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Interim Dean & Professor of Cellular and Molecular Biology  
Associate Dean for Research & Graduate Studies  
College of Science and Mathematics  
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**Educational Background**

Tuskegee University, Alabama, D.V.M. (Clinical Residency)..... 2000  
Auburn University, Auburn, Alabama, Ph.D. (Biomedical Sciences)..... 1993  
Auburn University, Auburn, Alabama, M.S. (Pharmacal Sciences)..... 1989  
Madras Veterinary College, Chennai, B.V.Sc. .... 1985

**ADMINISTRATIVE RECORD**

**Key University Administrative Roles**

**KENNESAW STATE UNIVERSITY:**

Associate Dean for Research & Graduate Studies .....October 01, 2022-present

Responsibilities include serving as a member of the college's leadership team. Collaborate with Faculty Research Development Committee, department chairs, and dean to implement research enhancement strategies and oversee all graduate programs. Develop plans and programs to train and mentor faculty in research. Manage research resources, including space allocation for faculty, staff, and graduate student researchers and funds for graduate research and teaching assistantships. In collaboration with graduate program directors and help seek extramural funding to support graduate student education and help develop, oversee, and enforce college-wide policies regarding graduate students. Serving as a liaison to the Office of Research and will organize/manage inter-departmental Research Interest Groups (RIGs). Oversee compliance with various regulations by research investigators and monitor safety procedures in college research in collaboration with various units and committees, including EHS, IACUC, IBC, and IRB.

Currently, along with the associate dean for academic affairs, spearheading the development of an innovative doctoral program in "Medical Sciences" in close collaboration with esteemed industry and community partners. Through strategic efforts, I have forged strong partnerships with seven prominent companies and industries in Georgia. These encompass significant players in the pharmaceutical sector and organizations specializing in product development, manufacturing, and clinical trials.

Leading an initiative to establish a distinguished Center for Neuroscience through a collaborative effort involving multiple colleges at KSU and esteemed research-intensive institutions in proximity. This endeavor aims to foster interdisciplinary research and scholarly endeavors in the field of neuroscience, with a particular emphasis on advancing knowledge and understanding in key areas of study. By leveraging the collective expertise and resources of these partnering institutions, we aspire to create a center that serves as a hub for cutting-edge research, innovation, and academic excellence in neuroscience.

Implemented several strategic initiatives to cultivate and enhance faculty research excellence. Notable examples of these initiatives include the Funds to Sustain Research Excellence, Reentry into Research and CSM Research Partnership programs. These initiatives have been specifically designed to provide faculty members with essential support to maintain a consistent flow of extramural research funding. By offering financial resources and facilitating research collaborations, these programs empower our faculty to pursue high-impact research projects and sustain their research endeavors over time. Through these initiatives, we aim to foster a culture of research excellence and enable our faculty to make significant contributions to their respective fields.

Establishing state-of-the-art electrophysiology and rodent behavioral research facilities within the CSM to foster robust research collaborations with other colleges at KSU. These cutting-edge facilities have been strategically implemented to facilitate interdisciplinary research endeavors and promote cross-college collaboration. By providing researchers with access to advanced equipment and specialized resources, we aim to broaden the scope of research opportunities and encourage collaborative efforts across diverse fields of study. These core research facilities serve as vital hubs for scientific exploration, enabling researchers to conduct sophisticated experiments and propel innovation at KSU.

Developed a comprehensive policy for allocating laboratory space within the CSM, which is based on federal funding guidelines. This policy has been designed to ensure equitable and efficient utilization of laboratory facilities, considering the specific requirements and funding

priorities associated with federal grants. We strive to optimize resource allocation and promote research productivity by aligning laboratory space allocation with federal funding considerations. This policy is a transparent framework that enables effective planning and utilization of laboratory spaces, fostering an environment conducive to impactful scientific discoveries and innovation within the CSM.

**AUBURN UNIVERSITY:**

Founding Director of Center for Neuroscience Initiative ..... 2018-2022  
Director of Research Support .....2020-2022

Responsibilities include fostering opportunities for all faculty members in the school to participate in funded research activities and help ensure that every faculty member in the school has the skills, knowledge, tools, and support needed to become a funded researcher. Instrumental in creating a culture of research excellence by identifying interdisciplinary research opportunities to support both basic and applied research. Played a major role in mentoring faculty researchers and developing mentoring skills in others by conducting and coordinating relevant training. Assisting the Associate Dean for Research in building strong public and private research collaborations and disseminating information about the research mission to internal and external stakeholders.

