATIONS:

1. Podium Presentations (refereed):

1. Michelhaugh SK, Guastella AR*, Klinger N*, Parajuli P, Thakur A, Lum L, **Mittal S**. Targeting glioblastoma with bispecific antibody-armed activated T cells. Platform presentation at the 19th Annual Scientific Meeting of the Society for Neuro-Oncology, San Antonio, TX, Nov. 19-22, 2015.
2. Jeong JW, Lee J, Kamson DO*, Robinette NL, Barger GR, **Mittal S**, Juhász C. Altered structural connectivity in widely distributed bilateral hemispheric networks of patients with glioblastoma. Platform presentation at the 18th Annual Scientific Meeting of the Society for Neuro-Oncology, Miami, FL, Nov. 12-16, 2014.
3. **Mittal S**, Barkmeier D*, Hua J, Pai D, Fuerst D, Loeb JA, Shah AK. Understanding relationship between seizures and primary brain tumors in tumor-associated epilepsy: Multimodal analysis using 3D volumetric MRI, quantitative analysis of intracranial EEG compared to non-lesional epilepsy. Platform presentation at the Annual Meeting of the Congress of Neurological Surgeons, San Francisco, CA, Oct. 19-23, 2013.
4. Juhász C, Kamson DO, Robinette NL, Muzik O, Chakraborty PK, Barger GR, **Mittal S**. Low tryptophan uptake in contrast-enhancing lesions predicts long-term survival in patients with a previously treated glioblastoma: A pet study. Platform presentation at 21st World Congress of Neurology, Vienna, Austria, Sept. 21-26, 2013.
5. Kamson DO*, **Mittal S**. Assessment of the prognostic value of alpha[11C]methyl-L-tryptophan PET in patients with previously resected and chemoradiated glioblastomas. Platform presentation at the Annual Meeting of the Michigan Association of Neurological Surgeons, Thompsonville, MI, May 31-June 1, 2013.
Dr. Kamson won 1st prize for best presentation.
6. Marupudi NI*, **Mittal S**. Aggressive surgical management of insular tumors – A technical report. Platform presentation at the Annual Meeting of the Michigan Association of Neurological Surgeons, Thompsonville, MI, May 31-June 1, 2013.
Dr. Marupudi won 3rd prize for presentation.
7. Hong D*, **Mittal S**. En bloc resection of giant supratentorial meningiomas is feasible, safe, and efficient. Platform presentation at the Annual Meeting of the Michigan Association of Neurological Surgeons, Thompsonville, MI, May 31-June 1, 2013.
8. Delly F*, Jagannathan J, Deckard N, **Mittal S**, Folbe A, Hornyak M, Guthikonda M. Endoscopic transsphenoidal surgery for pituitary adenoma in Cushing's disease: Results and outcomes. Platform presentation at 21st Annual Meeting North American Skull Base Society, Scottsdale, AZ, Feb. 18-20, 2011.
9. Juhász C, Barger G, Kupsy WJ, Chugani DC, Muzik O, Chakraborty PK, **Mittal S**. Tight correlation between glioma proliferative activity and tryptophan transport measured by PET. Platform presentation at 63rd Annual Meeting of the American Academy of Neurology, Honolulu, HI, April 9-16, 2011.

10. Alkonyi B*, Barger GR, **Mittal S**, Muzik O, Bahl G*, Chakraborty PK, Juhász C. Differentiation of recurrent gliomas from radiation necrosis by kinetic analysis of α - ^{11}C methyl-L-tryptophan PET. Platform presentation at 63rd Annual Meeting of the American Academy of Neurology, Honolulu, HI, April 9-16, 2011.
11. Shah AK, Fuerst D, Zitron I, Atkinson M, Kupsky W, **Mittal S**. Spontaneous seizures recorded intraoperatively on hippocampal electrocorticography (IH-ECoG) and hippocampal pathology. Platform presentation at 62nd Annual Meeting of the American Academy of Neurology, Toronto, Canada, April 10-17, 2010.
12. Bahl G*, Barger G, **Mittal S**, Chakraborty P, Kupsky WJ, Juhász C. Detection of recurrent gliomas using alpha- ^{11}C methyl-L-tryptophan Positron Emission Tomography. Platform presentation at 58th Annual Meeting of the American Roentgen Ray Society, San Diego, CA, May 2-7, 2010.
13. Juhász C, **Mittal S**, Sood S, Chugani DC, Chugani HT, Chakraborty P, Barger GR. Kinetics of α - ^{11}C methyl-L-tryptophan in low-grade brain tumors: A dynamic PET study. Platform presentation at 14th Annual Meeting of the Society for Neuro-Oncology and the AANS/CNS Joint Section on Tumors, New Orleans, October 22-24, 2009.
14. **Mittal S**, Hoepflich M*, Juhász C, Kupsky WJ. An unusual evolution of a parafalcine meningioma. Platform presentation at the 6th International Congress on Meningiomas and Cerebral Venous System, Sept. 5, 2008.
15. **Mittal S**, Farmer JP, Montes JL, Villemure JG, Rosenblatt B, Andermann F, Olivier A. Surgical treatment of temporal lobe epilepsy in children. Platform presentation at Annual Meeting of the Congress of Neurological Surgeons, Philadelphia, PA, Sept. 21-26, 2002.
16. **Mittal S**, Farmer JP, Al-Atassi B, Gibis J, Galli C, Poulin C, Cantin MA, Benaroch T. Long-term functional outcome following selective posterior rhizotomy. Platform presentation at 30th Annual Meeting of the AANS/CNS Section on Pediatric Neurological Surgery, New York, NY, Nov. 28-Dec. 1, 2001.
17. **Mittal S**, Farmer JP, Al-Atassi B, Gibis J, Galli C, Poulin C, Cantin MA, Benaroch T. Résultats fonctionnels à long terme suite à la radicectomie postérieure sélective. Platform presentation at Annual Meeting of the Quebec Association of Neurological Surgeons, Quebec, Canada, May 2001.
Awarded 1st prize for the best presentation.
18. **Mittal S**, Montes JL, Farmer JP, Rosenblatt B, Andermann F, Olivier A. Surgical treatment of temporal lobe epilepsy in pediatric patients. Platform presentation at 29th Meeting of the International Society of Pediatric Neurosurgery, Aalborg, Denmark, June 29-July 3, 2001.
19. **Mittal S**, Montes JL, Farmer JP, Sadikot AF, Rosenblatt B, Andermann F. Surgical management of gelastic epilepsy related to hypothalamic hamartomas. Platform presentation at 28th Meeting of the International Society of Pediatric Neurosurgery, Istanbul, Turkey, Oct. 2-6, 2000.
20. **Mittal S**, Poulin C, Silver K, Farmer JP. Reliability of intraoperative electrophysiological monitoring in selective posterior rhizotomy. Platform presentation at 29th Annual Meeting of the AANS/CNS Section on Pediatric Neurological Surgery, San Diego, CA, Dec. 6, 2000.
21. **Mittal S**, Farmer JP, Poulin C, Silver K. Fiabilité du monitoring électrophysiologique intra-opératoire pour la rhizotomie postérieure sélective. Platform presentation at Annual Meeting of the Quebec Association of Neurological Surgeons, Montreal, Canada, June 2000.
Awarded 1st prize for the best presentation.

