

Stefanie Robel



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RESEARCH INTEREST

My research group studies the fascinating changes that astrocytes undergo when the brain is injured by trauma and neurological diseases that result from brain trauma. Our main question is how these changes affect astrocyte functions:

- At the vasculature where astrocytes contribute to maintenance of the blood-brain barrier and regulation of blood flow
- At the synapse where astrocytes are responsible for maintaining ion and neurotransmitter homeostasis
- At the network level where specific modifications to astrocyte function caused by pathology may affect neuronal network function and behavior

Our long-term goal is to identify pathways that allow therapeutic modulation of astrogliosis maintaining the beneficial aspects while resolving those cellular and molecular changes that result in neurological diseases such as epilepsy and neurodegeneration.

EDUCATION

Doctoral Degree Summa Cum Laude (Equivalent to Ph.D.)	<i>Institute for Stem Cell Research, Helmholtz Zentrum München Institute for Physiological Genomics, Ludwig-Maximilian University</i> Thesis: "Diverse Functions of Astroglial Cells – The Role of Molecular Pathways Regulating Polarity" Mentor: Magdalena Goetz, Ph.D.	2010
Diploma Degree (Equivalent to M.S.)	<i>Humboldt University of Berlin</i> , Biology, Molecular Biology & Genetics	2005
Diploma Thesis (Equivalent to Master's Thesis)	<i>Max Delbrück Center for Molecular Medicine</i> Thesis: "Generation and Characterization of Transgenic Drosophila melanogaster Lines for the Gene Optic Atrophy 1 (OPA1) Mutated in Human Autosomal Dominant Optic Atrophy" Mentor: Christiane Alexander, Ph.D.	2005
Undergraduate Studies (Equivalent to B.S.)	<i>Humboldt University of Berlin</i> , Biology, Molecular Biology & Genetics	2004
Undergraduate Studies (Equivalent to B.S.)	<i>University of Potsdam</i> , Biology	2002

POSITIONS AND EMPLOYMENT

Assistant Professor (Tenure Track)	Robel Laboratory <i>Glial Biology in Health, Disease, & Cancer Center Fralin Biomedical Research Institute at Virginia Tech Carilion</i>	2016 –
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*School of Neuroscience, Virginia Polytechnic Institute and State University
 Biological Sciences, Virginia Polytechnic Institute and State University
 Department of Basic Science Education, Virginia Tech Carilion School of Medicine*

Research Assistant Professor	Sontheimer Laboratory <i>Glial Biology in Health, Disease, & Cancer Center Fralin Biomedical Research Institute at Virginia Tech Carilion</i>	2015 – 2016
Postdoctoral Fellow	PI: Harald Sontheimer, Ph.D. <i>Center for Glial Biology in Medicine Department for Neurobiology, University of Alabama at Birmingham</i>	2010 – 2015
Postdoctoral Fellow	PI: Magdalena Goetz, Ph.D. <i>Institute for Physiological Genomics, Ludwig-Maximilian University</i>	2010 – 2010
Graduate Student	PI: Magdalena Goetz, Ph.D. <i>Institute for Physiological Genomics, Ludwig-Maximilian University</i>	2006 – 2010
Research Assistant	PI: Jens Benninghoff, Ph.D. <i>Department of Psychiatry, Molecular and Clinical Neurobiology, Ludwig-Maximilians University</i>	2005 – 2006

OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIPS

Ad hoc Reviewer	<i>NIH Cellular and Molecular Biology of Glia (CBMG)</i>	2020
Grant Foundry Head Coach	<i>Marketing Your Science (MYS), LLC</i> Training scientists in leadership, team building, grant writing and lab management	2018 –
Team Leader Coaching	<i>Marketing Your Science (MYS), LLC</i> Training scientists in leadership, team building, grant writing and lab management	2017 – 2018
Symposium Chair	<i>48th Annual Meeting of the American Society for Neurochemistry.</i> “Traumatic brain injury affects neurovascular unit function”	2017
Symposium Chair	<i>XIII European Meeting on Glial Cells in Health and Disease</i> “Heterogeneity of reactive astrocytes; dissecting astrocyte (dys)function in neurological disease”	2017
Member	<i>American Epilepsy Society</i>	2017 –
Member	<i>American Society for Neurochemistry</i>	2016 –
Chair	<i>Executive Board UAB Postdoctoral Association</i>	2014 – 2015
Member	<i>Society for Neuroscience</i>	2010 –