Responsible for organizing the first Neuroscience Research symposium and Retreat at Auburn University. World renowned neuroscientists from US, Canada, and program officials from NIH delivered lectures. More than 250 participants from 16 different institutions from US, Canada, and Europe attend the symposium.

Initiated the Faculty Research Enhancement Exercise (FREE) at the Harrison School of Pharmacy. **Conducted interactive seminars on:**

- Crafting successful NIH small grant applications
- Preparing winning NIH- AREA and REAP grant applications
- Navigating the NIH reporter and NIH match maker
- Crafting successful specific aims section for NIH grant proposal
- Preparing a proper NIH-biographical Sketch

Initiated research collaborations with Alabama State University (HBCU) to provide research training in neuroscience for underrepresented minority undergraduate students. This collaboration included 16 faculty members from five different colleges/schools from Auburn University and Alabama State University and resulted in a high-impact score for an NIH-R25 grant proposal for \$1.9M. Funding expected in March 2022.

Coordinated the pre-review of NIH Grant proposals (R01, K99/R00 & K08) by former and current NIH study section members - 60% of these grant proposals were funded.

Conducted one-to-one meetings with various colleges and helped develop NIH- grant proposals.

Promoted research collaboration between faculty from pharmacy practice and drug discovery and development departments.

In collaboration with the Center for Clinical and Translational Research (CCTR) at UAB, conducted a Mock NIH Study Section.

Conducted work in Progress (WIP) meetings and provided critiques on potential NIH-R01, K99 and K01 grant proposals.

Participated as a course coordinator for grant writing course and introduced new ideas in crafting competitive NIH-fellowship grant (F31) proposals.

Helped establish collaborations with Tuskegee University to initiate the 4+2 BS - PharmD dual degree program at the Harrison School of Pharmacy.

Launched an interdepartmental research collaboration with Chemical Engineering and the Department of Drug Discovery and Development - two junior investigators will submit an NIH-MIRA award in summer 2022.

*Acting Associate Dean for Research and Graduate Programs* ..... 2018-2019

*Assistant Dean for Research and Graduate Programs, School of Pharmacy* ..... 2016-2018

Responsible for leading the school's research program, infrastructure, and graduate student training programs. Promote the engagement of School of Pharmacy faculty in all research endeavors within the school, across campus and external to this university. Responsible for administering all aspects of the graduate degree (M.S. and Ph.D.) programs. Helped frame and accomplish the aggressive vision of School of Pharmacy to grow scholarly programs and extramural research funding. Participated as a member of the senior administrative team, facilitating and inspiring research across the School of Pharmacy, graduate student and faculty development in grant writing, building and managing core research infrastructure, representing the school to internal and external constituencies interested in research, and positioning the school to capitalize on innovative funding opportunities. Serves as a member of the Associate Deans for Research Council and Auburn University Research Administrative Coordination Team. Serves as the Chair for the School's Graduate Program Committee and Pharm.D. - Ph.D. Dual Degree Committee.

### **Selected Accomplishments (Auburn University)**

- During my tenure as department head and assistant dean, the federal research funding the School of Pharmacy increased from \$780,000 to \$3,200,000.
- Assisted the Dean with an \$18 million Pharmaceutical Research Building Project. Interviewed and selected architects involved in the planning of specialized laboratory spaces, research infrastructure facilities, classrooms, conference rooms and vivarium.
- Increased the number of international graduate students supported by fellowships from their home governments by about 100%.
- Organized a visit of NIH senior research administrators to Auburn University in 2018 to conduct workshops on developing successful grant applications.
- Initiated the development of a Center for Neuroscience (CNS) at Auburn University bringing together more than 30 neuroscience researchers from Auburn, the University

of Birmingham at Alabama, Emory University and University of Magdeburg, Germany.

