

CURRICULUM VITAE

Date: April 20, 2023

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Citizenship: US Citizen
Languages: English

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Current Title: Associate Professor
Departments of Neurology and Anesthesiology
1813 6th Avenue South
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Hospital Appointments/Privileges:

Years	Active/Inactive	Institution
2014-present	Active	U. of Alabama at Birmingham Medical Center, Birmingham, AL
2011-2014	Telemedicine	Carolina Pines Regional Medical Center, Hartsville, SC
2011-2014	Telemedicine	Loris Community Hospital, Loris, SC
2011-2014	Telemedicine	Seacoast Medical Center, Little River, SC
2011-2014	Telemedicine	Self Regional Health Care, Greenwood, SC
2010-2014	Telemedicine	Piedmont Medical Center, Rock Hill, SC
2010-2014	Telemedicine	Kershaw Medical Center, Camden, SC
2010-2014	Telemedicine	McLeod Medical Center, Dillon, SC
2010-2014	Telemedicine	Springs Memorial Hospital, Lancaster, SC
2008-2014	Telemedicine	Georgetown Memorial Hospital, Georgetown, SC
2008-2014	Telemedicine	Grand Strand Regional Medical Center, Myrtle Beach, SC
2008-2014	Telemedicine	Marion County Medical Center, Marion, SC
2008-2014	Telemedicine	McLeod Regional Medical Center, Florence, SC
2008-2014	Telemedicine	Waccamaw Community Hospital, Murrells Inlet, SC
2008-2014	Telemedicine	Williamsburg Regional Hospital, Kingstree, SC
2007-2014	Inactive	Medical University of South Carolina, Charleston, SC
2005-2007	Inactive	Moffitt Hospital, University of California, San Francisco, CA
2005-2007	Inactive	San Francisco General Hospital, San Francisco, CA
2003-2005	Inactive	Barnes Jewish Hospital, Washington University, St. Louis, MO

Education:

Years	Degree/Date	Field of Study	Institution
1993-1996	BS, 8/1996	Biology and Chemistry	University of South Carolina
1997-2001	MD, 5/2001	Medicine	Tulane University SOM

Military Service: none

Licensure:

Alabama (active)
South Carolina (retired)
California (retired)
Missouri (retired)

Date:

2014-present
2007-2014
2005-2007
2003-2005

Specialty/Board Certification:

Neurocritical Care (American Board of Psychiatry and Neurology)
Vascular Neurology (American Board of Psychiatry and Neurology)
Recertification

Certificate

58
630

Date:

October 2021
May 2008
May 2017

Neurocritical Care (United Council of Neurologic Subspecialties) Recertification	NCC 600	December 2007 December 2017
Neurology (American Board of Psychiatry and Neurology) Recertification	53995	January, 2007 May, 2017

Post-doctoral Training:

Dates	Field of Study	Institution
7/1/05-6/30/07	Fellowship, Neurocritical Care	University of California, San Francisco, San Francisco, CA
7/1/02-6/30/05	Residency, Neurology	Washington University SOM, Saint Louis, MO
7/1/01-6/30/02	Internship, Internal Medicine	Tulane University SOM, New Orleans, LA

Faculty Appointments:

Years	Rank	Institution	Department
2022	Award of Tenure	University of Alabama, Birmingham	Neurology, Anesthesiology
2014-present	Associate Professor	University of Alabama, Birmingham	Neurology, Anesthesiology
2012-2014	Associate Professor	Medical University of South Carolina	Neurosciences
2007-2012	Assistant Professor	Medical University of South Carolina	Neurosciences
2005-2007	Instructor	University of California, San Francisco	Neurology

Administrative Appointments:

Years	Position	Institution	Department
2015-present	Director, Neurocritical Care Fellowship	UAB	Neurology
2014-present	Associate Director, Neurology Residency	UAB	Neurology
2011-2014	Director, Neurology Residency Program	MUSC	Neurosciences
2010-Jan 2011	Associate Director, Neurology Residency	MUSC	Neurosciences
2009-2014	Director, Neurocritical Care Fellowship	MUSC	Neurosciences

Awards, Honors, Membership in Honorary Societies:

Fellow of the Neurocritical Care Society, October 19, 2022.
 Presidential Citation, Neurocritical Care Society, October 19, 2022.
 Presidential Citation, Neurocritical Care Society; October 26, 2021.
 Top Enrolling Site, SATURN Trial; April 8, 2021.
 Presidential Citation, Neurocritical Care Society; September 22, 2020.
 Top Reviewer for Neurocritical Care (Journal of the Neurocritical Care Society), 2018.
 UAB Department of Neurology Resident Teaching Award, 2017.
 Alpha Omega Alpha, elected 2000.
 Tulane University School of Medicine Jack Aron Scholarship, 1997-2001.
 Phi Beta Kappa, elected 1996.
 South Carolina Cancer Center Undergraduate Training Grant, 1994.
 Phi Beta Kappa Freshman Award, 1994.
 University of South Carolina Carolina Scholars Award, 1993-1996.

Membership in professional/scientific societies:

National Societies

American Heart Association, 2016-present.
 Society for Critical Care Medicine, 2008-present.
 Neurocritical Care Society, 2006-present.
 American Academy of Neurology, 2003-present.

Local Societies

Charleston County Medical Society, 2007-2014.

Councils and committees:

Neurocritical Care Society, Co-chair, Annual Meeting Committee. 2022-2023.
American Academy of Neurology, Director Mentorship Leadership Program. April 2022-April 2023.
Society of Neurological Surgeons, Committee on Advanced Subspecialty Training (CAST) Neurocritical Care and Trauma Accreditation Committee. 2022-present.
Accreditation Council for Graduate Medical Education, Neurocritical Care Milestones Task Force. 2021-2022.

