**Yao Yao, PhD, FAHA**

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Faculty Website: <https://health.usf.edu/medicine/mpp/faculty/yao7>

**EDUCATION**

2000 - 2004 B.S. in Pharmacy

 Sichuan University, Chengdu, Sichuan, China

2004 - 2006 M.S. in Pharmacology

 Sichuan University, Chengdu, Sichuan, China

 Advisor: Dr. Junrong Du

 *Thesis:* The Therapeutic Effects of Yunnan Baiyao in Oral Ulcer and Gingivitis.

2006 - 2011 Ph.D. in Molecular and Cellular Pharmacology

 Stony Brook University, Stony Brook, NY

Advisor: Dr. Stella Tsirka

*Dissertation:* Plasmin-Mediated Cleavage of Monocyte Chemoattractant

Protein-1 (MCP1) Affects Its Biological Activities.

2011 - 2015 Postdoctoral Fellow

 Patricia and John Rosenwald Laboratory of Neurobiology and Genetics

 The Rockefeller University, New York, NY

Advisor: Dr. Sidney Strickland

**ACADEMIC APPOINTMENTS**

2015 – 2017 **Assistant Professor**, College of Pharmacy, University of Minnesota (UMN)

2017 – 2021 **Assistant Professor**, College of Pharmacy, University of Georgia (UGA)

2021 **Associate Professor with Tenure**, College of Pharmacy, UGA

2021 – Present **Associate Professor with Tenure**, Department of Molecular Pharmacology and Physiology, Morsani College of Medicine, University of South Florida (USF)

**HONORS & AWARDS**

2010 **Sigma Xi Travel Award**, Sigma Xi

2010 **Research Award,** Department of Pharmacology, Stony Brook University

2010 **Travel Award**, Gordon Research Conference: Chemotactic Cytokines

2010 **BioLegend Young Investigator Travel Award**, BioLegend

2013 **Certificate of Excellence in Reviewing**, Neurobiology of Disease

2015 **Poster Award**, Gordon Research Conference: Vascular Cell Biology

2015 **Teacher of the Semester**, Class of 2018, College of Pharmacy UMN

2016 **Travel Scholarship**, 2016 Annual Blood-Brain Barrier Consortium Meeting

2016 **Special Merit Award in Research**, University of Minnesota College of Pharmacy

2017 **ISC 2017 Stroke Basic Science Award,** American Heart Association

2017 **STaR Young Investigator Award,** University of Georgia and Augusta University

2018 **Provost International Travel Award,** University of Georgia

2019 **Provost International Travel Award,** University of Georgia

2023 **Fellow of the American Heart Association (FAHA)**, AHA

2024 **Faculty Outstanding Research Achievement Award**, University of South Florida

2024 **Runner-Up Winner of the USF Single Cell Analysis Research Award**, 10X Genomics, Illumina, USF Genomics Core

**SOCIETY MEMBERSHIPS**

2008 – 2011 Sigma Xi, Full Member

2008 – Present Society for Neuroscience (SfN), Member

2012 – Present American Heart Association (AHA), Premium Professional Member

2017 – Present International Society for Cerebral Blood Flow & Metabolism (ISCBFM), Member

2017 – Present American Society for Matrix Biology (ASMB), Member

2022 – Present North American Vascular Biology Organization (NAVBO), Member

**RESEARCH FUNDING**

**CUREENT**

**NIH-NINDS Grant** **(R01NS134134)**

“Fibroblast-derived laminin regulates blood-brain barrier integrity and fibroblast biology in hemorrhage brain”

PI: Yao Yao Funding period: 08/01/2023-07/31/2028

**NIH-NIA Grant (R01AG065345)**

“The roles of pericyte-derived laminin in neurovascular function and neurodegeneration”
PI: Yao Yao Funding period: 09/30/2021-08/31/2026

**NIH-NHLBI Grant (R01HL146574)**

“Endothelial laminin in blood brain barrier regulation”
PI: Yao Yao Funding period: 06/01/2019-02/28/2025

**NIH-NHLBI Training Grant (T32HL160529)**

“Training in research on vascular inflammation and injury”

Trainee: Marsilla Gray Sponsor: Yao Yao Funding period: 02/01/2022-01/31/2027

**COMPLETED**

**AHA Career Development Award (24CDA1276477**)---Declined

“Role of microglia/macrophage-derived laminin-α5 in ischemic stroke pathogenesis”

PI: Abhijit Nirwane Sponsor: Yao Yao Funding period: 04/01/2024-03/31/2027

**NIH-NIA Grant (R21AG073862)**

“Cell-specific changes of laminin expression in the CNS in Alzheimer’s disease”
PI: Yao Yao Funding period: 08/15/2021-07/31/2023

**NIH-NIA Grant (R21AG064422)**

“Screening and identification of pericyte-specific and subpopulation-specific markers”
PI: Yao Yao Funding period: 06/15/2020-03/31/2023

**AHA Predoctoral Fellowship (20PRE35210605**)

“The function of fibroblast-derived laminin-gamma1 in intracerebral hemorrhage pathogenesis”

Trainee: Lingling Xu Sponsor: Yao Yao Funding period: 01/01/2020-12/31/2021

**AHA Scientist Development Grant (16SDG29320001**)

“Pericytic laminin regulates pericyte differentiation and blood vessel integrity in the brain”

PI: Yao Yao Funding period: 07/01/2016-06/30/2019

**R.C. Wilson Pharmacy Grant**

“The roles of endothelial and pericytic laminins in neurovascular dysfunction & AD pathogenesis”

PI: Yao Yao Funding period: 01/01/2019-12/31/2019

**CoP Faculty Grants Award Program-Equipment Grant**

“Nikon Ti Inverted Microscope Grant”