AWARDS & HONORS

Junior Faculty Award	<i>Institute for Critical Technology and Applied Sciences</i>	2017
Research Award	<i>Alzheimer’s of Central Alabama</i>	2013
Research Fellowship	<i>American Brain Tumor Association</i>	2013

Research Fellowship	<i>Epilepsy Foundation</i>	2012
Emerging Scholar Award	<i>Civitan International Research Center</i>	2011
Postdoctoral Scholar Award	<i>University of Alabama at Birmingham</i>	2011
Research Fellowship	<i>German Research Council (DFG)</i>	2011
GLIA Stipend	<i>9th European Meeting on Glial Cells in Health and Disease</i>	2009

PUBLICATIONS

Published

<i>Trends in Neurosciece Review</i>	“Leveraging Zebrafish to Study Bona Fide Astrocytes” Muñoz-Ballester C., Umans RA., and Robel, S. <i>Accepted for publication</i>	2020
<i>Glia</i>	“Astrocytes are necessary for blood-brain barrier maintenance in the adult mouse brain” Heithoff BP., George KK., Phares AN., Zuidhoek IA., Muñoz-Ballester C., and Robel, S. Sep 21. doi: 10.1002/glia.23908. Online ahead of print. PMID: 32955153	2020
<i>Neurochemistry International</i>	“Potassium and glutamate transport is impaired in scar-forming tumor-associated astrocytes.” Campbell SL., Munoz-Ballester C., Chaunsali L., Yang J., Tré Mills, Sontheimer H., Robel S. Neurochem Int. 2020 Feb;133:104628. doi: 10.1016/j.neuint.2019.104628. Epub 2019 Dec 9. PMID: 31825815	2019
<i>JOVE</i>	“Inducing Post-Traumatic Epilepsy in a Mouse Model of Repetitive Diffuse Traumatic Brain Injury.” Shandra O., Robel S. J Vis Exp. 2020 Feb 10;(156). doi: 10.3791/60360. PMID: 32090988	2019
<i>Cell Reports</i>	“Dynamic UTR usage regulates alternative translation to modulate gap junction formation during stress and aging.” Zeitz M.J., Calhoun P.J., James C.C., Taetzsch T., George K.K., Robel S. , Valdez G., Smyth J.W. May 28;27(9):2737-2747.e5. PMID: 31141695.	2019
<i>The Journal of Neuroscience</i>	"Repeated Mild/Concussive Traumatic Brain Injury Causes an Atypical Astrocyte Response and Spontaneous Recurrent Seizures.” Shandra O., Winemiller A.R., Heithoff B.P., George K., Munoz-Ballester M.C., Benko M., Zuidhoek I., Mey A., Besser M.N., Curley D.E., Edwards G.E., Harrington A.N., Horwath K.E., Kitchen J.P., Robel S. Mar 6;39(10):1944-1963. PMID: 30665946.	2019
<i>Methods in Molecular Biology</i>	“Imaging and manipulating astrocyte function in vivo in the context of CNS injury.” Shandra O. and Robel S. 1938:233-246. doi: 10.1007/978-1-4939-9068-9_16. PMID: 30617984.	2019
<i>The Neuroscientist Review</i>	“Astroglial scarring and seizures – A cell biological perspective on epilepsy.”	2017