Society for Critical Care Medicine. Member, Critical Care as a Specialty Task Force. 2021-present.

Appointed to the task force as a representative of the Neurocritical Care Society.

Neurocritical Care Society. Member, Annual Meeting Committee. 2021-present.

Neurocritical Care Society. Founder and Chair, Neurocritical Care Training Committee. 2021-2023.

Neurocritical Care Society. Member, Fundraising Task Force. 2020-present.

Neurocritical Care Society. Chair, Fellowship Directors' Section. 2019-2021.

United Council of Neurological Subspecialties. Member, Board of Directors. 2020-2024.

- Elected to serve as the neurocritical care subspecialty representative to UCNS.
- Functions as a liaison between UCNS and stakeholder organizations, including the Neurocritical Care Society and the Critical Care and Emergency Neurology Section of the American Academy of Neurology.

United Council of Neurological Subspecialties. Member, Accreditation Council. 2013-2019.

- Served as the representative of the Association of University Professors of Neurology on the UCNS Accreditation Council.
- Neurocritical Care Clinical Competency Milestone Development Task Force. Member, October 2017 through March 2019. Collaborated with members of stakeholder organizations to develop milestones for use in neurocritical care fellowships. The proposed milestones were approved by the UCNS Board of Directors in March of 2019, and are now in the pilot phase of implementation.

University Activities:

UAB Department of Neurology Compensation Committee. 2023-present.

UAB Department of Emergency Medicine 3D Redesign Task Force. 2021-2022.

UAB Medical Center Ethics Committee: 2021-present.

UAB Enterprise Collaboration Committee: 2021-present.

UAB Critical Care Multidisciplinary Curriculum Committee: 2021-present.

UAB Neurology Residency Review Committee: 2019-present.

UAB Non-beneficial Care Committee: 2017-2018.

UAB Clinical Communications Committee: 2016-2018.

UAB Critical Care Committee: 2014-2018.

UAB NICU Quality Committee: 2014-present.

UAB Neurology Clinical Competency Committee: 2014-present.

UAB Neuroscience Service Line Leadership Committee: 2014-2017.

MUSC Faculty Senate, COM Representative: 2012-2014.

Faculty and Institutional Relations Subcommittee: 2012-2014.

MUSC Graduate Medical Education Committee: 2011-2014.

MUSC Division of Neurology Residency Executive Committee (Chair): 2010-2014.

MUSC Neuroscience Intensive Care Unit, Quality Assurance Committee: 2007-2014.

MUSC, Organ Donation Committee: 2007-2014.

MUSC, Intensive Care Quality Assurance Committee: 2007- 2014.

Editorial Positions:

Neurocritical Care: Member of the Editorial Board (2018-present).

Neurology, ad hoc reviewer

Critical Care Medicine, ad hoc reviewer

Journal of Neurointerventional Surgery, ad hoc reviewer

American Journal of Medical Sciences, ad hoc reviewer

International Journal of General Medicine, ad hoc reviewer

Journal of Inflammation Research, ad hoc reviewer

Research Interests:

My research interests include predicting neurological outcome following critical illness, both in neurological and neurosurgical patients and in the general critical care population; the pathophysiology of intracerebral hemorrhage, cerebral edema and cerebrovascular autoregulation; and educational methods in graduate medical education.

Major Teaching Interests and Responsibilities:

Graduate Medical Education:

1. Fellowship Director, Neurocritical Care Program: Responsibilities include developing the clinical and didactic curriculum for the neurocritical care fellow, organizing journal clubs, and participating in multidisciplinary critical care conferences in conjunction with the surgical critical care and pulmonary critical care groups.
2. Associate Director, Neurology Residency Program:
Responsibilities include contributing to the didactic curriculum for the neurology residents, coordination of various ancillary conferences, and serving as course director for neurology residents rotating in the NICU. Evaluation of didactic lectures and resident performance are also involved. Over the past year, we have designed and implemented a simulator-based exercise to enhance resident education on responding to neurological emergencies.
3. Core Faculty, Anesthesiology Critical Care Program:
I conduct bedside teaching of critical care fellows, mentoring and participation in ICU-based research projects, and participate in fellow didactic conferences and journal club discussions.
4. Core Faculty, Vascular Neurology Fellowship:
I conduct bedside teaching rounds for vascular neurology fellows, oversee the required neurocritical care rotation, participate in didactic conferences and provide career mentoring.
5. Clinical Educator, Neurosciences Intensive Care Unit:
I conduct teaching rounds daily while on service and have prepared formal didactic presentations designed for students, residents and fellows from various divisions who rotate through the NICU.

School of Nursing:

I serve as the course director for the neuroscience augmented clinical experience pathway within the ACNP program. This is a unique clinical curriculum designed to provide advanced practices providers with a skillset that will enable them to transition into careers within the neurosciences. To our knowledge, it is the first program of its kind; the first students will begin clinical rotations in September, 2019.

School of Medicine:

I serve as a career advisor for students interested in careers in neurology. I also participate annually as mock interviewer and as an advisor for students participating in the Supplemental Offer and Acceptance Program (SOAP) process.

Mentoring Activities:

I provide career counseling and mentorship to neurology residents and critical care fellows as part of my role as program director, and have also served as a mentor to resident research projects. In total, this has resulted in 29 resident-driven presentations at national and international meetings.