PI: Yao Yao Funding period: 01/01/2016-12/31/2016

**MDF Fund-A-Fellow Research Grant (MDF-FF-2014-0013)**

“Laminin regulates pericyte sternness and their therapeutic potential in myotonic dystrophy”

PI: Yao Yao Funding period: 01/01/2014-12/31/2015

**BD Biosciences Research Grant**

“The role of astrocytic laminin in multipotent pericyte differentiation”

PI: Yao Yao Funding period: 12/18/2012-12/31/2015

**Merck-Rockefeller Fellowship**

“The role of astrocytic laminin in blood brain barrier integrity”

PI: Yao Yao Funding period: 07/01/2012-06/30/2013

**Sigma Xi Grant-in-Aid of Research (G2009101093)**

“Role of plasmin in MCP-1-induced BBB disruption and PBMC infiltration”

PI: Yao Yao Funding period: 03/15/2009-03/14/2010

**PUBLICATIONS (\*Corresponding author)**

**Journals**

1. **Yao Yao**, Du Junrong, Qian Zhongming. The anti-oxidation and anti-tumor activities of lycopene. *Journal of International Pharmaceutical Research* 2005, 32(5): 308-311.
2. **Yao Yao**, Du Junrong. Advancement in drug therapies of Parkinson’s disease. *Chinese Journal of Clinical Pharmacology and Therapeutics* 2005, 10(4): 367-370.
3. **Yao Yao**, Du Junrong. Virus vectors in gene therapies of Parkinson’s disease. *West China Medical Journal* 2005, 20(4): 797-798.
4. Cao Yu, Dong Yulong, **Yao Yao**, Hu Hai, Yu Haifang, Zhou Yiwu. The mechanism of acute paraquat intoxication-induced pulmonary injury. *Chinese Journal of Respiratory and Critical Care Medicine* 2005, 4(4): 303-305.
5. Cao Yu, Zheng Zhijie, **Yao Yao**, Hu Hai, Yu Haifang, Zhou Yiwu.Effect and mechanism of EDTA on acute paraquat poisoning-induced pulmonary injury. *Modern Preventive Medicine* 2005, 32(12): 1631-1633.
6. **Yao Yao**, Jun-Rong Du, Bo Bai, Cheng-YuanWang, Zhong-Ming Qian. Anti-inflammatory and antipyretic activities of Z-ligustilide. *Natural Product Research and Development* 2006, 18(5): 751-755.
7. Du Junrong, **Yao Yao**, Yu Yan, Wang Chengyuan, Qian Zhongming. The biological activities and applications of lycopene. *Chinese Pharmaceutical Journal* 2006, 41(6): 408-410.
8. Cao Yu, **Yao Yao**. Effects of lycopene on focal cerebral ischemic rats. *West China Journal of Pharmaceutical Sciences* 2006, 21(1): 45-46.
9. Zhang Guangyi, Du Junrong, Kuang Xi, **Yao Yao**, Liu Yanxin. Therapeutic effect of Angelica Lactone on focal cerebral ischemia in rats and its mechanism of action. *West China Journal of Pharmaceutical Sciences* 2006, 21(2): 114-117.
10. **Yao Yao**, An-Min Yang, Guang-Yi Zhang, Hai-Yan Peng, Jun-Rong Du. Therapeutic effect of Yunnan Baiyao on gingivitis in beagle dogs. *Journal of Practical Stomatology* 2007, 23(4): 531-533.
11. An-Min Yang, **Yao Yao**, Wei Ji, Wei Zheng, Jun-Rong Du. Anti-ulcer activity of Yunnan Baiyao. *Chinese Traditional Patent Medicine* 2007, 29(9): 1367-1368.
12. Xi Kuang, **Yao Yao**, Jun-Rong Du, Yan-Xin Liu, Cheng-Yuan Wang, Zhong-Ming Qian. Neuroprotective role of Z-ligustilide against forebrain ischemic injury in ICR mice. *Brain Research* 2006, 1102(1): 145-153.
13. Jun-Rong Du,Yan Yu,**Yao Yao**, Bo Bai, Xu Zong, Cheng-Yuan Wang, Zhong-Ming Qian. Ligustilide reduces phenylephrine induced-aortic tension in vitro but has no effect on systolic pressure in spontaneously hypertensive rats. *The American Journal of Chinese Medicine* 2007, 35(3): 487-496.
14. **Yao Yao**, Stella E Tsirka. The C-terminus of mouse monocyte chemoattractant protein 1 (MCP1) mediates MCP1 dimerization while blocking its chemotactic potency. *Journal of Biological Chemistry* 2010, 285(41): 31509-31516.
15. **Yao Yao**, Stella E Tsirka. Truncation of monocyte chemoattractant protein 1 by plasmin promotes blood-brain barrier disruption. *Journal of Cell Science* 2011, 124 (Pt 9): 1486-1495.
16. **Yao Yao**, Stella E Tsirka. Mouse MCP1 C-terminus inhibits human MCP1-induced chemotaxis and BBB compromise. *Journal of Neurochemistry* 2011, 118 (2): 215-223.
17. **Yao Yao**, Stella E Tsirka. The CCL2-CCR2 system affects the progression and clearance of intracerebral hemorrhage. *Glia* 2012, 60 (6): 908-918.