- The “Center for Neuroscience Initiative” has resulted in over \$5 million in federal grant funding and over 30 collaborative publications in the first 36 months of its inception.
- Organized a successful Center for Neuroscience Initiative Symposium and Retreat (2020) by bringing in many world-renowned neuroscientists to Auburn University. There were 241 participants and 69 poster presentations.
- Established relationships with NIH program directors that have resulted in increased grant funding for Harrison School of Pharmacy. Recently funded National Institutes on Drug Abuse (NIDA) grant was awarded for 5 years without any cuts in the requested budget.
- Established collaborations with 8 universities in the Peoples Republic of China and implemented the 3+2 B.S., M.S. dual degree program at the Harrison School of Pharmacy.
- Developed collaborations with research investigators from various colleges and schools at Auburn University to initiate submission of NIH Fellowship grants.
- Established an Oversees-Talent Workstation between Jiangsu Province Pharmacological Society in China with over 900 researchers and the Harrison School of Pharmacy in 2017.
- Coordinated a workshop seminar on “Food, Nutrition and Human Health” in 2017 at China Agricultural University, Beijing to initiate research collaborations.
- Helped organize a Nanobiotechnology Conference in 2016 at Auburn University to enhance research collaborations with universities in the Southeastern states including Historically Black Colleges & Universities.

Head (interim) of the Department of Drug Discovery and Development.....2012-2016

Responsible for providing the leadership and vision for the department. As the chief administrator of the department, serving as a fiscal overseer - finding creative ways to extend the departmental budget including successful efforts at generating external fundraising. Supervising faculty, staff and visiting scholars of the department. Serving as an intermediary between the dean and the faculty members, I was responsible for advocacy and education of administrators at various levels about departmental quality and accomplishments. Serve as an external liaison bridging, building and maintaining relationships with alumni and external stakeholders. Helping to lead the faculty in curriculum development and program design. Responsible for recruitment and retention of faculty and staff members. Served as a counselor, coach and mediator for faculty and staff members. Serve as a member in the dean’s executive council and the school’s strategic planning committee. As department head, I was responsible for management of 17 faculty members, 6 staff members, and 40-50 graduate students.

**Selected Accomplishments**

- As department head, assisted the incorporation of basic science components into the “Practice Ready Curriculum” of the Harrison School of Pharmacy.”

- Constituted and implemented a Junior Faculty Mentoring Plan.
- Constituted a departmental Document Review Committee for review of grants, manuscripts, and other documents.
- Organized visits of several NIH study section members with expertise in neuroscience, cancer, diabetes, and cardiovascular diseases. These experts were then paired with our faculty members to serve as research collaborators or consultants.
- Established research and training collaborations with minority institutions including Alabama State University that resulted in joint training grant submissions to NIH and NSF in 2014. In addition, faculty and graduate student training grants were initiated in collaboration with Tuskegee University.
- As per the strategic plan of the university, affiliate and adjunct faculty appointments were increased in the department to enhance collaborative teaching and research opportunities.
- Served as the Chair of the Faculty Search Committee, identified and recruited female/minority applicants with federal funding.
- Served as Chair of the Promotion and Tenure Committee for 7 faculty members in the Department of Drug Discovery & Development.
- Established industry collaborations with pharmaceutical companies, including KalGene Pharmaceuticals, Ontario, Canada.
- Led the Neurodegenerative Cluster Hire Initiative with the vision of establishing a Center for Neuroscience at Auburn University.
- Strengthened the research collaborations with the Rett Syndrome Foundation and the University of Alabama at Birmingham.
- Initiated an External Research Advisory Board to assist departmental faculty in grant development and submission.
- Organized a retreat for the Department of Drug Discovery & Development for strategic planning including identification of specific goals and objectives for the department that align with strategic initiatives of the School of Pharmacy and Auburn University.

**Administration (Non-academic Organizations)**

In addition to my academic responsibilities, I have held a variety of positions in private corporations. These experiences have provided me additional managerial and leadership skills that have strengthened my ability to develop and implement strategic plans, specific goals and objectives as well as financial planning.

***Secretary, Vishnu Dental, P.C.*** ..... 2008-2022  
 Responsible for financial management of this Professional Corporation.

***Member of the Board of Directors, Academy for Advancement of Science*** ..... 2005-2010  
 This is a non-profit organization based in British Columbia, Canada. Responsible for establishing scientific collaborations, organizing

annual meetings at the world-renowned “Sick Children’s Hospital” in Toronto, Canada.