Selected Mentees: Residents

1. Dr. Jiayue "Sherry" Yuan: UAB Neurology Class of 2023; will be applying for neurocritical care fellowships in early 2022.
2. Dr. Eyad Saca: UAB Neurology Class of 2022; incoming UAB Neurocritical Care Fellow (2022-2024).
3. Dr. Kevin Bui: UAB Neurology Class of 2022; incoming UAB Neurocritical Care Fellow (2022-2024).
4. Dr. Mini Singh: Class of 2018; Neuroimmunology Fellowship at University of Michigan, Ann Arbor (2018-2019). Currently Assistant Professor, Department of Neurology, Medical University of South Carolina, Charleston, SC.
5. Dr. Sahil Gupta: Class of 2018; Pain Medicine Fellowship at Mayo Clinic, Jacksonville (2018-2019). Currently an interventional pain specialist at Southern Illinois Health Care, Carbondale, IL.
6. Dr. Mina Lobbous: Class of 2018; Neuro-oncology Fellowship at UAB (2019-2020). Currently Assistant Professor of Neurology, UAB.
7. Dr. Ayaz Khawaja: Class of 2016; Neurocritical Care Fellowship at Massachusetts General Hospital (2016-2018). Currently Assistant Professor of Neurology, Wayne State University, Detroit MI.
8. Dr. Manmeet Kaur: Class of 2017; Neurocritical Care Fellowship at UAB (2019-2020). Currently Assistant Professor of Neurology and Anesthesiology, UAB.
9. Dr. Anand Venkatramen: Class of 2017; Neurocritical Care Fellowship at Massachusetts General Hospital (2017-2019). Currently a fellow in endovascular neurosurgery at Prisma Health, Greenville, SC.

Selected Mentees: Fellows

1. Dr. Manmeet Kaur: Graduate of the UAB Neurocritical Care Fellowship Program, 2021. Current position: Assistant Professor of Neurology and Anesthesiology, UAB.
2. Dr. Eric Lucas: Graduate of the UAB Critical Care Medicine Fellowship, Department of Anesthesiology, 2018. Graduate of the UAB Neurocritical Care Fellowship, 2019. Current Position: Assistant Professor, Department of Emergency Medicine, University of South Alabama.

3. Dr. Susan Moriuri: Graduate of the UAB Critical Care Medicine Fellowship Program, Department of Anesthesiology, 2019. Current Position: Moriuri Anesthesia Services, independent contractor, anesthesiology and intensive care medicine.

Invited Lectures and Presentations

1. **San Francisco General Hospital Stroke Workshop**, San Francisco, CA. *"Ischemic Stroke: Prevention and Treatment."* November 9, 2006.
2. **Neurosciences Grand Rounds**, Medical University of South Carolina, Charleston, SC. *"Hypothermia for Neuroprotection Following Cardiac Arrest."* November 15, 2006.
3. **Department of Medicine Grand Rounds**, Loris Community Hospital, Loris, SC. *"The Treatment of Acute Stroke: The Stroke Center Concept."* September 10, 2007.
4. **American Heart Association Get with the Guidelines Workshop**, Columbia, SC. *"Ischemic Stroke: Treatment and Prevention."* October 15, 2007.
5. **American Association of Neuroscience Nurses, Coastal Carolina Chapter**, Charleston, SC. *"Neuroimaging in Acute Stroke,"* January 12, 2008.
6. **Faculty Grand Rounds**, McLeod Regional Medical Center, Florence, SC. *"Neuroprotection Using Induced Hypothermia Following Cardiac Arrest."* February 4, 2008.
7. **The 18th Charleston Pulmonary and Critical Care Symposium**, Charleston, SC. *"The Critical Care Management of Ischemic and Hemorrhagic Stroke."* March 14, 2008.
8. **American Association of Neuroscience Nurses, Coastal Carolina Chapter**, Charleston, SC. *"Physiological Monitoring in Traumatic Brain Injury."* April 29, 2008.
9. **Faculty Grand Rounds**, Medical University of South Carolina Department of Surgery, Charleston, SC. *"Physiological Monitoring in Traumatic Brain Injury."* November 11, 2008.
10. **Medical University of South Carolina Cerebrovascular Symposium**, Isle of Palms, SC. *"Critical Care of Intracranial Hemorrhage."* March 13, 2009.
11. **Medical University of South Carolina Neuroscience Symposium**, Charleston, SC. *"Advances in Neurocritical Care."*
12. **Interdisciplinary Critical Care Grand Rounds**, Medical University of South Carolina, Charleston, SC. *"Prognostication in Neurological Critical Illness."* November 15, 2010.
13. **Faculty Grand Rounds**, Medical University of South Carolina Department of the Neurosciences, Charleston, SC. *"Prognostication in Neurological Critical Illness."* April, 2010.
14. **Faculty Grand Rounds**, Medical University of South Carolina Department of Internal Medicine, Charleston, SC. *"Advances in Neurocritical Care."* May, 2012.
15. **Neurocritical Care Society Annual Meeting Faculty**, Neurocritical Care Practice Update, Denver, CO. *"Ventilating Neurocritical Care Patients."* October 5, 2012.
16. **Faculty Grand Rounds**, University of Alabama, Birmingham, Department of Neurology, Birmingham, AL. *"Prognostication in the Neurological Intensive Care Unit."* August 13, 2013.
17. **MUSC Comprehensive Stroke and Cerebrovascular Update**, Medical University of South Carolina Department of the Neurosciences, Charleston, SC. *"Cerebrovascular Ultrasound."* November 15, 2013.
18. **Faculty Grand Rounds**, University of Alabama at Birmingham Department of Anesthesiology, Birmingham, AL. *"A Stroke of Bad Luck: Cerebrovascular Disease in the OR and Beyond."* November 10, 2014.
19. **Faculty Grand Rounds**, University of Alabama at Birmingham Department of Neurology, Birmingham, AL. *"Determination of Brain Death: Pitfalls and Controversies"* December 9, 2014.
20. **UAB Neurosciences Update and Stroke Symposium**, University of Alabama at Birmingham Department of Neurology, Birmingham, AL. *"Update in Intracranial Hemorrhage."* May 7, 2016.
21. **Emergency Medicine Critical Care Grand Rounds**, University of Alabama at Birmingham Department of Emergency Medicine, Birmingham, AL. *"Advances in Intracranial Hemorrhage."* January 19, 2017.
22. **Faculty Grand Rounds**, University of Alabama at Birmingham Department of Neurology, Birmingham, AL. *"Advances in Intracranial Hemorrhage."* February 14, 2017.
23. **UAB Stroke Symposium**, University of Alabama at Birmingham Department of Neurology, Birmingham, AL. *"Update in Intracerebral Hemorrhage."* May 19, 2017.
24. **Faculty Grand Rounds**, University of Alabama at Birmingham Department of Anesthesiology, Birmingham, AL. *"Mechanical Ventilation: Special Considerations in Brain Injured Patients."* November 26, 2018.
25. **Faculty Grand Rounds**, University of Florida, Department of Neurology, Gainesville, FL. *"Brain Death: Pitfalls and Controversies."* April 16, 2019.
26. **Society of Critical Care Medicine Annual Meeting Faculty**, Year in Review: Neuroscience. Virtual Meeting. *"Impact of the Pandemic on the Educational Mission."* February 10, 2021.
27. **Faculty Grand Rounds**, University of Alabama at Birmingham, Department of Neurology, Birmingham, AL. *"Death by Neurological Criteria: Dying in the Modern Era."* April 27, 2021.
28. **American Academy of Neurology, Critical Care and Emergency Neurology Section**. Panelist, annual section meeting. *"The Neurocritical Care Response to the AAN Fellowship Timeline Initiative."* May 6, 2021.