18. **Yao Yao**, Stella E Tsirka. Chemokines and their receptors in intracerebral hemorrhage. *Translational Stroke Research* 2012, 3 (suppl. 1): 70-79.
19. Zu-Lin Chen, **Yao Yao**, Erin H. Norris, Anna Kruyer, Odella Jno-Charles, Akbarshakh Akhmerov, and Sidney Strickland. Ablation of astrocytic laminin leads to hemorrhagic stroke and impairs vascular smooth muscle cell differentiation. *Journal of Cell Biology* 2013, 202(2): 381-395.
20. **Yao Yao**, Zu-Lin Chen, Erin H. Norris, and Sidney Strickland. Astrocytic laminin regulates blood-brain barrier integrity and pericyte differentiation. *Nature Communications* 2014, 5: 3413.
21. **Yao Yao\***, Stella E Tsirka. Monocyte chemoattractant protein-1 and blood-brain barrier. *Cellular and Molecular Life Sciences* 2014, 71(4): 683-697.
22. Yarong He#, **Yao Yao**#, Stella E. Tsirka, Yu Cao. Cell-culture models of the blood-brain barrier. *Stroke* 2014, 45(8): 2514-2526. **(#These authors contributed equally to this work)**
23. **Yao Yao\***, Stella E Tsirka. Mouse monocyte chemoattractant protein 1 (MCP1) functions as a monomer. *The International Journal of Biochemistry & Cell Biology* 2014, 55C: 51-59*.*
24. **Yao Yao**, Erin H. Norris, Sidney Strickland. The cellular origin of laminin determines its role in blood pressure regulation. *Cellular and Molecular Life Sciences* 2015, 72: 999-1008.
25. **Yao Yao\***, Erin H. Norris, Christopher Mason, and Sidney Strickland\*. Laminin regulates PDGFRβ+ cell stemness and muscle development. *Nature Communications* 2016, 7: 11415.
26. Young Cheul Chung, Anna Kruyer, **Yao Yao**, Emily Feierman, Allison Richards, Sidney Strickland, Erin H. Norris. Hyperhomocysteinemia exacerbates Alzheimer’s disease pathology by way of the Aβ-fibrinogen interaction. *Journal of Thrombosis and Haemostasis* 2016, 14(7): 1442-1452.
27. Jyoti Gautam, Xuanming Zhang, and **Yao Yao**\*. The role of pericytic laminin in blood brain barrier integrity maintenance. *Scientific Reports* 2016, 6: 36450.
28. **Yao Yao\***. Laminin: loss of function studies. *Cellular and Molecular Life Sciences* 2017, 74: 1095-1115.
29. Jyoti Gautam, Abhijit Nirwane, and **Yao Yao\***. Laminin differentially regulates the stemness of type I and type II pericytes. *Stem Cell Research & Therapy* 2017, 8: 28.
30. Abhijit Nirwane, Jyoti Gautam, and **Yao Yao\***. Isolation of type I and type II pericytes from mouse skeletal muscles. *Journal of Visualized Experiments (JoVE)* 2017, 123: e55904.
31. Jyoti Gautam and **Yao Yao\***. Roles of pericytes in stroke pathogenesis. *Cell Transplantation* 2018, 27(12): 1798-1808.
32. Lingling Xu, Abhijit Nirwane, and **Yao Yao\***. Basement membrane and blood-brain barrier. *Stroke & Vascular Neurology* 2018, 0: e000198.
33. Abhijit Nirwane and **Yao Yao\***. Laminins and their receptors in the CNS. *Biological Reviews* 2019, 94: 283-306.
34. **Yao Yao\***. Basement membrane and stroke. *Journal of Cerebral Blood Flow and Metabolism* 2019, 39(1): 3-19. (Selected as the cover of the journal)
35. Jyoti Gautam and **Yao Yao\***. Pericytes in skeletal muscle.*Advances in Experimental Medicine and Biology* 2019, 1122: 59-72.
36. Jyoti Gautam, Jeffrey H. Miner, and **Yao Yao\***. Loss of endothelial laminin α5 exacerbates hemorrhagic brain injury. *Translational Stroke Research* 2019, 10(6): 705-718.
37. Abhijit Nirwane, Jessica Johnson, Benjamin Nguyen, Jeffrey H. Miner, and **Yao Yao**\*. Mural cell-derived laminin-α5 plays a detrimental role in experimental ischemic stroke. *Acta Neuropathologica Communications* 2019, 7(1): 23.
38. Minkyung Kang and **Yao Yao\***. Oligodendrocytes in intracerebral hemorrhage. *CNS Neuroscience & Therapeutics* 2019, 25(10): 1075-1084.
39. Jyoti Gautam, Yu Cao, and **Yao Yao\***. Pericytic laminin maintains blood brain barrier integrity in an age-dependent manner. *Translational Stroke Research* 2020, 11(2): 228-242.
40. Minkyung Kang and **Yao Yao\***. Basement membrane changes in ischemic stroke. *Stroke* 2020, 51(4): 1344-1352.
41. Jyoti Gautam, Lingling Xu, Abhijit Nirwane, Benjamin Nguyen, and **Yao Yao\***. Loss of mural-cell-derived laminin aggravates hemorrhagic brain injury. *Journal of Neuroinflammation* 2020, 17(1): 103.