22. **Mittal S**, Mohr G. Management of cavernous sinus, para-cavernous lesions. Platform presentation at Annual Fellows' Day, Montreal Neurological Institute, McGill University, Montreal, Canada, June 2000.
23. **Mittal S**, Sirhan DJ. Cranial base approach to treat a case of Benedikt's syndrome. Platform presentation at 11th Annual North American Skull Base Society Meeting, Scottsdale, AZ, March 17-20, 2000.
24. **Mittal S**, Farmer JP, Rosenblatt B, Andermann F, Montes JL, Villemure JG. Pharmacoresistant epilepsy following functional hemispherectomy. Platform presentation at 28th Annual Meeting of the AANS/CNS Section on Pediatric Neurological Surgery, Atlanta, GA, Dec. 1-4, 1999.
25. **Mittal S**, Farmer JP, Montes JL, Rosenblatt B, Andermann F. Surgical management of gelastic epilepsy related to hypothalamic hamartoma. Platform presentation at 28th Annual Meeting of the AANS/CNS Section on Pediatric Neurological Surgery, Atlanta, GA, Dec. 1-4, 1999.
26. **Mittal S**, Sirhan DJ. Microanastomosis of the oculomotor nerve following surgery of a giant invasive parasellar lesion. Platform presentation at Rasmussen Neurosurgical Conference Day, Montreal Neurological Institute, McGill University, Montreal, Canada, June 1998.
27. **Mittal S**, Sirhan DJ. Skull base approach to treat a case of Benedikt's syndrome. Platform presentation at Annual Meeting of the Quebec Association of Neurological Surgeons, Sherbrooke, Canada, June 1998.
Awarded 2nd prize for presentation.
28. **Mittal S**. Microencapsulation of trophic factors: Role in Neurosurgery. Platform presentation at Rasmussen Neurosurgical Conference Day, Montreal Neurological Institute, McGill University, Montreal, Canada, June 1997.
29. **Mittal S**, Holland PC. Investigation of matrilysin expression by human skeletal muscle satellite cells, the construction of matrilysin expression vectors. Platform presentation at Annual Medical Student Research Day, Faculty of Medicine, McGill University, Montreal, Canada, June 1995.
Awarded 1st prize for the best presentation.
30. **Mittal S**, Cohen A, Maysinger D. In vitro effects of BDNF released from microspheres. Platform presentation at Annual Medical Student Research Day, Faculty of Medicine, McGill University, Montreal, Canada, June 1994.
Awarded 1st prize for the best presentation.
31. **Mittal S**, Maysinger D. Microencapsulation of BDNF as a novel delivery system. Platform presentation at Annual Medical Student Research Day, Faculty of Medicine, McGill University, Montreal, Canada, June 1993.
Awarded 1st prize for the best presentation.

2. Poster Presentations (refereed):

1. **Mittal S**, Michelhaugh SK, Shah A. Lacosamide distribution between serum and cerebrospinal fluid may be altered in patients with brain tumors compared to non-lesional epilepsy. Poster presentation at 68th Annual Meeting of the American Epilepsy Society, Philadelphia, PA, Dec. 4-8, 2015.
2. Zusthi D, Basha M, Kupsky W, **Mittal S**, Shah A. Acute uncontrolled seizures with discrete brain lesion on MR imaging may be due to unrecognized immune mediated inflammatory process. Poster presentation at 68th Annual Meeting of the American Epilepsy Society, Philadelphia, PA, Dec. 4-8, 2015.
3. Guastella AR*, Klinger N*, Polin L, Juhász C, Michelhaugh SK, **Mittal S**. Molecular imaging and immunohistochemical studies of the kynurenine pathway in patient-derived xenograft models of glioblastoma. Poster presentation at the 20th Annual Scientific Meeting of the Society for Neuro-Oncology, San Antonio, TX, Nov. 12-16, 2015.
4. Michelhaugh SK, Bollig-Fischer A, **Mittal S**. Identification of genomic lesions enriched in lung cancer brain metastases. Poster presentation at the 20th Annual Scientific Meeting of the Society for Neuro-Oncology, San Antonio, TX, Nov. 12-16, 2015.
5. Bosnyak E*, Kamson D*, Robinette N, Barger G, **Mittal S**, Juhász C. Multimodal imaging of spatial patterns of post-treatment glioblastoma progression. Poster presentation at the 20th Annual Scientific Meeting of the Society for Neuro-Oncology, San Antonio, TX, Nov. 12-16, 2015.
6. Juhász C, Bosnyak E*, Kamson D*, Barger G, Behen M, **Mittal S**. Imaging cerebral tryptophan metabolism in brain tumor-associated depression. Poster presentation at the 20th Annual Scientific Meeting of the Society for Neuro-Oncology, San Antonio, TX, Nov. 12-16, 2015.
7. Bahassi EM, Furgason J, Koncar R, Michelhaugh S, Sarkar F, **Mittal S**, Sloan A, Barnholtz-Sloan J. Chromothripsis is a common mechanism driving genomic rearrangements in glioblastoma. Poster presentation at the 20th Annual Scientific Meeting of the Society for Neuro-Oncology, San Antonio, TX, Nov. 12-16, 2015.
8. Guastella AR*, Michelhaugh SK, Klinger N*, Polin L, Juhász C, **Mittal S**. Tryptophan metabolizing enzymes in patient-derived xenograft models of glioblastoma using molecular imaging and immunohistochemical studies. Poster presentation at the 14th International Society for Tryptophan Research Conference, Grand Rapids, MI, Sept. 16-18, 2015.
Mr. Guastella won 1st prize for best poster presentation.
9. Shah A, Michelhaugh SK, **Mittal S**. Therapeutic use of lacosamide does not alter its distribution between serum and cerebrospinal fluid. Poster presentation at 67th Annual Meeting of the American Epilepsy Society, Seattle, WA, Dec. 5-9, 2014.
10. Brown E, Muzik O, Rothermel R, Juhasz C, Shah A, Fuerst D, Mittal S, Sood S, Asano E. Multiple functions of the pre-central frontal eye field. Poster presentation at 67th Annual Meeting of the American Epilepsy Society, Seattle, WA, Dec. 5-9, 2014.
11. Jeong JW, Kamson DO*, Robinette NL, Kupsky W, Buth A, **Mittal S**, Juhász C. Differentiation of solid tumor and tumor infiltrated brain in patients with glioblastoma by expectation maximization classification: A multi-modal study combining PET and diffusion weighted MRI. Poster presentation at Annual Meeting of the Radiological Society of North America, Chicago, IL, Nov. 30-Dec. 5, 2014.