29. **American Academy of Neurology, Critical Care and Emergency Neurology Section.** Panelist, annual section meeting. *"The Effects of ACGME Accreditation on Fellowships and Applicants."* May 18, 2022.
30. **Anticoagulation for Stroke Prevention and Recovery after ICH (ASPIRE) Investigators Annual Investigator Meeting.** Panelist. *"Best Practices for Trial Enrollment."* May 25, 2022.
31. **Neurosurgical Society of Alabama Annual Meeting,** Gulf Shores, AL. *"Philosophical and Legal Challenges to Death by Neurological Criteria."* June 11, 2022.
32. **Visiting Professor, Virginia Commonwealth University Department of Neurology,** Richmond, VA. *"Death by Neurological Criteria: Ethical, Philosophical and Legal Challenges."* July 21, 2022.
33. **Invited Lecture, Karachi Medical and Surgical Society,** Karachi, Pakistan (online). *"Traumatic Brain Injury: Critical Care Management of Blunt Cranial Trauma."* September 28, 2022.
34. **Neurocritical Care Grand Rounds,** University of Washington (online). *Death by Neurological Criteria: Ethical, Philosophical and Legal Challenges."* November 2, 2022.
35. **Neurocritical Care Conference,** Emory University (online). *Professional Societies: Why, Who, When and How.* April 13, 2023.
36. **Birmingham Regional Emergency Medical Services System Stroke Symposium,** Birmingham AL. *Updates on management of acute intracerebral hemorrhage.* April 14, 2023.

Extramural Grants/award amount (current and past):

As Principal Investigator

1. **ASPIRE: Anticoagulation for Stroke Prevention and Recovery after ICH.** Institutional Principle Investigator for the University of Alabama at Birmingham, 2019-present. PI: Kevin N. Sheth, Yale University Department of Neurology, and Hooman Kamel, Weill Medical College of Cornell University Department of Neurology. NI/NINDS Grant # U01NS10651301A1. ClinicalTrials.gov Identifier: NCT03907046.
2. **SATURN: Statin use in Intracerebral Hemorrhage Patients.** Institutional Principle Investigator for the University of Alabama at Birmingham, 2019-present. PI: Magdy Selim, Beth Israel Deaconess Medical Center Department of Neurology. NI/NINDS Grant # 1U01NS102289.
3. **ATACH-II: Antihypertensive Treatment in Acute Cerebral Hemorrhage.** Institutional Principal Investigator for the University of Alabama at Birmingham, 2014-2016. PI: Adnan Qureshi, MD, University of Minnesota Department of Neurology. NI/NINDS Grant # R01NS061861.
4. **ARTSS-2: Argatroban with tissue plasminogen activator for Acute Stroke.** Institutional Principal Investigator for the University of Alabama at Birmingham, 2014-2015. PI: Andrew Barreto, MD, University of Texas Health Science Center, Houston. NIH/NINDS Grant # P50NS044227.
5. **MISTIE Trial: Minimally Invasive Surgery plus t-PA for Intracerebral Hemorrhage Evacuation.** Institutional Principal Investigator for the Medical University of South Carolina, 2010-2012. PI: Daniel Hanley, MD, Johns Hopkins University Department of Neurology. NIH/NINDS Grant # 5R01NS046309-06.
6. **Licox: A Randomized, Single Center Trial of Brain Tissue Oxygen Monitoring in Severe Traumatic Brain Injury.** Principal Investigator, 2010 to 2011.