42. Jingsong Ruan and **Yao Yao\***. Behavioral tests in rodent models of stroke. *Brain Hemorrhages* 2020, 1: 171-184.
43. **Yao Yao**, Sonali Shaligram, and Hua Su. Brain vascular biology. *Handbook of Clinical Neurology* 2021, 176: 49-69.
44. Jie Yu, Fanxia Meng, Fangping He, Fei Chen, Wangxiao Bao, Yamei Yu, Jintao Zhou, Jian Gao, Jingqi Li, **Yao Yao**, Woo-ping Ge, Benyan Luo. Metabolic abnormalities in patients with chronic disorders of consciousness. *Aging and Disease* 2021, 12(2): 386-403.
45. Lingling Xu and **Yao Yao\***. CNS fibroblast-like cells in stroke and other neurological disorders. *Stroke* 2021, 52: 2456-2464.
46. Yujie Chen, **Yao Yao**, John H. Zhang, and Shilei Hao. Editorial: Pluripotent Cells for Stroke: From Mechanism to Therapeutic Strategies. *Frontiers in Cellular Neuroscience* 2021, 15: 738240.
47. Benjamin Nguyen, Gregory Bix, and **Yao Yao\***. Basal lamina changes in neurodegenerative disorders. *Molecular Neurodegeneration* 2021, 16: 81.
48. Minkyung Kang and **Yao Yao\***. Laminin regulates oligodendrocyte development and myelination. *Glia* 2022, 70: 414-429.
49. Karan Devasani and **Yao Yao\***. Expression and functions of adenylyl cyclases in the CNS. *Fluids and Barriers of the CNS* 2022, 19: 23.
50. **Yao Yao\***. Challenges in pericyte research: pericyte-specific and subtype-specific markers. *Translational Stroke Research* 2022, 13(6): 863-865.
51. Abhijit Nirwane and **Yao Yao\***. SMAlow/undetectable pericytes differentiate into microglia- and macrophage-like cells in ischemic brain. *Cellular and Molecular Life Sciences* 2022, 79: 264.
52. Abhijit Nirwane and **Yao Yao\***. Cell-specific expression and function of laminin at the neurovascular unit. *Journal of Cerebral Blood Flow and Metabolism* 2022, 42(11):1979-1999.
53. Bilal Syed, Abhijit Nirwane, and **Yao Yao\***. In vitro models of intracerebral hemorrhage. *Brain Hemorrhages* 2022, 3(3): 105-107.
54. Lingling Xu, Abhijit Nirwane, Ting Xu, Minkyung Kang, Karan Devasani, and **Yao Yao**\*. Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2. *Cell Reports* 2022, 41(8): 111709.
55. Jingsong Ruan, Karen McKee, Peter Yurchenco, **Yao Yao**\*. Exogenous laminin exhibits a unique vascular pattern in the brain via binding to dystroglycan and integrins. *Fluids and Barriers of the CNS* 2022, 19: 97.
56. Vishal Mardhekar and **Yao Yao**\*. Causes of hemorrhagic stroke: a cellular perspective. *Translational Stroke Research* 2023, 14: 640-642.
57. **Yao Yao\***. NR4A1 destabilizes TNF mRNA in microglia and modulates stroke outcomes. *PLoS Biology* 2023, 21(7): e3002226.
58. Xiaoqian Ge, Xueqi Xu, Qi Cai, Hejian Xiong, Chen Xie, Yi Hong, Xiaofei Gao, **Yao Yao**, Robert Bachoo, Zhenpeng Qin. Live mapping of the brain extracellular matrix and remodeling in neurological disorders. *Small Methods* 2024, 8(1): e2301117.
59. Minkyung Kang, Abhijit Nirwane, Jingsong Ruan, Aravinthan Adithan, Marsilla Gray, Lingling Xu, **Yao Yao\***. A dispensable role of oligodendrocyte-derived laminin-a5 in brain homeostasis and intracerebral hemorrhage. *Journal of Cerebral Blood Flow and Metabolism* 2024, 44(4): 611-623.
60. Abhijit Nirwane, Minkyung Kang, Aravinthan Adithan, Vrishni Maharaj, Felicia Nguyen, Elliot Santaella Aguilar, Ava Nasrollahi, **Yao Yao\***. Endothelial and mural laminin-α5 contributes to neurovascular integrity maintenance. *Fluids and Barriers of the CNS* 2024, 21: 18.
61. Minkyung Kang, **Yao Yao\***. Oligodendrocyte-derived laminin-γ1 regulates the blood-brain barrier and CNS myelination in mice. *Cell Reports* 2024, 43(5): 114123.
62. Jingsong Ruan, Minkyung Kang, Abhijit Nirwane, **Yao Yao\***. A dispensable role of mural cell-derived laminin-α5 in intracerebral hemorrhage. *Journal of Cerebral Blood Flow and Metabolism* 2024, In Press. doi: 10.1177/0271678X241264083.
63. Marsilla Gray, Kevin R Nash, **Yao Yao\***. Adenylyl cyclase 2 expression and function in neurological diseases. *CNS Neuroscience & Therapeutics* 2024, 30: e14880.