Robel S.
Apr;23(2):152-168. PMID:27118807

Nature Neuroscience Review	“Glia as drivers of abnormal neuronal activity.” Robel S. , Sontheimer H. Jan;19(1):28-33. PMID: 26713746.	2016
Brain	“Vascular amyloidosis impairs the gliovascular unit in the hAPPJ20 mouse model of Alzheimer disease.” Kimbrough I.F.*, Robel S.* , (*shared first authorship), Roberson E., Sontheimer H. Dec;138(Pt 12):3716-33. PMID: 26598495.	2015
Science Translational Medicine	“SLC7A11 expression identifies susceptibility to tumor-associated epilepsy and predicts poor survival in patients with malignant glioma.” Robert, S.M., Buckingham S.C., Campbell S.L., Robel S. , Holt K.T., Ogunrinu-Babarinde T., Warren P.P., White, D.M., Reid M.A., Eschbacher J.M., Berens M.E., Lahti A.C., Nabors L.B., Sontheimer H. May 27;7(289):289ra86. PMID: 26019222.	2015
The Journal of Neuroscience	“Reactive astrogliosis causes the development of spontaneous seizures.” Robel S.# , Buckingham S.C., Boni J.L., Campbell S.L., Danbolt N.C., Riedemann T., Sutor, B., Sontheimer H. Feb 25;35(8):3330-45. PMID: 25716834. #Robel, S. corresponding author	2015
Glia	“GABAergic disinhibition and impaired KCC2 cotransporter activity underlie tumor-associated epilepsy.” Jan;63(1):23-36. PMID: 25066727. Campbell S.L., Robel S. , Cuddapah V.A., Robert S.M., Buckingham S.C., Kahle K.T., Sontheimer H.	2015
Nature Communications	“Disruption of astrocyte-vascular coupling and the blood-brain barrier by invading glioma cells.” Jun 19;5:4196. PMID: 24943270. Watkins S.*, Robel S.* (*shared first authorship), Kimbrough I.F., Robert, S.M., and Sontheimer H.	2014
Nature Reviews Neuroscience Review	“A neurocentric perspective on glioma invasion.” Cuddapah V.A., Robel S. , Watkins S., Sontheimer H. Jul;15(7):455-65. PMID: 24946761.	2014
Neurochemistry International Review	“Glutamate and tumor-associated epilepsy: glial cell dysfunction in the peritumoral environment.” Dec;63(7):696-701. PMID:23385090. Buckingham S.C., Robel S. #Robel, S. corresponding author	2013
The Journal of Neuroscience	“Genetic deletion of Cdc42 Reveals a Crucial Role for Astrocyte Recruitment to the Injury Site in vitro and in vivo.” Robel S. , Bardehle S., Lepier A., Brakebusch C., Gotz M. Aug 31;31(35):12471-82. PMID: 21880909.	2011
Nature Reviews Neuroscience Review	“The stem cell potential of glia: lessons from reactive gliosis.” Robel S. , Berninger B., Gotz M. Feb; 12(2): 88-104. PMID: 21248788.	2011
Nature Medicine	“Glutamate Release by Primary Brain Tumors Induces Epileptic Activity.”	2010

Buckingham S.C., Campbell S.L., Haas B.R., Montana V., **Robel S.**, Ogunrinu T., Sontheimer H.
Sep 11;17(10):1269-74. PMID: 21909104.

Neuropsychopharmacology

“Serotonin Depletion Hampers Survival and Proliferation in Neurospheres Derived from Adult Neural Stem Cells.” 2010
Benninghoff J., Gritti A., Rizzi M., LaMorte G., Schloesser J., Schmitt A., **Robel S.**, Genius J., Moessner R., Riederer P., Manji H.K., Grunze H., Rujescu D., Moeller H.J., Lesch K.P., Vescovi A.L.
Mar; 35(4): 893-903. PMID: 20010549.

Glia

“Conditional Deletion of β 1-Integrin in Astroglia Causes Partial Reactive Gliosis.” 2009
Robel S., Tetsuji M., Zoubaa S., Schlegel J., Sirko S., Faissner A., Goebbels S., Dimou L., and Gotz M.
Nov 15;57(15):1630-47. PMID:19373938.

Under Review

In Preparation

“Diffuse traumatic brain injury causes dysfunctional Connexin 43 gap junctions and increased hemichannel formation” In Preparation
Muñoz Ballester C., Gourdie R., Smyth J., Lamouille S., **Robel S.**

“Loss of astrocytes induces spontaneous seizures in a genetic ablation model” In Preparation
Shandra O., Benko M., **Robel S.**

“Blast traumatic brain injury causes spontaneous recurrent seizures and changes to the astrocyte transcriptome” In Preparation
Shandra O., Benko M., Zuidhoek I., Olsen, M., VandeVord P., **Robel S.**

FUNDING

Active

R01NS105807 (PI: Robel) 01/15/2018 – 12/31/2022

NIH-NINDS \$218,855 Annual Direct

Evaluating astrocyte loss after traumatic brain injury in initiation of post-traumatic epilepsy

This project examines astrocyte loss as a root cause initiating epileptogenesis after traumatic brain injury (TBI), and it aims to provide a basis for developing interventions that prevent the progression of TBI toward post-traumatic epilepsy (PTE).