As Co-Investigator

1. **ARCADIA: Atrial Cardiopathy and Antithrombotic Drugs In Prevention After Cryptogenic Stroke.** Co-investigator, 2018-present. Site PI: Michael Lyster. PI: Mitchell S. V. Elkind, Columbia University Department of Neurology. NIH/NINDS Grant # 1U01NS095869-01A1. ClinicalTrials.gov Identifier: NCT03192215.
2. **Sleep SMART: Sleep for Stroke Management and Recovery.** Co-investigator, 2019-present. Site PI: Soo Kwon. PI: Devin Brown and Ronald Chervin, University of Michigan Department of Neurology. NIH/NINDS Grant # 1U01NS099043-01A1. ClinicalTrials.gov Identifier NCT03812653.
3. **WEAVE: Wingspan® StEnt System Post Market SurVEillance Study.** Co-investigator, 2017-2019. Site PI: John Deveikis. PI: Michael J. Alexander, Cedars-Sinai Medical Center; Wengui Yu, University of California at Irvine. Supported By: Stryker Neurovascular. ClinicalTrials.gov Identifier: NCT02034058.
4. **DEFUSE 3: Endovascular Therapy Following Imaging Evaluation for Ischemic Stroke 3.** Co-investigator, 2016-2018. Site PI: Toby Gropen. PI: Greg Albers, Stanford University. Supported By: NIH/NINDS, Grant # U10NS086487, U01NS092076.
5. **MYRIAD: Mechanisms of Early Recurrence in Intracranial Atherosclerotic Disease.** Co-investigator, 2015-2019. Site PI: Mark Harrigan. PI: Jose G. Romano, University of Miami. Supported By: NIH/NINDS, Grant # 1R01NS084288-01A1, NCT02121028.
6. **ACTISSIMA: Study of Modified Stem Cells (SB623) in Patients With Chronic Motor Deficit From Ischemic Stroke.** Co-investigator, 2015-2018. Site PI: Mark Harrigan. Study PI: Damien Bates, PD, PhD, FRACS. Supported By: San Bio, Incorporated. ClinicalTrials.gov Identifier: NCT02448641.

7. **CREST 2: Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial.** Co-investigator, 2014-present. Site PI: Mark Harrigan. PI: Thomas G Brott, Brajesh K Lal, James Meschia, Mayo Clinic, Rochester MN. Supported By: NIH/NINDS, Grant # 1U01NS080168-01A1 NCT02089217.
8. **GAMES-RP: Glyburide Advantage in Malignant Edema and stroke-Remedy Pharmaceuticals.** Sub-investigator, 2013-2014. Institutional PI: Edward Jauch, MD. Sponsored by Remedy Pharmaceuticals.
9. **POINT Trial: Platelet-Oriented Inhibition in New TIA and minor ischemic stroke trial.** Co-investigator for the Medical University of South Carolina, 2012-2014. Institutional PI: Christine Holmstedt, DO. PI: S. Claiborne Johnston, MD, University of California, San Francisco. Supported by The National Institute of Neurological Disorders and Stroke (NINDS), Grant Number: 1U01NS062835-01A1.
10. **STOP-IT: The SPOT Sign for Predicting and Treating ICH Growth.** Co-investigator, 2011-2014. Institutional PIs: Edward Jauch and Robert Adams. PI: Matthew Flathery, MD, University of Cincinnati. Supported By: NIH/NINDS, Grant # 5P50NS044283-08
11. **CLEAR III Trial: Clot Lysis: Evaluating Accelerated Evolution of Intraventricular Hemorrhage.** Sub-investigator for the Medical University of South Carolina, 2010-2012. Institutional PI: Christos Lazaridis, MD. PI: Daniel Hanley, MD, Johns Hopkins University, and Issam Awad, MD University of Chicago Hospitals. NIH/NINDS Grant # 5U01NS062851-02.
12. **IMS-III: Interventional Management of Stroke.** Sub-investigator for the Medical University of South Carolina, 2009-2012. Institutional PI: Edward Jauch, MD. PI: Joseph Broderick, MD, University of Cincinnati. NIH/NINDS Grant # 5U01NS052220-05.
13. **Conscious III: Clazosentan in Aneurysmal Subarachnoid Hemorrhage.** Sub-investigator for the Medical University of South Carolina, 2009-2010. Institutional PI: Raymond Turner IV, MD. PI: Sebastien Roux, MD, Actelion. Sponsored by Actelion.
14. **Accelerate: Cleviprex for Treatment of Acute Hypertension and Intracerebral Hemorrhage.** Sub-investigator for the Medical University of South Carolina, 2008-2009. Institutional PI: Christos Lazaridis, MD. PI: Carmello Graffagnino, MD, Duke University Department of Internal Medicine, Division of Neurology. Sponsored by The Medicines Company.
15. **SENTIS: Safety and Efficacy of Neuro-flo Technology in Ischemic Stroke.** Sub-investigator for the Medical University of South Carolina, 2007-2009. Institutional PI: Nick Papamitsakis, MD. PI: Ashfaq Shuaib, MD, Coaxia, Inc. Sponsored by Coaxia, Inc.

Other Experience:

Years

8/96-7/97	Biologist, University of Florida Department of Ophthalmology. Supervisor: Dr. William Hauswirth. Involved in research aimed at developing gene therapies for macular degeneration.
8/95-8/96	Research Assistant, University of South Carolina, Department of Pharmacology. Supervisor: Dr. Paul Housley. Conducted research designed to elucidate the effect of the h-Ras oncogene on the MAP kinase pathway.
12/94-8/95	Research Assistant, University of South Carolina, Department of Biology. Supervisor: Dr. Bert Ely. Conducted research on gene regulatory mechanisms. Funded by a Howard Hughes Grant.
5/94-8/94	Research Assistant, University of South Carolina, Department of Pharmacology. Supervisor: Dr. Paul Housley. Received a South Carolina Cancer Center Undergraduate Training Grant for basic science research in oncology.