**Book Chapters**

1. **Yao Yao** and Stella E. Tsirka (2014). Intracerebral Hemorrhage, Dr. Vikas Chaudhary (Ed.). ISBN: 978-953-51-1722-3. London: IntechOpen, Chapter 7: Recovery from ICH – Potential Targets, p.662.
2. **Yao Yao\*** (2018). Cerebral Ischemic Reperfusion Injuries (CIRI): Bench Research and Clinical Implications, Drs. Weijian Jiang, Wengui Yu, Yan Qu, Zhongshun Shi, Benyan Luo, John Zhang (Eds.). ISBN: 978-3-319-90194-7. New York: Springer International Publishing, Chapter 8: Extracellular Matrix in Stroke, p.121-144.

**INVITED TALKS**

***Invited Seminars/Lectures at Universities***

1. Sichuan University, Department of Pharmacology, Chengdu, China, September 2013: “Truncation of monocyte chemoattractant protein-1 (MCP1) by plasmin affects its biological activities”
2. University of Minnesota, Frontiers in Cell Biology, Duluth, MN, USA, October 2015: “Basement membrane biology”
3. Sichuan University, West China Hospital, Chengdu, China, August 2016: “The role of laminin in blood brain barrier integrity and muscle development”
4. Hua Zhong University of Science & Technology, Wuhan Union Hospital, Wuhan, China, October 2016: “Laminin and pericytes in blood brain barrier and muscle development”
5. University of Georgia, Department of Pharmaceutical and Biomedical Sciences, Athens, GA, USA, November 2016: “Laminin in blood-brain barrier maintenance and muscle development”
6. Thomas Jefferson University, Sidney Kimmel Medical College, Philadelphia, PA, USA, December 2016: “Laminin in blood-brain barrier maintenance and muscle development”
7. University of Connecticut, Department of Physiology and Neurobiology, Storrs, CT, USA, February 2017: “Laminin regulates blood-brain barrier integrity and muscle development”
8. Hua Zhong University of Science & Technology, Wuhan Union Hospital, Wuhan, China, October 2017: “Laminin signaling at the neurovascular unit”
9. Sichuan University, West China Hospital, Chengdu, China, October 2017: “Laminin regulates blood brain barrier integrity”
10. University of Georgia, Department of Physiology and Pharmacology, Athens, GA, USA, November 2017: “Laminin and blood brain barrier”
11. Augusta University, Department of Neuroscience and Regenerative Medicine, Augusta, GA, USA, February 2018: “Laminin: a key regulator of blood-brain barrier integrity”
12. University of Georgia, RBC Connection Series, Athens, GA, USA, March 2018: “Laminin function at the blood brain barrier”
13. Hua Zhong University of Science & Technology, Wuhan Union Hospital, Wuhan, China, November 2018: “Microglia and mural cell-derived laminin-α5 in ischemic stroke”
14. Third Military Medical University, Department of Neurosurgery, Chongqing, China, December 2018: “Laminin-α5 in stroke pathogenesis”
15. University of Georgia, Department of Environmental Health Science, Athens, GA, USA, January 2019: “Laminin signaling and the blood brain barrier”
16. University of Texas Southwestern Medical Center, Dallas, TX, USA, February 2019: “Pericyte-derived laminin and the blood brain barrier”
17. University of Georgia, RBC Connection Series, Athens, GA, USA, March 2019: “Laminin biology in physiological and pathological brain”
18. University of California at San Francisco (UCSF), Department of Anesthesia and Perioperative Care, San Francisco, CA, USA, April 2019: “A diverse role of laminin in the pathogenesis of stroke”
19. Blood Research Institute, Blood Center of Wisconsin, Milwaukee, WI, USA, May 2019: “Laminin and blood brain barrier regulation”
20. Zhejiang University, School of Medicine, Department of Neurology, Hangzhou, China, June 2019: “Laminin maintains blood-brain barrier integrity”
21. Shanghai Jiaotong University, Department of Anatomy and Physiology, Shanghai, China, June 2019: “Does laminin regulate blood-brain barrier integrity”
22. Hua Zhong University of Science & Technology, Wuhan Union Hospital, Wuhan, China, June 2019: “Do brain pericytes have stemness”
23. Sichuan University, Department of Pharmacology, Chengdu, China, June 2019: “Progress in blood-brain barrier and stroke”
24. University of Georgia, Neuroscience Seminar Series, Athens, GA, USA, September 2019: “Laminin maintains blood brain barrier integrity”
25. University of Georgia, Department of Cellular Biology, Athens, GA, USA, December 2019: “The basement membrane and blood brain barrier”
26. Hua Zhong University of Science & Technology, Wuhan Union Hospital, Wuhan, China, January 2020: “Mural cells proliferate and differentiate into microglia-like cells in ischemic brain”
27. University of South Alabama, College of Medicine Department of Physiology & Cell Biology, Mobile, AL, USA, March 2020: “Laminin: a key regulator of the blood-brain barrier integrity”
28. University of Georgia, RBC Connection Series, Athens, GA, USA, June 2020: “Laminin function in blood-brain barrier integrity”
29. Tulane University, School of Medicine Pharmacology Department, New Orleans, LA, USA, August 2020: “Laminin: a key regulator of the blood-brain barrier integrity”
30. University of South Florida, School of Medicine Department of Molecular Pharmacology and Physiology, Tampa, FL, USA, March 2021: “Laminin maintains blood-brain barrier integrity”
31. University of Georgia, Center for Molecular Medicine WIP Seminar, Athens, GA, USA, April 2021: “Endothelial laminin maintains blood-brain barrier integrity”
32. Tulane University, School of Medicine Clinical Neuroscience Research Center, New Orleans, LA, USA, April 2021: “Laminin: a new target in the treatment of neurological disorders”
33. Ono Pharma USA, Discovery Research Alliance, Cambridge, MA, USA, November 2021: “Pericyte functions in the brain and skeletal muscle”
34. University of South Florida, School of Medicine Work-In-Progress Seminars, Tampa, FL, USA, February 2022: “Laminin regulates blood-brain barrier integrity”
35. Sichuan University, Department of Pharmacology (Virtual), August 2022: “Fibroblasts repair the blood-brain barrier and hemorrhagic brain injury via TIMP2”
36. University of South Florida, Department of Molecular Pharmacology and Physiology, MPP Graduate Seminars, Tampa, FL, USA, September 2022: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury partially via TIMP2”
37. Sichuan University, College of Pharmacy (Virtual), September 2022: “Pericyte-derived laminin in blood-brain barrier regulation”
38. University of South Florida, Neuroscience Institute, NSI Seminar Series, Tampa, FL, USA, October 2022: “Microglia/macrophage-derived laminin-α5 plays a neuroprotective role in ischemic stroke by repairing blood-brain barrier integrity and regulating microglia/macrophage biology”
39. University of Miami, Miller School of Medicine, Neurological Disorder Research Group (NDRG) Meeting, Miami, FL, USA, February 2023: “Pericytes and pericyte-derived laminin in stroke”
40. University of Texas at Dallas, Department of Mechanical Engineering, Dallas, TX, USA, May 2023: “Microglial laminin exerts a neuroprotective role in ischemic stroke by repairing blood-brain barrier damage and regulating microglial biology”