### **PROFESSIONAL EXPERIENCE**

Associate Dean for Research and Graduate Studies  
College of Science and Mathematics, Kennesaw State University .....2022-present

Professor Emeritus  
Harrison School of Pharmacy, Auburn University .....2022-present

Gilliliand Endowed Professor  
Harrison School of Pharmacy, Auburn University .....2020-2022

Director of Research Development and Support  
Harrison School of Pharmacy, Auburn University .....2020-2022

Acting Associate Dean for Research & Graduate Programs  
Harrison School of Pharmacy, Auburn University .....2018-2019

Founding Director, Center for Neuroscience Initiative  
Auburn University .....2018-2022

Assistant Dean for Research & Graduate Programs  
Harrison School of Pharmacy, Auburn University .....2016-2018

Visiting Professor, Ocean University China, PRC.....2017-Present

Head (interim), Department of Drug Discovery & Development  
Harrison School of Pharmacy, Auburn University .....2012-2016

Professor, Department of Drug Discovery & Development  
Harrison School of Pharmacy, Auburn University .....2015-2022

Associate Professor, Department of Drug Discovery & Development  
Harrison School of Pharmacy, Auburn University .....2004-2015

Chair, Division of Pharmacology & Toxicology, Harrison School of  
Pharmacy, Auburn University .....2006-2008

Assistant Professor, Department of Pharmacal Sciences Harrison  
School of Pharmacy, Auburn University .....2001-2004

Associate Professor, Department of Biology, Tuskegee University,  
Tuskegee, Alabama .....1998-2000

Director, Neuroscience Laboratories, Tuskegee University .....1995-2000

Assistant Professor, Department of Biology, Tuskegee University.....1993-1998

Research Fellow, Department of Physiology, Kilpauk Medical College, Chennai, India..... 1986-1987

House Surgeon, Madras Veterinary College, Chennai, India ..... 1985-1986

**A. Honors & Awards**

**Fellowships**

Gilliland Endowed Professor – Harrison School of Pharmacy .....2021

Jack Clift Fellow in Research – Harrison School of Pharmacy ..... 2020

American Association of Schools of Pharmacy (AACP) – Academic Research Fellows Program (ARFP) ..... 2015-2016

American Association of Schools of Pharmacy (AACP) – Academic Leadership Fellows Program (ALFP) ..... 2006-2007

National Institutes for Neurological Disorders and Stroke - Research Career development Award ..... 1997-2001

National Science Foundation Fellowship, “Teaching Neuroscience for Undergraduates” Cornell University, Ithaca, New York..... 1997

Summer Research Fellowship, Marine Biological Laboratory Woods Hole, Massachusetts..... 1998

Summer Research Fellowship, Marine Biological Laboratory Woods Hole, Massachusetts..... 1995

Kellogg Fellow, Tuskegee University..... 1993-199

**Honors**

Section Chair, Technological Advances in Science, Medicine & Engineering Conference, Toronto, Ontario, Canada..... 2021

American Association of Colleges of Pharmacy (AACP) – Fall Leadership Institute ..... 2019

Invited press conference on “Prenatal Cannabinoid Exposure and Cognitive Impairment in Offspring” Society for Neuroscience ..... 2018

Faculty Mentor of the Year Award, Auburn University Student Government Association ..... 2017



Outstanding Teacher of the Year Award, Harrison School of Pharmacy .....	2017
Excellence in Neuroscience – Awarded by Technological Advances in Science, Medicine & Engineering, Sick Children’s Hospital, Toronto, Canada .....	2016
NIH-SBIR Study section membership .....	2016-Present
Grant Reviewer, Medical Research Council (MRC), UK.....	2015-Present
Grant Reviewer, Alzheimer’s Association, UK.....	2014-Present
Grant Reviewer, Organization for Scientific Research, Netherlands.....	2013-Present
NIH Study section membership ZRG1-F03A .....	2012-Present
Invited grant Reviewer, Department of Defense, Traumatic Brain Injury section .....	2011
Section Chair, Technological Advances in Science, Medicine & Engineering Conference, Toronto, Ontario, Canada.....	2010
Invited grant reviewer, NIH Challenge Grant.....	2009
Section Chair, Technological Advances in Science, Medicine & Engineering, Conference, Toronto, Ontario, Canada.....	2009
Article entitled “Amyloid beta peptides and glutamatergic synaptic dysregulation” was as Editor’s Pick as newsworthy article in Experimental Neurology.....	2008
Section Chair, Technological Advances in Science, Medicine & Engineering Conference, Toronto, Ontario, Canada.....	2008
Invited grant reviewer – NIEHS/NIH .....	2007
Biogrant Award, Office of the Vice President for Research, Auburn University .....	200
Section Chair, Technological Advances in Science, Medicine & Engineering Conference, Guelph, Ontario, Canada.....	2007
Innovative Research Award in Neuroscience Technological Advances in Science, Medicine & Engineering Conference Guelph, Ontario, Canada.....	2006
Article entitled “Neural cell adhesion molecule-associated polysialic acid inhibits NR2B-containing N-methyl-D- aspartate receptors and prevents glutamate-induced cell death in Journal of Biological Chemistry was an Editors pick as newsworthy	