Publications:

Peer Reviewed Journal Articles:

1. Cabral AL, **Hays AN**, Housely PR, Brentani MM, Martins VR. Repression of glucocorticoid receptor gene transcription by c-Jun. *Molecular and Cellular Endocrinology*. 2001 April; 175(1-2): 67-79. PMID: 11325517.
2. Lovera J, **Hays A**, Brennan K, Adams-Hogan F. Immune-mediated inflammatory demyelinating dysfunction of the nervous system. *Southern Medical Journal*. 2002 October; 95(10): 1229-31. PMID: 12425521.
3. Beech DJ, Madan AK, Aliabadi-Wahle S, **Hays AN**, Long WP. Synchronous occurrence of glioblastoma multiforme and esophageal adenocarcinoma. *The American Surgeon*. 2003 Feb; 69(2): 136-9. PMID: 12641354.
4. **Hays AN**, Diring MN. Elevated troponin levels are associated with higher mortality following intracerebral hemorrhage. *Neurology*. 2006 May; 66(9): 1330-1334. PMID: 16682662.
5. Lazaridis C, **Hays AN**, Neyens R, Chalela JA. Liberation from mechanical ventilation in the neurocritically ill. *Critical Care Medicine* 2009 April; 37(4):1531. PMID: 19318858.
6. **Hays AN**, Lazaridis C, Neyens R, Nicholas J, Gay SE, Chalela JA. Osmotherapy: Use among neurointensivists. *Neurocritical Care* 2011 April; 14(2):222-228. PMID: 21153930.

7. Chalela JA, Bonilha L, Neyens R, **Hays AN**. Manganese encephalopathy: An under-recognized condition in the critical care unit. *Neurocritical Care* 2011 June; 14(3):456-458. PMID: 21174173.
8. Lazaridis C, Bodle J, Chaudry I, **Hays A**, Chalela J. Familial nontraumatic, nonaneurysmal subarachnoid hemorrhage: a report on three first-degree siblings. *J Neurosurg* 2011 September; 115(3):621-623. PMID: 21639697.
9. Turk A, Magarik JA, Chaudry I, Turner RD, Nicholas J, Holmstedt CA, Chalela J, **Hays A**, Lazaridis C, Jauch E, Chimowitz M, Turan T, Adams R. CT perfusion-guided patient selection for endovascular treatment of acute ischemic stroke is safe and effective. *J Neurointerv Surg*. 2012 Jul; 4(4):261-5. PMID: 21990520.
10. Adams RJ, Debenham E, Chalela J, Chimowitz M, **Hays A**, Hill C, Holmstedt C, Jauch E, Kitch A, Lazaridis C, Turan TN. REACH MUSC: A telemedicine facilitated network for stroke: Initial operational experience. *Front Neurol*. 2012; 3:33. PMID: 22435064.
11. Turk AS, Nyberg EM, Chaudry MI, Turner RD, Magarik JA, Nicholas JS, Holmstedt CA, Chalela JA, **Hays A**, Lazaridis C, Chimowitz MI, Turan TN, Adams RJ, Jauch EC. Utilization of CT perfusion patient selection for mechanical thrombectomy irrespective of time: a comparison of functional outcomes and complications. *J Neurointerv Surg*. 2012; Aug 30. PMID: 22935349.
12. Magarik JA, Jauch EC, Patel SJ, Adams RJ, Turner RD, Chaudry MI, Chalela JA, **Hays A**, Chimowitz MI, Turan TN, Holmstedt CA, Debenham E, Lackland DT, Turk AS. MUSC's comprehensive stroke program: changing what's possible in stroke care across South Carolina. *J SC Medical Assoc*, 2012; 108(5):128-131. PMID: 23431916.
13. Chalela JA, Rothlisberger J, West B, **Hays A**. The white cerebellum sign: an under-recognized sign of increased intracranial pressure. *Neurocrit Care*. 2013 Jun; 18(3):398-9. PMID: 23589182.
14. Boehme AK, **Hays AN**, Kicielski KP, Arora K, Kapoor N, Lyster MJ, Gadpaille A, Shiue H, Albright K, Miller DW, Elkind MSV, Harrigan MR. Systemic inflammatory response syndrome and outcomes in intracerebral hemorrhage. *Neurocrit Care*. 2016 Aug;25(1):133-40. PMID: 26920909.
15. Venkatraman A, Khawaja A, **Shapshak AH**. Hemorrhagic Stroke after consumption of an energy drink. *Am J Emerg Med*. 2016 Mar;35(3):522.e5-522.e6. PMID: 27793504.
16. Qureshi AI, Palesch YY, Barsan WG, Hanley DF, Hsu CY, Martin RL, Moy CS, Silbergleit R, Steiner T, Suarez JL, Toyoda K, Wang Y, Yamamoto H, Yoon BW; **ATACH-2 Trial Investigators** and the Neurological Emergency Treatment Trials Network. Intensive Blood-Pressure Lowering in Patients with Acute Cerebral Hemorrhage. *N Engl J Med*. 2016 Sep 15;375(11):1033-43. doi: 10.1056/NEJMoa1603460. PMID: 27276234
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27. **Hays AN**, Shapshak D. Atypical presentations of ischemic cerebrovascular disease: Part 1. *Emergency Medicine Reports*. 2009 April; 30(9).
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Scholarly Books and Monographs:

Chapters in Scholarly Books and Monographs:

Hays AN, Chalela JA. Acute Myelopathy. In: Bharwaj A, Mirski MA, Ulatowski JA, editors. *Handbook of Neurocritical Care*. Second edition. Springer New York, 2011. ISBN-13: 9781441968418.

Shapshak, Angela Hays. Neurotrauma. In: Roberson E, Amthor F, Standaert D, Theibert WAB, editors. *Clinical Neuroscience*. McGraw-Hill Education, 2018 [in press]. ISBN: 007184905X, 9780071849050.

Peer Reviewed Electronic Publications:

Angela N. Hays and Abhay K. Varma. Traumatic Brain Injury. In: Prof. Amit Agrawal, Ed. *Acute Care, Brain Injury: Pathogenesis, Monitoring, Recovery and Management*. ISBN: 978-953-51-0265-6, InTech, 2012. Available from: <http://www.intechopen.com/books/brain-injury-pathogenesis-monitoring-recovery-and-management/traumatic-brain-injury-acute-care>.