R01NS105807 (PI: Robel) 04/01/2019 – 12/31/2022

NIH-NINDS \$42,627 Annual Direct

Administrative Diversity Supplement for trainee Kijana George: Evaluating astrocyte loss after traumatic brain injury in initiation of post-traumatic epilepsy

The overarching goals of the supplement are to test the hypothesis that blood-borne substances induce astrocyte dysfunction after diffuse TBI based on preliminary data showing an overlap of areas with blood-brain barrier dysfunction and atypical dysfunctional astrocytes.

W81XWH-15-2-0069 (MPI: Olsen, Robel, Sontheimer, Theus, VandeVord) 01/01/2018 – 12/31/2021

Citizens United for Research in Epilepsy \$206,150 Annual Direct

Vascular Injury, Gliosis & Neurogenesis as Drivers for Post-Traumatic Epilepsy

Generation of post-traumatic epilepsy (PTE) models, their validation and use to identify underlying biological changes, particularly focused on glia and vascular dysfunction, are the overarching goals of this proposal.

Role: PI

W81XWH-18-1-0521 (PI: VandeVord) 09/01/2018 – 08/31/2021

DOD CDMRP Epilepsy Research Program \$45,607 Annual Direct

Astrogliosis as the Driver for Post-Traumatic Epilepsy

The objective of this project is to compare differences between blast TBI animals with seizures to seizure-free blast TBI animals to provide a unbiased analysis of the molecular pathway(s) contributing to blast-related PTE.

Role: Co-Investigator

R25NS105141 (PI: Fox) 01/01/2018 – 12/31/2022

NIH-NINDS \$100,000 Annual Direct

Virginia Tech Carilion Research Institute Translational Neurobiology Summer Undergraduate Research Fellowship (neuroSURF)

The main goal of this program is to expose students to independent research and translational neurobiology early in their careers to increase the likelihood of them pursuing long-term careers in neurobiology-related fields.

Role: Program Faculty

R21EY030568 (PI: Fox) 07/01/2019 – 06/30/2021

NIH-NEI \$160,074 Annual Direct

Retinal inputs signal through astrocytes to recruit interneurons into visual thalamus

This proposal will examine whether retinal axons release SHH to induce astrocyte expression of FGF15, and whether astrocyte-derived FGF15 is necessary for interneuron recruitment into visual thalamus.

Role: Co-Investigator

Pending

R01 (PI: Robel) 04/01/2021 – 03/31/2026

NIH-NINDS \$300,000 Annual Direct

Dynamic temporal regulation of astrocyte coupling to shape neuronal activity during acquired epilepsy development

Impaired astrocyte coupling is associated with epilepsy, but there is no consensus on whether reduced coupling promotes or counteracts abnormal neuronal activity, which precedes seizures. Targeting astrocytic Cx43 might be an option, but the first step towards therapy is determining when reduced coupling is adaptive and when it is maladaptive. This proposal uses new tools and technology to determine if the timing and duration of reduced astrocyte coupling may determine if seizures are promoted or counteracted and will identify critical upstream signaling causing reduced astrocyte coupling as a foundation for future therapeutic targeting.

Completed

R21NS107941 (MPI: Lamouille, Robel) 07/01/2018 – 06/30/2020

NIH-NINDS \$62,600 Annual Direct

Targeting Connexin43 in Post-Traumatic Epilepsy

This project's overall objective is to determine in which way abnormal Cx43 following TBI affects astrocyte function and develop new therapeutic strategies to prevent PTE using Cx43 mimetic peptides.