12. Michelhaugh SK, Bollig-Fischer A, Alesh B, Ali-Fehmi R, **Mittal S**. Genomic characterization of breast cancer brain metastases. Poster presentation at the 19th Annual Scientific Meeting of the Society for Neuro-Oncology, Miami, FL, Nov. 12-16, 2014.
13. Johnson J, Liebera Ascierto M, Newsome D, **Mittal S**, Kang L, Briggs M, Tanner K, Berens ME, Marincola FM, Vande Woude GF, Xie Q, Genomic profiling of a predictive signature for MET-targeted therapy in glioblastoma. Poster presentation at the 19th Annual Scientific Meeting of the Society for Neuro-Oncology, Miami, FL, Nov. 12-16, 2014.
14. Michelhaugh SK, Guastella AR*, Varadarajan K*, Polin LA, Bollig-Fischer A, Sarkar FH, **Mittal S**. Development of a human meningioma mouse xenograft model with the spontaneously immortal cell line KCI-MENG1. Poster presentation at the 19th Annual Scientific Meeting of the Society for Neuro-Oncology, Miami, FL, Nov. 12-16, 2014.
15. Kamson DO*, **Mittal S**, Kupsky WJ, Muzik O, Robinette NL, Michelhaugh SK, Juhász C. Kinetic analysis of tryptophan PET predicts histologic grade and proliferative activity in meningiomas. Poster presentation at the 19th Annual Scientific Meeting of the Society for Neuro-Oncology, Miami, FL, Nov. 12-16, 2014.
16. **Mittal S**, Ahmad A*, Sethi S*, Chen W, Ali R, Sarkar FH. Upregulation of microRNA-10b is associated with the development of breast cancer brain metastasis. Poster presentation at Annual Meeting of the Congress of Neurological Surgeons, Boston, MA, Oct. 19-22, 2014.
17. Shah AK, Basha M, Rhoney DH, **Mittal S**. Correlation of plasma and CSF levels of lacosamide (LCM). Poster presentation at 67th Annual Meeting of the American Epilepsy Society, Washington, DC, Dec. 6-10, 2013.
18. Kojima K*, Brown EC*, Matsuzaki N, Rothermel R, Fuerst D, Shah A, **Mittal S**, Sood S, Asano E. Gamma activity modulated by picture and auditory naming tasks: intracranial recording in patients with focal epilepsy. Poster presentation at 67th Annual Meeting of the American Epilepsy Society, Washington, DC, Dec. 6-10, 2013.
19. Suchdev K*, Basha M, Kupsky WJ, **Mittal S**, Shah AK. Histopathology of new onset refractory status epilepticus (NORSE). Poster presentation at 67th Annual Meeting of the American Epilepsy Society, Washington, DC, Dec. 6-10, 2013.
20. Kamson DO*, Robinette NL, Muzik O, Chakraborty PK, Barger GR, **Mittal S**, Juhász C. Tryptophan PET has a strong prognostic value in post-treatment high-grade gliomas. Poster presentation at the 18th Annual Scientific Meeting of the Society for Neuro-Oncology, San Francisco, CA, Nov. 21-24, 2013.
21. Kamson DO*, Lee T, Varadarajan K*, Robinette N, Muzik O, Chakraborty P, Barger G, **Mittal S**, Juhász C. Tryptophan metabolism in the non-tumoral hemisphere: A PET study of 99 glioma patients. Poster presentation at the 18th Annual Scientific Meeting of the Society for Neuro-Oncology, San Francisco, CA, Nov. 21-24, 2013.
22. Sethi S*, Ahmad A*, Ali-Fehmi R, **Mittal S**, Dyson G, Sarkar FH. Molecular microRNAs, target genes and signaling pathways of breast cancer brain metastasis: implications in clinical medicine. Poster presentation at the Annual Meeting of the American Society for Clinical Pathology, Chicago, IL, Sept. 18-21, 2013.