article, commentary in Nature Glycomics.....	2006
Invited press conference on “A potential new therapy for cognitive deficits in Prenatal alcohol exposure” Society for Neuroscience, Atlanta, Georgia .....	2006
Invited lecturer & workshop organizer for the International Brain Research Organization (IBRO), February 2005, Colombo, Sri Lanka .....	2005
Invited press conference on “Prenatal nicotine exposure and cognitive impairment in offspring” Society for Neuroscience, Washington, DC .....	2005
Invited press conference on “Prenatal alcohol exposure and cognitive deficits in offspring” Society for Neuroscience, Washington, DC .....	2005
Section Chair, “Technological Advances in Science, Medicine & Engineering Conference, Ontario, Canada.....	2004
Invited grant reviewer for NIH/NIGMS.....	2004
Invited resource personnel for the “International Society for Neurochemistry” Sri Lanka.....	2004
Appointed Chair for the “Technological Advances in Science, Medicine and Engineering Conference”, Ontario, Canada.....	2004
“Late Breaking” abstract entitled “Glutamate receptor dysfunction in the brain of streptozotocin-diabetic rodents” was selected by the American Diabetic Association to be presented in a special session (50 most innovative projects were chosen out of 2800 abstracts) .....	2003
Appointed Section Chair of the "Technological Advances in Science, Medicine & Engineering Conference, Ontario, Canada .....	2002
Invited to host a half an hour program on "Asian Television Network" on Early Neuropathogenesis of Alzheimer's Disease, Ontario, Canada.....	2002
Received a "Biogrant Award" from the Office of the Vice President for Research, Auburn University.....	2002
Invited guest at the Annual Meeting of the Indian Institute of Science, Bangalore, India.....	2002
Appointed as an executive member of the organization committee for the "Technological Advances in Science, Medicine & Engineering Conference, Ontario, Canada.....	2001

Outstanding Faculty Performance Award for Research, Tuskegee University .....	2001
Invited to co-chair the Bioscience & Technology Conference Ontario, Canada .....	2000
Invited speaker at the International Society for Neurochemistry Chicago, Illinois .....	1999
National Institutes for Health Research Award for the "Bridges to the Doctoral Degree Program", Tuskegee University .....	1998
Appointed member of the executive committee for the Bioscience & Technology Conference Ontario, Canada .....	1999
National Science Foundation Research Award for the Enhanced Discovery and Learning in Biotechnology Program, Tuskegee University .....	1998
Appointed co-chair of the North American Biomedical Conference, Ontario, Canada.....	1998
Summer Research Fellowship in Neurobiology at the Marine Biological Laboratory, Woods Hole, Massachusetts .....	1998
Career Development Award from the National Institutes for Neurological Disorders and Stroke .....	1997
Appointed as the executive officer of the North American Biomedical Conference, Ontario, Canada.....	1997
National Science Foundation Scholarship for the workshop on "Teaching Neuroscience for Undergraduates," Cornell University .....	1997
Research Award from the National Institutes for General Medical Sciences .....	1995
Summer Research Fellowship for Neurochemistry at the Marine Biological Laboratory, Woods Hole, Massachusetts .....	1995
Outstanding faculty performance award, Tuskegee University .....	1995
Award for Academic Excellence, School of Veterinary Medicine, Auburn University.....	1993
Award for Academic Excellence, School of Veterinary Medicine, Auburn University.....	1992