***Invited Talks at Conferences***

1. Society for Neuroscience, New Orleans, LA, USA, October 2012: “Astrocytic laminin regulates blood brain barrier integrity”
2. Blood Brain Barrier Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA, December 2012: “Astrocytic laminin regulates pericyte differentiation and blood brain barrier integrity”
3. MDF Annual Conference, Washington DC, USA, September 2014: “A novel therapeutic option for myotonic dystrophy”
4. Gordon Research Seminar: Vascular Cell Biology, Ventura, CA, USA, January 2015: “Astrocytic laminin maintains blood brain barrier integrity via regulating pericyte differentiation” (Served as *Discussion Leader*)
5. 11th International Conference on Cerebral Vascular Biology, Paris, France, June 2015: “Astrocytic laminin maintains blood brain barrier integrity by regulating brain pericyte differentiation”
6. MSHP Arrowhead Chapter Meeting, Duluth, MN, USA, October 2015: “Laminin: A tale of two activities”
7. Blood Brain Barrier Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA, December 2016: “The role of pericyte-derived laminin in blood brain barrier integrity”
8. American Heart Association, International Stroke Conference, Houston, TX, USA, February 2017: “Pericytic laminin regulates blood-brain barrier integrity in an age-dependent manner”
9. ASMB Workshop on Basement Membranes, Nashville, TN, USA, July 2017: “The role of pericyte-derived laminin in blood brain barrier integrity”
10. Southern Translational Education and Research (STaR) Conference, Augusta, GA, USA, September 2017: “Pericytic laminin regulates blood-brain barrier integrity and the pathogenesis of intracerebral hemorrhage”
11. 6th Pangu Stroke Conference, Xi’an, China, October 2017: “Laminin regulates blood brain barrier integrity and pathogenesis of stroke”
12. Cambridge Healthtech Institute, Drug Discovery Chemistry: Blood-Brain Penetrant Inhibitors, San Diego, CA, USA, April 2018: “Laminin: a molecular target in blood brain barrier regulation”
13. 2nd Summit of Chinese Basic Science Research on Stroke, Beijing, China, April 2018: “Pericyte-derived laminins actively regulate blood brain barrier integrity and stroke pathology”
14. Blood Brain Barrier Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA, April 2019: “Different roles of pericyte- and endothelium-derived laminin-α5 in blood-brain barrier regulation”
15. Cambridge Healthtech Institute, Drug Discovery Chemistry: Blood-Brain Penetrant Inhibitors, San Diego, CA, USA, April 2019: “How does the basement membrane regulate BBB integrity in physiological and pathological conditions” (Served as *Discussion Chair*)
16. Brain & Brain PET: 29th International Symposium on Cerebral Blood Flow, Metabolism and Function, Yokohama, Japan, July 2019: “Pericyte-derived laminins differentially regulate blood-brain barrier integrity”
17. ASMB/Vanderbilt 2019 Workshop on Basement Membrane, Nashville, TN, USA, July 2019: “Diverse roles of laminin-α5 in stroke pathogenesis”
18. Gordon Research Conference: Plasminogen Activation and Extracellular Proteolysis, Discussion Leader on “Metabolic Diseases and Aging”, Ventura, CA, USA, February 2020
19. ASMB e-Symposium, Guest Chair, Virtually, October 2020: “Extracellular Matrix in the CNS”
20. Brain & Brain PET: 30th International Symposium on Cerebral Blood Flow, Metabolism and Function, Glasgow, UK, May 2022: “Fibroblasts repair blood brain barrier damage and hemorrhagic brain injury via TIMP2”
21. ALPK1 and Diseases (Virtual), July 2022: “Capillary pericytes differentiate into microglia and macrophages in stroke brain”
22. ASMB/Fibroblast Workshop 2022, Charlottesville, VA, USA, October 2022: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury in a TIMP2-dependent manner”
23. Brain Injury and Dementia Symposium, Dallas, TX, USA, February 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2”
24. Brain Barriers Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA, March 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2”
25. Spring Brain Conference, Poco Diablo Resort, Sedona, AZ, USA, April 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP-2”
26. Brain & Brain PET: 31st International Symposium on Cerebral Blood Flow, Metabolism and Function, Brisbane, Australia, June 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury in a TIMP2-dependent manner” (Served as *Chair* for the *Cerebral Ischemia: Neurovascular Unit* symposium)
27. Cerebral Vascular Biology, Uppsala, Sweden, June 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2”
28. 2023 Inaugural SCN Symposium, Pittsburgh, PA, August 2023: “The functions of microglial laminin in ischemic stroke” (Served as *Chair* for the *Glial Biology* session)
29. Shenyang Brain Science and Disease Symposium (Virtual), September 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2” (Keynote Speaker)
30. 8th World Intracranial Hemorrhage Conference, Toronto, Canada, October 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2”
31. Society for Neuroscience, Washington DC, USA, November 2023: “Microglial laminin repairs blood-brain barrier damage and modulates microglial biology in stroke brain”
32. Society of Brain Mapping and Therapeutics (SBMT)---BBB and Brain Drug Delivery Session, Los Angeles, CA, USA, March 2024: “Laminin: A key regulator of the blood-brain barrier”
33. ASMB Workshop on Basement Membranes, Manchester, UK, April 2024: “The blood brain barrier basement membrane and stroke”
34. Spring Brain Conference, Poco Diablo Resort, Sedona, AZ, USA, April-May 2024: “Oligodendrocyte-derived laminin-γ1 promotes blood-brain barrier integrity and regulates oligodendrocyte biology”