23. Xie Q, Johnson J, Ascierio MA, Kang L, Bradley R, **Mittal S**, Furge K, Briggs M, Tanner K, Berens ME, Marincola FM, Vande Woude GF. Genomic determinants and signature of MET-targeted therapy in glioblastoma. Poster presentation at Annual Meeting of the American Association for Cancer Research, Washington, DC, April 6-10, 2013.
24. Nanjireddy R*, Narayanan S, **Mittal S**, Loeb J, Basha M. Cerebral vasospasm following temporal lobe epilepsy surgery demonstrated on conventional angiography. Poster presentation at 65th Annual Meeting of the American Academy of Neurology, San Diego, CA, March 16-23, 2013.
25. Parajuli P, Mandalaparty M, Brodie C, Lum L, Thakur A, Mittal S. Role of Th17/IL-17 inflammatory axis in the progression of malignant gliomas. Poster presentation at 100th Annual Meeting of the American Association of Immunologists, Honolulu, HI, May 3-7, 2013.
26. Louis S*, Basha M, **Mittal S**, Loeb J, Shah A. Are patients with postictal psychiatric episodes at increased risk for developing psychiatric co-morbidities after epilepsy surgery? Poster presentation at 66th Annual Meeting of the American Epilepsy Society, San Diego, CA, Dec. 3, 2012.
27. Kojima K*, Brown EC*, Rothermel R, Carlson A, Fuerst D, Matsuzaki N, Shah A, Atkinson M, Basha M, **Mittal S**, Sood S, Asano E. Auditory-language-related gamma activity: a consecutive series of 74 epileptic patients. Poster presentation at 66th Annual Meeting of the American Epilepsy Society, San Diego, CA, Dec. 3, 2012.
28. Juhász C, Buth A*, Kamson D*, Kupsky WJ, Barger GR, **Mittal S**. Quantitative analysis of tryptophan PET can help differentiate glioblastomas from lung and breast cancer metastases. Poster presentation at the 17th Annual Scientific Meeting of the Society for Neuro-Oncology, Washington, DC, Nov. 15-18, 2012.
29. Kamson D*, Juhász C, Buth A*, Kupsky WJ, Muzik O, Robinette NL, Barger GR, **Mittal S**. Improved delineation of infiltrating gliomas by positron emission tomography: A volumetric study. Poster presentation at the 17th Annual Scientific Meeting of the Society for Neuro-Oncology, Washington, DC, Nov. 15-18, 2012.
30. **Mittal S**, Buth A*, Kupsky WJ, Kamson D*, Barger GR, Juhász C. Imaging tumor cell density in malignant gliomas: A stereotactic image-histologic analysis using tryptophan PET. Poster presentation at the 17th Annual Scientific Meeting of the Society for Neuro-Oncology, Washington, DC, Nov. 15-18, 2012.
31. Christensen ME*, Kamson D*, Snyder M, Hallock A, Kim H, **Mittal S**, Juhász C. Tumor volume for glioblastoma as defined by tryptophan PET offers superior coverage of recurrence site than standard MRI based GTV. Poster presentation at 54th Annual Meeting of the American Society for Radiation Oncology, Boston, MA, Oct. 28-31, 2012.
32. Jung EW*, Delly F*, Rakowski J, **Mittal S**, Tang K, Kim H, Jagannathan J. Repeated stereotactic radiosurgery for progressive brain metastases from melanoma after initial treatment. Poster presentation at 54th Annual Meeting of the American Society for Radiation Oncology, Boston, MA, Oct. 28-31, 2012.
33. Shah A, Basha M, Atkinson M, **Mittal S**. Clinical spectrum and course in individuals with adult onset medically intractable epilepsy and anti-GAD antibody. Poster presentation at 64th Annual Meeting of the American Academy of Neurology, New Orleans, LA, April 21-28, 2012.
34. Suchdev K*, Basha M, Atkinson M, **Mittal S**, Shah A. Refractory status epilepticus: Is surgery effective? Poster presentation at 64th Annual Meeting of the American Academy of Neurology, New Orleans, LA, April 21-28, 2012.

35. **Mittal S**, Fuerst D, Atkinson M, Kupsky W, Shah AK. Intraoperative Hippocampal electrocorticography frequently captures seizures and correlates with hippocampal pathology. Poster presentation at the 2012 Annual Meeting of the American Association of Neurological Surgeons, Miami, FL, April 14-18, 2012.
36. Shah AK, Basha M, Atkinson MD, **Mittal S**, Chakraborty PK, Juhász C. Autoantibody profile of patients with pharmacoresistant localization related epilepsy. Poster presentation at 65th Annual Meeting of the American Epilepsy Society, Baltimore, MD, Dec. 4, 2011.
37. Brown EC*, Rothermel R, Muzik O, Matsuzaki N, Juhász C, Shah AK, Fuerst D, **Mittal S**, Sood S, Diwadkar V, Asano E. Reverse Speech Control Task Not Validated by Electrocorticography. Poster presentation at 65th Annual Meeting of the American Epilepsy Society, Baltimore, MD, Dec. 3-7, 2011.
38. Nagasawa T*, Matsuzaki N, Juhász C, Shah A, **Mittal S**, Sood S, Asano E. Occipital gamma-oscillations modulated during eye movement tasks: simultaneous eye tracking and electrocorticography recording in epileptic patients. Poster presentation at 65th Annual Meeting of the American Epilepsy Society, Baltimore, MD, Dec. 3-7, 2011.
39. Kojima K*, Brown EC*, Rothermel R, Carlson A, Matsuzaki N, Shah A, **Mittal S**, Fuerst D, Sood S, Asano E. Language mapping using cortical stimulation and event-related gamma-oscillations in patients with left-side language dominance on Wada test. Poster presentation at 65th Annual Meeting of the American Epilepsy Society, Baltimore, MD, Dec. 3-7, 2011.
40. Juhász C, **Mittal S**, Altinok D*, Robinette N, Muzik O, Chakraborty PK, Barger G. Tryptophan kinetics measured by AMT-PET in low-perfusion and high-perfusion brain tumors. Poster presentation at 16th Annual Meeting of the Society for Neuro-Oncology and the AANS/CNS Joint Section on Tumors, Orange County, CA, Nov. 17-20, 2011.
41. Jung E*, Jagannathan J, Delly F*, Rakowski JT, Guthikonda M, Kim H, **Mittal S**. Gamma Knife radiosurgery in the management of brainstem metastases. Poster presentation at 53rd Annual Meeting of the American Society for Radiation Oncology, Miami Beach, FL, Oct. 2-6, 2011.
42. Deli F*, **Mittal S**, Ransom A, Hulsebus D, Kim H, Guthikonda M, Jagannathan J. Timing of radiosurgery to the resection cavity in the management of brain metastases. Poster presentation at 53rd Annual Meeting of the American Society for Radiation Oncology, Miami Beach, FL, Oct. 2-6, 2011.
43. Parajuli P, **Mittal S**, Chinni S, Lum L, Thakur A, Guthikonda M. Interaction between tumor and myeloid cells induce/expand Th17 cells in malignant gliomas. Poster presentation at 98th Annual Meeting of the American Association of Immunologists, San Francisco, CA, May 13-17, 2011.
44. Mohamed W*, Neil E*, Kupsky WJ, Juhász C, **Mittal S**, Santhakumar S. Isolated Intracranial Whipple's Disease—Report of a Rare Case and Review of the Literature. Poster presentation at 63rd Annual Meeting of the American Academy of Neurology, Honolulu, HI, April 9-16, 2011.
45. Parajuli P, **Mittal S**, Chinni S, Lum L, Thakur A, Guthikonda M. Induction of Th17 cells in malignant gliomas. Poster presentation at 14th Annual Meeting of the Translational Research Cancer Center Consortium (TRC3), Seven Springs Mountain Resort, PA, Feb. 24-26, 2011.