Role: MPI

N/A (PI: Robel)	08/01/2016 – 12/31/2020
VT Carilion School of Medicine (VTCOM)	\$1,000 Annual Direct
Medical Student Mentorship Support	
This research project seeks to determine if the loss of astrocytic Kir4.1 and Glt-1 expression after mild TBI is caused by the blood plasma factor fibrinogen entering the CNS in areas exhibiting damage to the BBB.	
N/A (PI: Robel)	03/19/2018 – 03/18/2019
4-VA Collaborative Research Pilot Program	\$30,000 Annual Direct
Exploring the contributions of astrocytes to the development of Autism Spectrum Disorder	
This study aimed to determine if astrogliosis causes or contributes to the neurodevelopmental abnormalities' characteristic for Autism Spectrum Disorders.	
N/A (PI: Robel)	08/01/2017 – 06/30/2019
Inst. for Critical Tech. & Applied Sci., Virginia Tech	\$40,000 Annual Direct
Junior Faculty Award: Dissecting reactive astrocyte heterogeneity after brain injury	
This project aimed to molecularly characterize and identify unique markers for distinct reactive astrocyte subtypes. (Shandra et al., <i>J Neurosci</i> 2019)	
American Brain Tumor Association (ABTA), Postdoctoral Fellowship (PI: Robel)	07/01/2013 – 07/30/2015
Glutamate release promotes tumor growth and tumor-associated epilepsy	
How dysregulation of peritumoral glutamate causes peritumoral seizures mechanistically was studied here (Campbell et al., <i>under review</i>).	
Alzheimer's of Central Alabama (PI: Robel)	11/15/2013 – 11/14/2014
Astrocyte-vascular coupling in a mouse model of Alzheimer's Disease	
This study investigated whether impaired astrocyte-vascular coupling might be a mechanism causing reduced cerebral blood flow in a mouse model of AD (Kimbrough, Robel et al., <i>Brain</i> 2015).	
Epilepsy Foundation, Postdoctoral Fellowship (PI: Robel)	01/01/2013 – 12/31/2013
The role of astrogliosis in tumor-associated epilepsy	
The impact of astrogliosis on neuronal was studied in peritumoral epilepsy and a mouse model of chronic astrogliosis (Robel et al., <i>J Neurosci</i> 2015; Campbell et al., <i>under review</i>).	
German Research Foundation (DFG), Postdoctoral Fellowship (PI: Robel)	08/01/2011 – 12/31/2012
Different types of reactive astrocytes and their physiology - How do they influence brain pathology?	
Goal of this proposal was to compare different types of reactive astrocytes in a model of "acute" severe injury (glioma) and in chronic gliosis (b1-integrin KO) and their impact on co-morbidities such as epileptic seizures. (Robel et al., <i>J Neurosci</i> 2015; Campbell et al., <i>under review</i>)	

TEACHING

Course Director	Glial Cell Biology <i>Graduate Program, School of Neuroscience</i> <i>Translational Biology, Medicine and Health Graduate Program</i>	Spring 2020
Course Director	Professional Development & Ethics <i>Translational Biology, Medicine and Health Graduate Program</i>	Fall 2019 –
Performance Coach	Translational Biology, Medicine and Health Graduate Students	Fall 2018 – 2019

Translational Biology, Medicine and Health Graduate Program

Lecturer	Professional Development & Ethics <i>Translational Biology, Medicine and Health Graduate Program</i>	Fall 2018
Head Coach	Grant Foundry – Intensive Grant Writing Course <i>Marketing Your Science (MYS), LLC</i>	July 2018 – Feb 2021
Head Coach	Research Success Alliance – Grant Writing, Team Building, & Academic Leadership Program <i>Marketing Your Science (MYS), LLC</i>	2017 – 2018
Lecturer	Methods in Logic <i>Translational Biology, Medicine and Health Graduate Program</i> <i>Virginia Tech Carilion School of Medicine Program</i>	Spring 2018
Lecturer	Molecular & Cellular Neuroscience <i>Translational Biology, Medicine and Health Graduate Program</i>	2016 – 2018
Instructor	Neuroscience Laboratory, Undergraduate Course NEUR2035 <i>School of Neuroscience, Virginia Tech</i>	Fall 2015
Instructor	Diseases of the Nervous System, Undergraduate Course NBL433 <i>University of Alabama at Birmingham</i>	2013 – 2015
Co-Instructor	Muscle and Reflexes, Medical Student Course <i>Ludwig-Maximilian University</i>	2007 – 2008