**Student awards under my supervision as major professor:**

<b>Year</b>	<b>Name</b>	<b>Award</b>
2021	Miles Wiley	NIH-G-Rise T32 Scholar, GEM Scholarship NIH – Minority Supplemental Award
2020	Priyanka Pinky	Pharmaceutical Research & Manufactures of America (PhRMA) Foundation - \$50,000
2020	Priyanka Pinky	Best poster presentation (3 <sup>rd</sup> place) - VCOM Research Day (Among 75 posters)
2020	Warren Smith	American Foundation for Pharmaceutical Sciences (AFPE) Fellowship - \$10,000
2019	Warren Smith	Second place in poster presentation. Graduate Research symposium
2019	Jenna Bloemer	First Year Experience Mentor Award – Auburn University Graduate School
2019	Jenna Bloemer	American Foundation for Pharmacy Education Fellowship (AFPE) - \$ 10K
2019	Priyanka Pinky	Media Coverage - Experimental Biology (Among 2000 abstracts)
2019	Priyanka Pinky	ASPET – Young Scientist Award
2019	Priyanka Pinky	Top 16 abstracts - American Association of Clinical Pharmacology (among 200+ abstracts)
2019	Priyanka Pinky	3 Minute Thesis (MT) Presentation Finalist – Auburn University (among 100+ students)
2019	Priyanka Pinky	PhRMA Foundation pre-doctoral fellowship (2years - \$50K)
2019	Priyanka Pinky	Best poster presentation (2 <sup>nd</sup> place) - VCOM Research Day (Among 75 posters)
2019	Priyanka Pinky	Invited press conference in ‘Society for Neuroscience’ (Among 13000 abstracts)
2019	Priyanka Pinky	Alzheimer’s Disease Drug Discovery Foundation Award (among 200+ participants)
2019	Manoj Govindarajulu	Alzheimer’s Disease Drug Discovery Foundation Award (among 200+ participants)
2018	Jenna Bloemer	Outstanding Graduate Student Award (top 10 selected from Auburn University)
2018	Jenna Bloemer	Auburn University Research Symposium 2 <sup>nd</sup> place oral presentation
2018	Jenna Bloemer	American Federation for Pharmaceutical Education Pre-doctoral Fellowship in Pharmaceutical Sciences

<b>2018</b>	Manoj Govindarajulu	First place- Poster Presentation, Research Student Symposium, Auburn University
<b>2018</b>	Manoj Govindarajulu	Alzheimer's Drug Discovery Foundation Young Investigator Scholarship Award, 12 <sup>th</sup> Annual Drug Discovery for Neurodegeneration Conference, Washington DC
<b>2017</b>	Manoj Govindarajulu	Graduate Travel Award
<b>2017</b>	Jenna Bloemer	American Association of College of Pharmacy Walmart Scholarship
<b>2016</b>	Jenna Bloemer	Award of Excellence in Clinical Communication (chosen from 150 students)
<b>2015</b>	Subhrajit Bhattacharya	CMB-NSF Summer Fellowship Graduate school thesis/dissertation award
<b>2015</b>	Jenna Bloemer	School of Pharmacy Research Symposium People's Choice Award
<b>2014</b>	Subhrajit Bhattacharya	3MT (three minutes competition) selected among top 10
<b>2014</b>	Subhrajit Bhattacharya	Graduate school thesis/dissertation award
<b>2014</b>	Jenna Bloemer	Merck Award of Excellence (top 2% of class in terms of academic performance)
<b>2014</b>	Jenna Bloemer	Rho Chi Honor Society
<b>2014</b>	Jenna Bloemer	Pharmacy MTM Competition 1 <sup>st</sup> place overall
<b>2014</b>	Jenna Bloemer	Merck Award of Excellence (top 2% of class in terms of academic performance)
<b>2014</b>	Jenna Bloemer	Harrison School of Pharmacy Dean's Scholarship
<b>2013</b>	Dwip Bhattacharya	Tillery Award – Auburn University
<b>2013</b>	Jenna Bloemer	HSOP Golf Tournament Scholarship
<b>2012</b>	Manal Buabeid	Outstanding graduate student of Harrison School of Pharmacy 2012 American Foundation Pharmaceutical Education pre-doctoral fellowship
<b>2011</b>	Engy Ali	Outstanding graduate student of School of Pharmacy