46. Mihaylova T*, Tran Y*, Fuerst D, Loeb J, **Mittal S**, Barkmeier D*, Shah A. Spatial and temporal relationship of HFO and interictal spikes in patients with medically refractory non-lesional epilepsy. Poster presentation at 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, Dec. 3-7, 2010.
47. Yvan T*, Temenuzhka M*, Shah A, Fuerst D, Loeb J, Barkmeier D*, **Mittal S**. Interictal spike and HFO occurrence frequency in tumor-related refractory epilepsy. Poster presentation at 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, Dec. 3-7, 2010.
48. Shah A, Barkmeier D*, Tran Y*, Fuerst D, Loeb J, Pai D, Hua J, **Mittal S**. Epileptogenic zones are often far removed from brain tumors: an intracranial EEG analysis. Poster presentation at 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, Dec. 3-7, 2010.
49. Brown EC*, Muzik O, Rothermel R, Nagasawa T, Juhász C, Shah AK, Fuerst D, **Mittal S**, Sood S, Asano E. Variability of naming-related function as observed with event-related electrocorticography. Poster presentation at 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, Dec. 3-7, 2010.
50. Alkonyi B*, Muzik O, Chugani DC, Zitron I, Chugani HT, Sood S, **Mittal S**, Chakraborty PK, Juhász C. Metabolic and molecular imaging characteristics of epileptogenic dysembryoplastic neuroepithelial tumors (DNETs). Poster presentation at 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, Dec. 3-7, 2010.
51. **Mittal S**, Zitron IM, Kupsy WJ, Alkonyi B*, Sood S, Juhász C. Cytokine-mediated inflammation in epileptogenic dysembryoplastic neuroepithelial tumors. Poster presentation at the 15th Annual Scientific Meeting of the Society for Neuro-Oncology, Montreal, Canada, Nov. 18-21, 2010.
52. Zitron IM, Juhász C, **Mittal S**. Indoleamine 2,3-dioxygenase expression in human meningiomas. Poster presentation at the 15th Annual Scientific Meeting of the Society for Neuro-Oncology, Montreal, Canada, Nov. 18-21, 2010.
53. Juhász C, **Mittal S**, Muzik O, Chugani DC, Chakraborty PK, Bahl G*, Barger GR. Accurate identification of recurrent gliomas by kinetic analysis of α -methyl-L-tryptophan unidirectional uptake on PET. Poster presentation at the 15th Annual Scientific Meeting of the Society for Neuro-Oncology, Montreal, Canada, Nov. 18-21, 2010.
54. Ransom A, Hulsebus D, Jagannathan J*, **Mittal S**. Seizure-control in patients undergoing surgery and radiosurgery for solitary brain metastases. Poster presentation at the 2010 Annual Meeting of the Congress of Neurological Surgeons, San Francisco, CA, Oct. 16-21, 2010.
55. Jagannathan J*, Ransom A, Hulsebus D, **Mittal S**. Timing of radiosurgery to the resection cavity in the management of brain metastases. Poster presentation at the 2010 Annual Meeting of the Congress of Neurological Surgeons, San Francisco, CA, Oct. 16-21, 2010.
56. Mohamed W*, Neil E*, Kupsy WJ, Juhász C, **Mittal S**, Santhakumar S. Isolated intracranial Whipple's disease—report of a rare case and review of the literature. Poster presentation at the Annual Meeting of the Michigan Neurological Association, Boyne Falls, MI, Aug. 13-15, 2010.
57. Puntambekar P*, Santhakumar S, **Mittal S**, Kupsy W, Tselis A. A case of intracranial plasma cell granuloma presenting as a mass lesion. Poster presentation at 62nd Annual Meeting of the American Academy of Neurology, Toronto, Canada, April 10-17, 2010.