SEMINARS & CONFERENCES

Invited Talks

University of South Wales, Sydney, Australia Title: “The role of astrocytes in post-traumatic epilepsy”	March 2020
University of the Sunshine Coast, Queensland, Australia Title: “The role of astrocytes in post-traumatic epilepsy”	Feb 2020
Two-day Grant Writing Workshop, University of Houston , Invited Workshop Leader, Houston, TX	Jan 2020
Biomedical Frontiers Seminar Series, Liberty University College for Osteopathic Medicine , Lynchburg, VA Title: “Astrocyte Dysfunction in Post-Traumatic Epilepsy”	Sept 2019
NIH Grant Writing Boot Camp, Columbia University , Invited Speaker and Workshop Leader, New York City, NY	July 2019
Citizen United for Research in Epilepsy Seminar, Hosted by Epesicor , Kalispell, MT Title: “Astrocyte Dysfunction in TBI-Induced Epilepsy”	May 2019
Carilion Clinic Institute for Orthopedics and Neurosciences , Roanoke, VA Title: “Finding Treatment Targets for Post-Traumatic Epilepsy”	Mar 2019
Brain Injury Awareness Symposium and Resource Fair , Blacksburg, VA Title: “How Mild TBI/Concussions May Lead to Epilepsy”	Mar 2019
Virginia Neuroscience Initiative, Webinar Title: “Repetitive Diffuse Mild Traumatic Brain Injury Causes an Atypical Astrocyte Response and Spontaneous Recurrent Seizures”	Feb 2019
Virginia Tech Life Sciences Seminar , Blacksburg, VA Title: “Astrocyte Dysfunction Contributes to Post-traumatic Epilepsy”	Jan 2019

6th International Conference on Glial Biology in Medicine , Roanoke, VA Title: "Astrocyte Dysfunction Contributes to Post-traumatic Epilepsy"	Oct 2018
Virginia Nordic Precision Neuroscience Conference , Oslo, Norway Title: "Targeting Astrocytes in Post-traumatic Epilepsy"	Sept 2018
Helmholtz Center Martinsried and Ludwig-Maximilian University , Munich, Germany Title: "Astrocytes: Culprits in Post-Traumatic Epilepsy?"	Aug 2018
University of Virginia, Department of Neuroscience , Charlottesville, VA Title: "Astrocytes - Culprits in Post-Traumatic Epilepsy?"	June 2018
Virginia Tech Carilion Research Institute Advisory Board Meeting , Arlington, VA Title: "Finding Treatment Targets for Traumatic Brain Injury and Epilepsy"	April 2018
13th European Meeting on Glial Cells in Health and Disease , Edinburgh, England Title: "The Heterogeneity of Physiological Changes in Reactive Astrocytes after Mild Traumatic Brain Injury and in Glioma"	July 2017
American Society for Neurochemistry , Little Rock, AR Title: "Damaged Astrocytes Affect Neurovascular Unit Function After Repeated Mild TBI/Concussion"	Mar 2017
Conference on Glial Biology in Medicine , Roanoke, VA Title: "Uncharacteristic Response of Astrocytes after Diffuse Mild Traumatic Brain Injury"	Oct 2016
Helmholtz Center , Neuherberg, Germany Title: "Reactive Astrocytes - Friends and Foes in CNS Diseases"	July 2016
Gordon Research Seminar "Glial Biology – Functional Interactions among Glia & Neurons," Ventura, CA Title: "The Role of Reactive Astrocytes in Acquired Epilepsies"	Mar 2015
The Center for Neurodegeneration and Experimental Therapeutics Retreat , Birmingham, AL Title: "Vascular Amyloidosis Impairs the Gliovascular Unit in the hAPPJ20 Mouse Model of Alzheimer Disease"	2015
Bevill Conference on Glial Biology in Medicine , Birmingham, AL Title: "Astrocyte-Vascular Coupling in Neurodegenerative Diseases"	2014
Cold Spring Harbor Conference Glial Cells in Health and Disease , Cold Spring Harbor, NY Title: "Astrocyte-Vascular Coupling is Impaired in Neurodegenerative Diseases"	2014
Brain Tumor Meeting , Berlin, Germany Title: "The Role of Reactive Astrocytes in Epilepsy"	2013
Gordon Research Conference "Glial Biology – Functional Interactions among Glia & Neurons," Ventura, CA Title: "The Role of Reactive Astrocytes in Epilepsy"	2013
Bevill Conference on Glial Biology in Medicine , Birmingham, AL Title: "The Role of Reactive Astrocytes in Epilepsy"	2012
Cold Spring Harbor Meeting Glial Cells in Health and Disease , Cold Spring Harbor, NY Title: "The Role of Reactive Astrocytes in Tumor-Associated Epilepsy"	2012
Mini Symposium "Glioma" at the Helmholtz Center for Environmental Research , Neuherberg, Germany Title: "The Role of Reactive Astrocytes in Tumor-Associated Epilepsy"	2012
Ruhr-University , Bochum, Germany Title: "Reactive Astrocytes - The Culprits in Brain Disease?"	2011
Biomedical Center Munich , Munich, Germany Title: "The Influence of Polarity Cues on Astrogliosis and Stem Cell Properties"	2009
Max-Planck-Institute for Experimental Medicine , Goettingen, Germany Title: "Molecular Mechanisms Involved in Astrogliosis"	2008