**POSTER PRESENTATIONS**

* + - 1. Society for Neuroscience, Washington DC, USA, November 2008: “Potent chemotactic activity of monocyte chemoattractant protein-1 (MCP1) after cleavage by plasmin”
			2. Society for Neuroscience, Chicago, IL, USA, October 2009: “Cleavage of monocyte chemoattractant protein-1 (MCP1) by plasmin enhances its activity to compromise blood-brain barrier (BBB)”
			3. Gordon Research Conference: Chemotactic Cytokines, Lucca, Italy, May-June 2010: “The C-terminus of mouse monocyte chemoattractant protein 1 (MCP1) mediates MCP1 dimerization but inhibits its chemotactic potency”
			4. Gordon Research Conference: Vascular Cell Biology, Ventura, CA, USA, January 2015: “Astrocytic laminin maintains blood brain barrier integrity via regulating pericyte differentiation”
			5. IDMC-10 Meeting, Paris, France, June 2015: “Laminin regulates pericyte stemness and muscle development”
			6. Gordon Research Conference: Myogenesis, Lucca, Italy, June 2015: “Laminin regulates pericyte stemness and muscle development”
			7. Greg Marzolf, Jr. Symposium, Minneapolis, MN, USA, November 2015: “The critical role of pericytic laminin in muscle development”
			8. Annual Blood-Brain Barrier Consortium Meeting, Stevenson, WA, USA, March 2016: “Pericytic laminin regulates blood brain barrier integrity”
			9. Gordon Research Conference: Barriers of the CNS, New London, NH, USA, June 2016: “The role of pericytic laminin in blood brain barrier integrity maintenance”
			10. Gordon Research Conference: Vascular Cell Biology, Ventura, CA, USA, January 2017: “The role of pericytic laminin in blood brain barrier integrity maintenance”
			11. Annual Blood-Brain Barrier Consortium Meeting, Stevenson, WA, USA, March 2017: “Pericyte derived laminin in blood brain barrier integrity maintenance”
			12. American Heart Association (AHA) International Stroke Conference, Los Angeles, CA, USA, January 2018: “Pericyte derived laminin plays a beneficial role in intracerebral hemorrhage”
			13. American Society of Matrix Biology (ASMB) Biennial Meeting, Las Vegas, NV, USA, October 2018: “Mural cell-derived laminin-α5 plays a detrimental role in experimental ischemic stroke”
			14. American Heart Association (AHA) International Stroke Conference, Honolulu, HI, USA, February 2019: “Loss of laminin-α5 from mural cells attenuates ischemia-reperfusion injury”
			15. Gordon Research Conference: Plasminogen Activation and Extracellular Proteolysis, Ventura, CA, USA, February 2020: “Laminin actively maintains blood-brain barrier integrity” (Served as *Discussion Leader*)
			16. American Heart Association (AHA) International Stroke Conference, Los Angeles, CA, USA, February 2020: “Do mural cells differentiate into microglia-like cells after ischemic stroke”
			17. Brain Barriers Virtual Conference, Cold Spring Harbor Laboratory, April 2021: “Fibroblasts and fibroblast-derived laminin promote blood-brain barrier repair after stroke via the paracellular pathway” (Virtual)
			18. ASMB Biennial Meeting, St. Louis, MO, USA, September 2021: “Fibroblasts promote blood-brain barrier repair and stroke recovery in a TIMP2-dependent manner” (Virtual)
			19. Society for Neuroscience, Chicago, IL, USA, November 2021: “Fibroblasts promote blood brain barrier repair and stroke recovery in a TIMP2-dependent manner” (Virtual)
			20. American Heart Association (AHA) International Stroke Conference, New Orleans, LA, USA, February 2022: “Loss of fibroblasts aggravates hemorrhagic brain injury by diminishing TIMP2 secretion” (Virtual)
			21. Gordon Research Conference: Barriers of the CNS, New London, NH, USA, June 2022: “Loss of fibroblasts aggravates hemorrhagic brain injury by diminishing TIMP2 secretion”
			22. International Vascular Biology Meeting 2022, Oakland, CA, USA, October 2022: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury partially via TIMP2”
			23. Society for Neuroscience, San Diego, CA, USA, November 2022: “Fibroblasts repair blood-brain barrier damage in intracerebral hemorrhage partially via TIMP2”
			24. ASMB/HCS/ASIP Joined Meeting, Salt Lake City, UT, USA, October 2023: “Fibroblasts repair blood-brain barrier damage and hemorrhagic brain injury via TIMP2”
			25. Gordon Research Conference: Plasminogen Activation and Extracellular Proteolysis, Ventura, CA, USA, February 2024: “Microglial laminin repairs blood-brain barrier damage and modulates microglial biology in stroke brain”
			26. Gordon Research Conference: Barriers of the CNS, New London, NH, USA, June 2024: “Oligodendrocyte-derived laminin-γ1 promotes blood-brain barrier and CNS myelination in mice”

**PEER-REVIEWER**

**Funding Agencies:**

***American Heart Association (AHA):***

10/2016 BRAIN 3

04/2017 BRAIN 3

02/2018 BRAIN 2: Fellowship

09/2018 BRAIN 2: Fellowship

10/2019 BRAIN 2: Fellowship

01/2020 Vascular Basic Sciences 2: Career Development Award

03/2021 Basic Cell-Regenerative Cell Biology (Basic Science 5): Fellowship

05/2021 BRAIN 2: Career Development Award

11/2021 Basic Cell-Regenerative Cell Biology (Basic Science 5): Fellowship

02/2022 BRAIN: Career Development Award

05/2022 Transformational Projects Award: Brain Sciences

11/2022 Basic Cell-Regenerative Cell Biology (Basic Science 5): Fellowship

02/2023 BRAIN: Career Development Award

05/2023 Transformational Projects Award: Brain Sciences

05/2024 Transformational Projects Award: Brain Sciences

***National Institute of Health (NIH):***

06/2019 VCMB Study Section (*Ad hoc* Reviewer)

11/2019 ZRG1 MDCN M91 Special Emphasis Panel

02/2020 VCMB Study Section (*Ad hoc* Reviewer)

09/2020 CMBG Study Section (*Ad hoc* Reviewer)