58. Mihaylova T*, Barkmeier D*, Fuerst D, **Mittal S**, Basha M*, Loeb J, Shah A. Quantitative interictal spike component analysis on intracranial EEG in patients with refractory non-lesional epilepsy shows better correlation with initial phase of the spike in the epileptogenic zone. Poster presentation at 63rd Annual Meeting of the American Epilepsy Society, Boston, MA, Dec. 6, 2009.
59. Basha M*, Barkmeier D*, Fuerst D, Mihaylova T*, **Mittal S**, Loeb J, Shah A. Interictal spike morphology correlate with epileptogenic zone than tumor location in patients with primary brain tumors undergoing subdural electrocorticography for epilepsy surgery. Poster presentation at 63rd Annual Meeting of the American Epilepsy Society, Boston, MA, Dec. 6, 2009.
60. Shapiro CC*, **Mittal S**, Ghoddoussi F, Marsh HM, Galloway M. Neurochemical profile of human brain tumors: Differentiation of WHO low-grade from high-grade gliomas with high resolution magic angle spinning 1H magnetic resonance spectroscopy. Poster presentation at Society for Neuroscience, Chicago, IL, Oct. 17-21, 2009.
61. Francis TB*, **Mittal S**, Prasad M, Guthikonda M. A rare case of adrenal ganglioneuroma. Poster presentation at 14th Annual Meeting of the Society for Neuro-Oncology and the AANS/CNS Section on Tumors, New Orleans, October 22-24, 2009.
62. Francis TB*, **Mittal S**, Shah AK, Guthikonda M. Renal cell cancer metastasis to the calvarium presenting as an isolated large expansile lesion. Poster presentation at 14th Annual Meeting of the Society for Neuro-Oncology and the AANS/CNS Section on Tumors, New Orleans, October 22-24, 2009.
63. Zitron IM, Norkina O*, Al-Kadhimi Z, Barger GR, Lum LG, **Mittal S**. Targeting of glioblastoma with activated T cells armed with anti-CD3xanti-HER2/neu (HER2Bi) and anti-CD3xanti-EGFR (EGFRBi) bispecific antibodies. Poster presentation at American Society of Clinical Oncology, Orlando, FL, May 30, 2009.
64. Zitron I, Rayes M*, Shah A, Loeb J, **Mittal S** (2008). CREB activation in cortical neurons correlates with interictal spike frequency in patients with lesional epilepsy due to brain tumors. Poster presentation at 62st Annual Meeting of the American Epilepsy Society, Seattle, WA, Dec. 6, 2008.
65. Basha M, **Mittal S**, Fuerst D, Zitron I, Rayes M, Shah A. Quantitative interictal intracranial EEG monitoring helps define the epileptogenic focus in patients with primary brain tumors. Poster presentation at 62st Annual Meeting of the American Epilepsy Society, Seattle, WA, Dec. 6, 2008.
66. Shah A, Atkinson M*, Rayes M*, Zitron I, Kupsky W, **Mittal S**. Relationship of seizures recorded during intraoperative hippocampal electrocorticography and hippocampal pathology. Poster presentation at 62st Annual Meeting of the American Epilepsy Society, Seattle, WA, Dec. 7, 2008.
67. Basha M*, Shah A, Fuerst D, **Mittal S**. Relationship between tumor and epileptogenic zone in patients with tumor-related epilepsy evaluated with prolonged intracranial EEG monitoring. Poster presentation at 13th Annual Meeting of the Society for Neuro-Oncology, Las Vegas, NV, Nov. 21, 2008.
68. Rayes M*, Zitron IM, Shah AK, Loeb JA, **Mittal S**. CREB activation in dentate gyrus neurons may correlate with seizure onset region in patients with hippocampal seizures. Poster presentation at Annual Meeting of the Congress of Neurological Surgeons, Orlando, FL, Sept. 22, 2008.
69. Shah AK, Atkinson MD*, Rayes M*, Zitron IM, Loeb JA, Watson C, **Mittal S**. Selective intraoperative hippocampal electrocorticography (IH-ECOG) following temporal neocortical resection reveals frequent electrographic seizures. Poster presentation at Annual Meeting of the Congress of Neurological Surgeons, Orlando, FL, Sept. 22, 2008.

70. Shah AK, Atkinson M*, Loeb JA, Watson CE, **Mittal S**. Intraoperative hippocampal electrocorticography following temporal neocortical resection exhibits frequent electrographic seizures. Poster presentation at 61st Annual Meeting of the American Epilepsy Society, Philadelphia, PA, Nov. 30-Dec.4, 2007.
71. **Mittal S**, Farmer JP. Treatment of spasticity with intrathecal baclofen administration. Poster presentation at Annual Meeting of the Canadian Congress of Neurological Sciences, Ottawa, Canada, June 14-18, 2005.
72. **Mittal S**, Farmer JP, Montes JL, Villemure JG, Rosenblatt B, Andermann F, Olivier A. Surgical treatment of intractable epilepsy in pediatric patients with temporal lobe tumors. Poster presentation at Annual Meeting of the Congress of Neurological Surgeons, San Francisco, CA, 2004.
73. **Mittal S**, Jacques L. Ineffectiveness of distal repair in the presence of proximal nerve injury. Poster presentation at Annual Meeting of the Canadian Congress of Neurological Sciences, Calgary, Canada, June 8-12, 2004.
74. **Mittal S**, Hassani OK, Miller FD, Sadikot AF. BDNF, NMDA collaborate to promote survival of immature striatal neurons. Poster presentation at 32nd Annual Society for Neuroscience Meeting, Orlando, FL, Nov. 2-7, 2002.
75. **Mittal S**, Alonso-Vanegas MA, Aloyz R, Miller FD, Sadikot AF. Thalamostriatal afferents modulate apoptosis in the developing striatum. Poster presentation at 31th Annual Society for Neuroscience Meeting, San Diego, CA, Nov. 10-15, 2001.
76. **Mittal S**, Alonso-Vanegas MA, Aloyz R, Fawcett JP, Miller FD, Sadikot AF. Anterograde transport of BDNF mediates trophic effects in the developing forebrain. Poster presentation at the Annual Meeting of the American Association of Neurological Surgeons, Toronto, Canada, April 21-26, 2001.
77. **Mittal S**, Alonso-Vanegas MA, Aloyz R, Fawcett JP, Luk KC, Lee YW, Miller FD, Sadikot AF. Glutamatergic afferents provide neurotrophic support to neurons in the developing striatum. Poster presentation at 30th Annual Society for Neuroscience Meeting, New Orleans, LA, Oct. 13-17, 2000.
78. Sadikot AF, Rymar V, **Mittal S**, Luk KC. Neurogenesis of calretinin-, parvalbumin-immunoreactive GABAergic interneurons in the mammalian cerebral cortex. Poster presentation at 30th Annual Society for Neuroscience Meeting, New Orleans, LA, Oct. 13-17, 2000.
79. Luk KC, Bélanger MC, **Mittal S**, Sadikot AF. Glutamate promotes proliferation of embryonic striatum neuroblasts by NMDA receptor-mediated mechanisms. Poster presentation at 30th Annual Society for Neuroscience Meeting, New Orleans, LA, Oct. 13-17, 2000.
80. **Mittal S**, Farmer JP, Rosenblatt F, Andermann F, Montes JL, Villemure JG (2000). Refractory seizures following functional hemispherectomy: Important lessons learned from an unusual case. Poster presentation at 35th Annual Meeting of the Canadian Congress of Neurological Sciences, Ottawa, Canada, June 13-17, 2000.
81. **Mittal S**, Sadikot AF (1999). Neurogenesis of GABAergic interneurons of the cerebral cortex. Poster presentation at 29th Annual Society for Neuroscience Meeting, Miami, FL, Oct. 23-29, 1999.
82. Luk KC, Bélanger MC, **Mittal S**, Lee YW, Sadikot AF. Glutamate influences proliferation of subpopulations of forebrain progenitor cells. Poster presentation at 29th Annual Society of Neuroscience Meeting, Miami, FL, Oct. 23-29, 1999.