Published Abstracts:

1. Shiue H, Albright KC, Sands KA, **Hays AN**, Gadpaille A, Khawaja A, Sisson A, Alvi M, Shahripour R, Harrigan M. Serum albumen predicts outcome in primary intracerebral hemorrhage; (Abstract # W P 309). Presented at the 2015 International Stroke Conference, February 11, 2015 in Nashville, TN.
2. **Hays A**, Boehme AK, Kicielski K, Arora K, Kapoor N, Lyerly M, Miller DW, Elkind M, Harrigan M. The influence of the systemic inflammatory response syndrome, in the absence of infection, on the relationship between intracerebral hemorrhage score and outcomes; (Abstract # T P404). Presented at the 2015 International Stroke Conference, February 11, 2015 in Nashville, TN.
3. Khawaja A, Boehme AK, George AJ, **Hays A**, Kumar G, Alvi M, Miller D, Martin-Schild S, Harrigan M. The role of a history of coronary artery disease the need for transfusion and outcomes in patients with intracerebral hemorrhage; (Moderated Poster, #T P 325). Presented at the 2015 International Stroke Conference, February 11, 2015 in Nashville, TN.
4. Khawaja A, Boehme A, **Hays Shapshak A**, Miller DW, Shahripour RB, Alvi M, Kumar G, Harrigan M. Predictors and outcome of mechanical ventilation for patients with primary intracerebral hemorrhage; (Abstract # P3.090). Presented at the 67th Annual Meeting of the American Academy of Neurology, April 21, 2015 in Washington, DC.
5. Shiue H, Boehme A, Sands K, Martin-Schild S, **Hays Shapshak A**, Lyerly M, Gadpaille A, Khawaja A, Sisson A, Alvi M, George A, Harrigan M. Admission hypomagnesemia predicts primary intracerebral hemorrhage volume; (Abstract #P3.093). Presented at the 67th Annual Meeting of the American Academy of Neurology, April 21, 2015 in Washington, DC.
6. Boehme AK, Albright K, Sisson A, **Hays Shapshak A**, Kumar G, Elkind M, Harrigan M. Outcomes in ICH patients should be stratified by age with attention to race and ICH score; (Abstract # P6.012). Presented at the 67th Annual Meeting of the American Academy of Neurology, April 23, 2015 in Washington, DC.
7. Vahidy F, Albright KC, Donnelly JP, **Shapshak AH**, Savitz SI. National Trends in Transfer of Patients with Intracerebral Hemorrhage to Teaching Hospitals. Feb 2016. Moderated poster presented at the International Stroke Conference, Los Angeles, CA.
8. Kaur M, Boehme AK, Albright KC, Lyerly M, Sisson A, Arora K, Khawaja AM, **Hays Shapshak A**, Gropen T. HIAT2 Predicts Poor Functional Outcome, Palliative Care Involvement, and In-hospital Mortality in tPA Treated and Untreated Ischemic Stroke Patients. April 2016. Poster presented at the American Academy of Neurology 68th Annual Meeting, Vancouver, BC, Canada.
9. Khawaja A, Albright KC, **Hays Shapshak A**, Shiue H, Sisson A, Bavarsad Shahripour R, Kaur M, Lyerly M, Gropen T. The Impact of Early Ischemic Changes on Head CT on Hemorrhagic Conversion and Outcomes in Patients with Acute Ischemic Stroke. Feb 2016. Poster presented at the International Stroke Conference, Los Angeles, CA.
10. Kaur M, Boehme AK, Albright KC, Lyerly M, Sisson A, Arora K, Khawaja AM, **Hays Shapshak A**, Gropen T. HIAT2 Predicts Poor Functional Outcome, Palliative Care Involvement, and In-hospital Mortality in tPA Treated and Untreated Ischemic Stroke Patients. Feb 2016. Poster presented at the International Stroke Conference, Los Angeles, CA.
11. Arora K, Boehme A, Albright KC, Gadpaille A, Bavarsad Shahripour R, Lyerly M, Sands KA, Sisson A, Shiue H, Khawaja A, **Hays Shapshak A**, Gropen T. The Association Between Stress Hyperglycemia, Hemorrhagic Transformation (HT), and Functional Outcomes in Diabetics and Non-diabetics. Feb 2016. Poster presented at the International Stroke Conference, Los Angeles, CA.
12. **Shapshak AH**, Donnelly JP, Vahidy F, Albright KC. Percutaneous gastrostomy tube, not tracheostomy, is associated with 30-day readmissions in primary intracerebral hemorrhage: an analysis of the 2013 Nationwide Readmissions Database. Feb 2017. Moderated poster presented at the International Stroke Conference, Houston, TX.
13. **Shapshak AH**, Sisson A, Singh M, Lyerly MJ, Albright KC. Ratio of hemorrhage volume to edema volume predicts poor functional outcome in young patients with non-lobar primary intracerebral hemorrhage. Feb 2017. Poster presented at the International Stroke Conference, Houston, TX.
14. Venkatraman A, Khawaja A, **Shapshak AH**. Hemorrhagic stroke following consumption of an energy drink. Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 25, 2017 in Boston, MA.