06/2021 CMBG Study Section (*Ad hoc* Reviewer)

09/2021 ZRG1 MDCN M91 Special Emphasis Panel

12/2021 ZRG1 PSE-H 70 Special Emphasis Panel-NIH Early Independence Award (DP5)

07/2022-06/2026 CMBG Study Section (Standing Member)

10/2023 CMBG Study Section (Vice Chair)

***State/Federal CTSA Program:***

03/2020 Georgia CTSA Pilot Grants Program Reviewer

01/2021 Georgia CTSA Pilot Grants Program LOI Reviews

03/2021 Georgia CTSA Pilot Grants Program Reviewer

01/2022 Georgia CTSA Pilot Grants Program LOI Reviews

04/2022-07/2022 Portland State University BUILD EXITO Pilot Program Reviewer

05/2023-05/2024 LSU Health Shreveport Intramural Grant Reviewer

***United Kingdom Research and Innovation (UKRI):***

12/2020 Medical Research Council (MRC)-Neurosciences and Mental Health Board

07/2024 Biotechnology and Biological Sciences Research Council (BBSRC)

**Abstracts:**

***American Heart Association (AHA):***

06/2020 Scientific Sessions - Angiogenesis and Arteriogenesis

05/2021 Scientific Sessions - Angiogenesis and Arteriogenesis

06/2022 Scientific Sessions - Angiogenesis and Arteriogenesis

**Scientific Journals:**

Nature Communications, PNAS, Autophagy, PLOS Biology, Theranostics, Cellular and Molecular Life Sciences, Stroke, Glia, Journal of Cerebral Blood Flow and Metabolism, Brain Pathology, Translational Stroke Research, Neurobiology of Disease, Development, Molecular Neurobiology, Journal of Cell Science, Experimental Neurology, Molecular Brain

**EDITORIAL BOARD MEMBER**

2019-Present Fluids and Barriers of the CNS

2019-Present Molecular Brain

2020-Present Frontiers in Neuroscience-Neurodegeneration

2021-Present Journal of Cerebral Blood Flow and Metabolism (JCBFM)

2021-Present Frontiers in Neuroscience-Translational Neuroscience

2022-Present Brain Hemorrhages

**ASSOCIATE EDITOR**

2019-Present Molecular Brain

2020-Present Frontiers in Cellular Neuroscience – Cellular Neurophysiology

2023-Present Brain Hemorrhages

2023-Present Stroke and Vascular Neurology

2023-Present Fluids and Barriers of the CNS

2024-Present CNS Neuroscience & Therapeutics

**PUBLIC/SOCIETY SERVICE AND OUTREACH**

2015 Speaker, MSHP Arrowhead Chapter Meeting, MN, USA

2018-2021 Faculty Mentor, Young Dawgs Program for High School Students, GA, USA

2018-2021 Faculty Mentor, McNair Scholar Program

2022-Present Member, ASMB Membership and Diversity/Equity/Inclusion (DEI) Committee

2024-Present Board and Program Committee Member, Spring Brain Conferences

**SERVICE ON UNIVERSITY/COLLEGE/DEPARTMENT COMMITTEES**

2015 Judge, UMN Summer Undergraduate Research Program

2015-2017 Admission Committee, UMN ECP Graduate Program

2015-2017 Admission Committee, UMN IBS Graduate Program

2016-2017 Faculty Search Committee, UMN Department of Medicinal Chemistry

2016 Faculty Search Committee, UMN Department of PPPS

2016 Interviewer, Faculty Recruitment, UMN Department of ECP

2015-2017 Interviewer, Faculty Recruitment, UMN School of Medicine

2016-2017 Interviewer, PharmD Candidates, UMN COP

2017 Judge, Southern Translational Education and Research Conference

2017-2021 UGA PBS Graduate Program Committee

2018-2021 Admission Committee, UGA Neuroscience Graduate Program

2018 Judge, UGA Stewart Endowment Graduate Student Award

2018 Judge, UGA PBS Research Day

2018 UGA COP Employee of the Year Selection Committee (Chair)

2018-2021 UGA College of Pharmacy (COP) Assessment Committee

2018-2021 UGA COP Graduate Education & Curriculum Committee

2018-2021 UGA McNair Faculty Mentor

2018-2021 Mentor, UGA Young Dawgs Program

2019-2021 Mentor, UGA Center for Undergraduate Research Opportunities (CURO)

2021-Present Member, USF PhD Graduate Program Admission Committee

2023-Present Co-Chair, USF College of Medicine Committee on Research (COMCOR)

2023-Present MPP Representative, USF College of Medicine Faculty Council

**TEACHING**

2015-2017 **Cardiovascular Physiology & Pharmacology**

 Director and Lecturer

2015-2016 **Pharmacokinetics**

Facilitator

2016-2017 **Biotechnology-Derived Drugs**

Director and Lecturer

2017-2021 **Advanced Pharmaceutics and Biopharmaceutics**

 Lecturer

2018-2021 **Neurobiology & Neuropharmacology**

 Director and Lecturer

2019-2021 **Molecular Pharmacology of Disease and Therapeutics**

Lecturer

2022-Present **Advanced Medical Neuroscience (GMS6704)**

 Lecturer

2022-Present **Basic Medical Neurosciences (GMS6706)**

 Lecturer

2023-Present **Neuropharmacology (GMS6735)**

 Lecturer

2023-Present **Selected Topics: Tissue/Organ-Specific Features of Vascular Biology and**

**Related Diseases (GMS7930)**

Director and Lecturer

2023-Present **Neurology, Endocrinology, Reproductive Health, Rheumatology, and**

**Dermatology (NERRD) (Course 7, BMS6043)**

Lecturer

2023-Present **Neurological System (Course 4, BMS6641)**

Lecturer