3. Visiting Professorship:

1. Loma Linda University, Loma Linda, CA
Title: Approach to patients with tumor-related epilepsy
Date: June 15, 2016
2. University of Louisville, Louisville, KY
Title: The immunosuppressive kynurenine pathway in epilepsy and brain tumors.
Date: September 24, 2015
3. University of Windsor, Windsor, Canada
Title: Molecular imaging of brain tumors using tryptophan PET.
Date: October 7, 2013
4. William Feindel Lecture at the Montreal Neurological Institute, McGill University, Montreal, Canada
Title: Gamma Knife radiosurgery in the multidisciplinary management of brain tumors.
Date: May 27, 2011

4. Invited Lectures/Presentations – International:

1. **Mittal S.** Understanding the role of kynurenine pathway in brain tumors. *14th International Society for Tryptophan Research (ISTRY) Conference*, Van Andel Research Institute, Grand Rapids, MI, Sept. 17, 2015.
2. **Mittal S.** The immunosuppressive kynurenine pathway in brain tumors. *First Annual Joint Fudan University/Wayne State University Colloquium on Precision and Translational Medicine*, Fudan University, Shanghai, China, May 23, 2015.
3. **Mittal S.** Pretreatment evaluation of meningiomas using tryptophan PET imaging. *4th European Conference on Clinical Neuroimaging*, Rome, Italy, March 23, 2015.
4. **Mittal S.** Invasive EEG: Indications and Planning. *Colloquium on Drug Resistant Epilepsy*, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India, Aug. 17, 2013.
5. **Mittal S.** Evaluation of 'MRI negative' Drug Resistant Epilepsy. *Colloquium on Drug Resistant Epilepsy*, National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore, India, Aug. 17, 2013.
6. **Mittal S.** Multidisciplinary approach for treatment of gliomas. *15th Annual Meeting of Andhra Pradesh Neuroscientist's Association*, Hyderabad, India, July 12, 2008.
7. **Mittal S.** Novel targeted therapies for high-grade gliomas. *Bangalore Neurological Society CME Meeting*, Bangalore, India, July 8, 2008.
8. **Mittal S.** Changing paradigms: An update on the multidisciplinary treatment of malignant gliomas. *New Delhi Neurological Society CME Meeting*, New Delhi, India, July 6, 2008.
9. **Mittal S.** Epilepsy surgery. *Agra Neurological Society CME Meeting*, Agra, India, March 2, 2008.
10. **Mittal S.** Recent advances in the management of high-grade gliomas. *Agra Neurological Society CME Meeting*, Agra, India, March 2, 2008.

11. **Mittal S.** Current management of primary brain tumors. *Indo-Japanese Neurosurgery Conference*, Chennai, India, Feb. 25, 2008.
12. **Mittal S.** Current management of gliomas. *Calicut Neurological Society CME Meeting*, Calicut, India, Feb. 23, 2008.
13. **Mittal S.** Surgery for intractable temporal lobe epilepsy. *Dept. of Clinical Neurosciences, University of Calgary*, Calgary, Alberta, Canada, Jan. 25, 2006.

5. Invited Lectures/Presentations – National/Regional:

1. **Mittal S.** Molecular imaging of brain tumors using amino acid PET tracers. *Loma Linda University PET Molecular Imaging Mini-Symposium*, Loma Linda University, Loma Linda, CA, June 15, 2016.
2. **Mittal S.** Patient-derived xenograft models for development of new therapies for brain tumors. *Michigan Association of Neurological Surgeons Annual Meeting*, Bay Harbor, MI, May 21, 2016.
3. **Mittal S.** Approach to patients with tumor-associated epilepsy. *Michigan Association of Neurological Surgeons Annual Meeting*, Bay Harbor, MI, May 31, 2015.
4. **Mittal S.** Role of epilepsy surgery in meningiomas. *Tumor Induced Epilepsy – Meningiomas Seminar*, American Epilepsy Society, Seattle, WA, Dec. 9, 2014.
5. **Mittal S.** Immunosuppression in brain tumors: Targeted therapies. *Michigan Association of Neurological Surgeons Annual Meeting*, Thompsonville, MI, June 1, 2014.
6. **Mittal S.** Molecular imaging of brain tumors. *Michigan Association of Neurological Surgeons Annual Meeting*, Thompsonville, MI, June 1, 2013.
7. **Mittal S.** Clinicopathological aspects of primary and metastatic brain tumors. *WSU/KCC/DMC Contemporary Issues in Diagnostic Pathology Conference*, Dearborn, MI, Nov. 10, 2012.
8. **Mittal S.** Surgery for Epilepsy: Rationale and Approaches from surgical viewpoint. *DMC Epilepsy and Movement Disorder Symposium*, Birmingham, MI, Oct. 13, 2012.
9. **Mittal S.** Surgical management of epilepsy. *Michigan Society of Medical Specialties (MSMS) Annual Meeting*, Troy, MI, Oct. 27, 2011.
10. **Mittal S.** Neurosurgical treatment of primary and metastatic brain tumors. *Michigan Society of Medical Specialties (MSMS) Annual Meeting*, Troy, MI, Oct. 26, 2011.
11. **Mittal S.** Advances in the Treatment of Malignant Gliomas. *Neuro-Oncology Symposium*, Detroit, MI, Sept. 25, 2010.
12. **Mittal S.** Surgical treatment of epilepsy. *DMC Epilepsy Symposium*, Southfield, MI, Jan. 16, 2010.
13. **Mittal S.** Surgical management of intractable epilepsy. *Michigan Society of Medical Specialties (MSMS) Annual Meeting*, Troy, MI, Oct. 23, 2009.

14. **Mittal S.** Contemporary multidisciplinary management of low-grade gliomas. *Michigan Chapter of the American Association of Neuroscience Nurses Annual Meeting*, Boyne Mountain, MI, June 14, 2009.
15. **Mittal S.** What happens when antiseizure medications fail? Surgical treatment of epilepsy. *Michigan Association of Neurological Surgeons Annual Meeting*, Boyne Mountain, MI, June 14, 2009.
16. **Mittal S.** Epilepsy surgery. *Epilepsy Today Conference*, Epilepsy Foundation of Michigan, Traverse City, MI, Nov. 6, 2008.
17. **Mittal S.** Surgical treatment of refractory epilepsy. *DMC Epilepsy Symposium*, Novi, MI, Nov. 1, 2008.
18. **Mittal S.** A multidisciplinary team approach to treat intractable seizures related to benign tumors. *Michigan Association of Neurological Surgeons Annual Meeting*, Saginaw, MI, June 24, 2007.
19. **Mittal S.** Surgical treatment of temporal lobe epilepsy. The Neuroscience Institute, Medical University of South Carolina, Charleston, SC, Jan. 5, 2006.