15. Singh M, Albright KC, Pennington AR, Gropen TI, **Shapshak AH**. Could cocaine exposure mitigate edema formation in spontaneous intracerebral hemorrhage? Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 24, 2017 in Boston, MA.
16. Pennington AR, Boehme AK, Albright KC, Singh M, Lysterly MJ, Gropen TI, **Shapshak AH**. Intraventricular hemorrhage (Graeb) score predicts prognosis in lobar and thalamic intracerebral hemorrhage. Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 24, 2017 in Boston, MA.
17. Singh M, Albright KC, Pennington AR, Gupta S, **Shapshak AH**. Chronic vasodilator therapy may prevent perihematomal edema in primary intracerebral hemorrhage. Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 24, 2017 in Boston, MA.
18. Gupta S, Gazi M, **Shapshak AH**, Lysterly MJ. Headache as an independent predictor of favorable outcome in older intracerebral hemorrhage patients. Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 24, 2017 in Boston, MA.
19. Gibson EG, Albright KC, Boehme AK, Gupta S, **Shapshak AH**, Lysterly MJ. Foley catheter use and infection in non-intubated intracerebral hemorrhage patients. Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 24, 2017 in Boston, MA.
20. Khawaja A, Boehme AK, **Shapshak AH**, Kumar G, Alvi M, Miller DW, Harrigan M. The role of a history of coronary artery disease, the need for transfusion and outcomes in patients with intracerebral hemorrhage. Poster presented at the American Academy of Neurology 69th Annual Meeting, Apr. 24, 2017 in Boston, MA.
21. May C, Taylor J, Erwin B, Black R and **Shapshak AH**. A case of rhabdomyolysis exacerbated by levetiracetam administration. Poster presented at the Neurocritical Care Society Annual Meeting, Oct. 12-14, 2017 in Waikoloa, HI.
22. Lobbous M, Gupta S, **Shapshak AH**. Meningioma resection surgery in elderly patients: An analysis of a national database. Poster presented at the Neurocritical Care Society Annual Meeting, Oct. 12-14, 2017 in Waikoloa, HI.
23. Kaur M, Patel M, **Shapshak AH**, Pati S. Mapping the dynamics of heart rate variability and complexity changes with progressive focal status epilepticus. Poster presented at the Neurocritical Care Society Annual Meeting, Oct. 12-14, 2017 in Waikoloa, HI.
24. Gupta S, Lobbous M, **Shapshak AH**. Effect of obesity on inpatient mortality of patients with ischemic stroke. Poster presented at the Neurocritical Care Society Annual Meeting, Oct. 12-14, 2017 in Waikoloa, HI.
25. Singh M, Albright KC, Pennington AR, **Shapshak AH**. Predictors of worsening perihematoma edema in intracerebral hemorrhage. Poster presented at the Neurocritical Care Society Annual Meeting, Oct. 13, 2017 in Waikoloa, HI.
26. Lobbous M, Gupta S, **Shapshak AH**. Mechanical thrombectomy in ischemic stroke: Trends and predictors of utilization of thrombectomy using a national database. Poster presented at the Neurocritical Care Society Annual Meeting, Oct. 12-14, 2017 in Waikoloa, HI.
27. Patel M, Kaur M, Gupta S, Ayman M, **Shapshak AH**. Intravenous immunoglobulin use in treatment of central pontine myelinolysis: A case report. Presented at the American Academy of Neurology Annual Meeting, April 22, 2018 in Los Angeles, CA.
28. Gupta S, Lobbous M, Benesh F, Patel M, **Shapshak AH**. Region based disparities in tPA utilization in the United States: An analysis of the National Inpatient Sample. Presented at the American Academy of Neurology Annual Meeting, April 24, 2018 in Los Angeles, CA.

Oral Presentations:

1. Khawaja A, Boehme AK, Albright KC, Shahripour RB, Kumar G, Shiue H, Lysterly M, **Hays A**, Harrigan M. Admission blood pressure predicts the number of medications upon discharge in patients with primary intracerebral hemorrhage; (Oral Presentation # W P334). Presented at the 2015 International Stroke Conference, February 12, 2015 in Nashville, TN.
2. Boehme AK, **Hays Shapshak A**, Albright K, Kapoor N, Kicieliński K, Miller DW, Elkind M, Harrigan M. Systemic inflammatory response syndrome during hospitalization for intracerebral hemorrhage drives poor functional outcome at discharge; (Platform

Presentation # S39.001). Presented at the 67th Annual Meeting of the American Academy of Neurology, April 21, 2015 in Washington, DC.

3. Pennington, AR, Boehme AK, Albright KCA, Singh M, Lyster MJ, Gropen TI, **Shapshak AH**. Radiographic predictors of prognosis in intracerebral hemorrhage: if it ain't broke, don't fix it. Platform presentation presented at the American Academy of Neurology 69th Annual Meeting, Apr. 26, 2017 in Boston, MA
4. Gupta S, Lobbous L, **Shapshak AH**. Thrombolysis in ischemic stroke: predictors of thrombolysis utilization using a national database. Oral abstract presented at the Neurocritical Care Society Annual Meeting, Oct. 12-14, 2017 in Waikoloa, HI.

Extramural Professional Activities:

LifePoint, Incorporated. Member, Governing Board of Directors, 2008-2014.
Legacy of Hope. Member, Advisory Board, 2020-present.

Faculty Development:

1. American Academy of Neurology Directors' Leadership Mentorship Program. Year-long mentoring program in which program directors and clerkship directors are paired with mentees interested in a career as a clinician educator. April 2022-April 2023.
2. American Academy of Neurology WoMEN Match Mentorship Program. Year-long mentoring program administered by the AAN Women in Neurology Section. April 2019 through April 2020.
3. Association of American Medical Colleges Mid-Career Women Faculty Leadership Development Seminar. Scottsdale, AZ. December 2-4, 2017.
4. Understanding and Improving Treatment Adherence: An Interdisciplinary Approach. UAB Center for Clinical and Translational Science, Birmingham, Alabama. February 26, 2016.
5. Participation in the 2012 Program Director's Meeting at the American Academy of Neurology, New Orleans, LA. April 21, 2012.
6. Participation in the meeting of the American Committee on Graduate Medical Education, Orlando, FL. February 29-March 4, 2012.
7. Participation in the 2010 Program Director's Boot Camp sponsored by the Association of University Professors of Neurology, San Francisco, CA. September 11-14, 2010.