Cold Spring Harbor Conference Glial Cells in Health and Disease , Cold Spring Harbor, NY	2018
Cold Spring Harbor Conference Glial Cells in Health and Disease , Cold Spring Harbor, NY	2016
American Society for Neurochemistry , Denver, CO	2016
American Brain Tumor Association Patient and Family Conference , Chicago, IL	2015
Gordon Research Conference “Barriers of the CNS” , New London, NH	2014
10th European Meeting on Glial Cells in Health and Disease , Prague, Czech Republic	2011
Meeting of the Society for Neuroscience , San Diego, CA	2010
9th European Meeting on Glial Cells in Health and Disease , Paris, France	2009
Gordon Research Conference Glial Biology: Functional Interactions among Glia & Neurons , Ventura, CA	2009
Gordon Research Conference Basement Membranes , New England, MA	2008
8th European Glial Cell Meeting: Glial Cells in Health and Disease , London, England	2007
17th Neuro DoWo (Workshop for PhD students in Neuroscience) , Konstanz, Germany	2007
24th Symposium of the AGNP (Consortium for Neuropsychopharmacology and Pharmacopsychiatry) , Munich, Germany	2005
13th Conference of the Association of European Psychiatrists: “European Psychiatry: The interface between biological and social factors” Munich, Germany	2005

Attendance

Gordon Research Conference Glial Biology: Functional Interactions among Glia & Neurons , Ventura, CA	2019
American Epilepsy Society Meeting , Washington D.C.	2017
Neurotrauma 2013 , Nashville, TN	2013
EdU Glia Kick off Meeting , Leipzig, Germany	2009

PROFESSIONAL DEVELOPMENT

Mastery University , Tony Robbins	2020 – 2021
Heroic Public Speaking, Core, Undergrad and 2x Grad , Amy and Michael Port	2019 – 2021
Virginia Tech Leadership Program	2019
Knowledge Business Blueprint (KBB) , Tony Robbins and Dean Graziosi	2019
High Performance Academy , Brendon Burchard	2019
High Performance Coaching, Level I and II , Lacy Schoen, Real Women Real Success, LLC.	2018 – 2019
Robbins-Mandanes 100h Life Coach Certification Program , Certified Jan 2019	2017 – 2019
Fearless Creators Mastermind – Scientific Leadership Program , Marketing Your Science, LLC.	2014 – 2018
Assistant Professor School , Dr. David Sweatt, UAB	2014
Science Foundry – Scientific Leadership Program , Marketing Your Science, LLC.	2014
Fowler’s Academy of Professional Coaching , Life Coach Training	2014
Grant Dynamo , Marketing Your Science, LLC.	2013
Lab Management Course , UAB	2012
Scientific Writing Course GRD728 , UAB	2012
Training on the Care and Use of Laboratory Animals , Federation of European Laboratory Animal Science Association (FELASA), Category C , Certified by the Society of Laboratory Animal Science	2007
Training for Project Leaders and Representatives of Biological Safety (German Genetic Engineering Act)	2005