6. Invited Seminars and Grand Rounds:

1. **Mittal S.** Neurosurgical aspects of familial tumor syndromes. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, April 6, 2016.
2. **Mittal S.** Generation of PDX brain tumor models for the development of new therapies. *Molecular Therapeutics Program Seminar*, Karmanos Cancer Institute, WSU, Detroit, MI, March 16, 2016.
3. Mittal S. Overview of primary and metastatic tumors of the central nervous system. *Cancer Biology*
4. **Mittal S.** Pineal region surgery. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Jan. 20, 2016.
5. **Mittal S.** Neuro-oncology: Indications and complications of surgery. *Neurology Residents Lecture Series*, Department of Neurology, WSU, Detroit, MI, March 2, 2015.
6. **Mittal S.** Role of the immunosuppressive kynurenine pathway in brain tumors. *Neurology Grand Rounds*, Department of Neurology, WSU, Detroit, MI, Jan. 23, 2015.
7. **Mittal S.** Palliative epilepsy surgery: Surgical considerations. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Jan. 21, 2015.
8. **Mittal S.** Personalized approaches for brain tumor treatment. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Aug. 20, 2014.
9. **Mittal S.** Targeting the broadly pathogenic kynurenine pathway. *Molecular Therapeutics Program Meeting*, Karmanos Cancer Institute, WSU, Detroit, MI, June 18, 2014.
10. **Mittal S.** Tryptophan metabolism and the immunosuppressive kynurenine pathway in primary and metastatic brain tumors. *Department of Biochemistry and Molecular Biology*, WSU, Detroit, MI, March 25, 2014.
11. **Mittal S.** Role of kynurenine pathway in neuro-oncological tumors. *Tumor Microenvironment Program Meeting*, Karmanos Cancer Institute, WSU, Detroit, MI, March 10, 2014.

12. **Mittal S.** Molecular Imaging of Brain Tumors using Tryptophan PET. *Molecular Imaging and Diagnostics Program Retreat*, Karmanos Cancer Institute, WSU, Detroit, MI. Feb. 18, 2014.
13. **Mittal S.** Meningiomas: Technical Nuances and Complication Avoidance. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Jan. 15, 2014.
14. **Mittal S.** Role of the neurosurgeon in translational research. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Oct. 30, 2013.
15. **Mittal S.** Overview of the Translational Neuro-Oncology Research Laboratory. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Oct. 30, 2013.
16. **Mittal S.** Operative techniques in epilepsy surgery. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, March 6, 2013.
17. **Mittal S.** Research opportunities in neurological cancers. *Oncology Department Lab Science Faculty Meeting*, Karmanos Cancer Institute, Detroit, MI, June 29, 2012.
18. **Mittal S.** Usefulness of stereotactic radiosurgery in the treatment of brain tumors. *Grand Rounds*, St. Mary Mercy Hospital, Livonia, MI, June 27, 2012.
19. **Mittal S.** Epilepsy Case Presentations. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, March 7, 2012.
20. **Mittal S.** A powerful tool in Neuro-Oncology: Gamma Knife stereotactic radiosurgery. *Neurology Grand Rounds*, Department of Neurology, WSU, Detroit, MI, July 29, 2011.
21. **Mittal S.** Targeting and killing of glioblastoma with activated T cells armed with bispecific antibodies. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, March 30, 2011.
22. **Mittal S.** Glioblastoma: Strategies to improve treatment of a deadly tumor. *Van Andel Institute*, Grand Rapids, MI, Jan. 14, 2011.
23. **Mittal S.** Neuro-Oncology Case Presentations. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Oct. 13, 2010.
24. **Mittal S.** Advances in the multimodality treatment of high-grade gliomas. *Neurology Grand Rounds*, Department of Neurology, WSU, Detroit, MI, Jan. 29, 2010.
25. **Mittal S.** Pineal Region Tumors. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Oct. 7, 2009.
26. **Mittal S.** Pituitary surgery. Part Three: Radiologic classification, surgical approaches, adjuvant therapies, postoperative management, and long-term outcome of pituitary lesions. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, June 3, 2009.
27. **Mittal S.** Pituitary surgery. Part Two: Pathologies, endocrinopathies, and medical management of functional pituitary tumors. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, June 3, 2009.

28. **Mittal S.** Pituitary surgery. Part One: Embryology, anatomy, and physiology of the pituitary gland. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, June 3, 2009.
29. **Mittal S.** Overview of epilepsy surgery. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, April 1, 2009.
30. **Mittal S.** Surgical treatment of low-grade gliomas. *Neurology Grand Rounds*, Department of Neurology, WSU, Detroit, MI, Jan. 30, 2009.
31. **Mittal S.** Multimodality approaches to treatment of malignant gliomas. *MidMichigan Medical Center Grand Rounds*, Midland, MI, Dec. 15, 2008.
32. **Mittal S.** What happens when antiseizure medications fail? Surgical treatment of epilepsy. *Neurology Grand Rounds*, Department of Neurology, WSU, Detroit, MI, Nov. 7, 2008.
33. **Mittal S.** Operative techniques in epilepsy surgery. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Oct. 29, 2008.
34. **Mittal S.** Epilepsy surgery: An overview. *Neurosurgery Grand Rounds*, Department of Neurosurgery, WSU, Detroit, MI, Aug. 13, 2008.
35. **Mittal S.** WSU/DMC Epilepsy Surgery Program. *Detroit Medical Center Board of Trustees Meeting*, Detroit, MI, June 6, 2008.
36. **Mittal S.** Important considerations in the care of neurosurgical patients with brain tumors. *8WN Surgical In-patient Unit Educational Meeting*, Karmanos Cancer Center, Detroit, MI, Jan. 21, 2008.
37. **Mittal S.** Epilepsy surgery at the DMC. *Detroit Medical Center Executive Management Team Meeting*, Detroit, MI, Sept. 5, 2007.
38. **Mittal S.** SWI acquisition and clinical applications. *Translational Research Conference*, Department of Radiology, WSU, Detroit, MI, Oct. 7, 2007.
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