<b>2009</b>	KarikaranThiruchelvam	Invited to Chair the “receptor and ion channel” section in the annual meeting of the Society for Toxicology, Baltimore, Maryland, March 2009 Received a travel award to present a talk on “prenatal nicotine exposure and the mechanism of memory loss” at the international Neurotoxicology Association, Jerusalem, Israel, July 2009
<b>2009</b>	S. Shanmugam	Elected to Who’s Who Among Students in American Universities and Colleges
<b>2009</b>	Brian Shonesy	Outstanding graduate student of Harrison School of Pharmacy
<b>2008</b>	S. Uthayathas	Selected as one of top 10 graduate students at Auburn University. March
<b>2008</b>	S. Shanmugam	Selected as an outstanding graduate student of Harrison School of Pharmacy
<b>2008</b>	S. Uthayathas	Elected to Who’s Who Among Students in American Universities and Colleges.
<b>2007</b>	K. Parameshwaran	Selected as one of top 10 graduate students at Auburn University, March 2007 Won 2nd place in poster presentation at the Graduate Student Forum, Auburn University, March 2007
<b>2006</b>	Nayana Wijayawardan	Won 1st place in oral presentation at the Graduate Student Forum, Auburn University, March 2007
<b>2006</b>	Nayana Wijayawadhane	First place in oral presentation & 3rd place in poster presentation in Auburn University graduate student forum, March 2007
<b>2005</b>	Catrina Sims	First place in oral presentation & 3rd place in poster presentation in Auburn University graduate student forum, March 2007
<b>2005</b>	Thiru Vaithianathan	Was selected as one of top 10 graduate students at Auburn University, March 2005
<b>2004</b>	K. Parameshwaran	Received an Invitation from the editor of the Neurobiology of Lipids journal to submit a research article based on his presentation at the International Alzheimer’s Disease Symposium, July 19, 2004
<b>2004</b>	Thiru Vaithianathan	Third place in Auburn University graduate student forum, March 2004
<b>2003</b>	Catrina Sims	Received Cell & Molecular Biology Summer Research Fellowship, May 2004

<b>2003</b>	Thiru Vaithianathan	Third place in Auburn university graduate student forum, March 2003
<b>2002</b>	Thiru Subramaniam	Elected to join the National science honor society "Beta Kappa Chi" as a member of Tuskegee University
<b>2001</b>	Thiru Subramaniam	Best presentation award at the annual symposium of the School of Veterinary Medicine, Tuskegee University, March 15, 2001
<b>2000</b>	Thiru Subramaniam	Awarded the certification of achievement for obtaining highest grade point average in the class, April 25, 2000 Awarded certification of achievement for outstanding work in Neuroscience Graduate student
<b>1998</b>	Solomon Yilma	First place for Sigma -Xi poster presentation, Tuskegee University, March 1996
<b>1997</b>	Solomon Yilma	Summer research fellowship to Vanderbilt University School of Medicine, June 1997  Third place for Sigma-Xi oral presentation, Tuskegee University, March 1996
<b>1996</b>	Xenoria Causey	Second place for Sigma-Xi poster presentation, Tuskegee University, March 1996
<b>1996</b>	Lauren McCall	Second place for Sigma-Xi oral presentation, Tuskegee University, March 1996
<b>1996</b>	Solomon Yilma	Summer research fellowship to University of Washington, June, 1996
<b>1995</b>	Solomon Yilma	First place for oral presentation, Tuskegee University, March 1996 Won the summer research fellowship to Children's Hospital at Harvard University Medical School, June, 1995
<b>1994</b>	David Ware	Summer research scholarship to Michigan State University, June - August 1994

## **B. Teaching**

### **Teaching Philosophy:**

The definition of an ideal teacher, in my opinion, is the one who is respected by students and can break down complex information into simple facts that can be readily understood. Teaching extends beyond the academic realm into every aspect of our daily lives. To me, teaching is conveying accurate, up-to-date information that can foster creativity, curiosity and critical thinking.

Typically, in using Socratic teaching methods, students are encouraged to struggle for conceptual understanding without depending on the instructor to provide ready-made answers to each question that arises in a discussion. Despite being one of the most effective ways of teaching, these techniques are known to have the potential to cause some level of anxiety and frustration for the students. Being aware of these potential barriers, I have given a lot of thought to designing a Description, Simulation, and Application (DSA) approach to teaching undergraduate and graduate courses. I use one of the powerful strategies known as problem (or concept) "dissection" of the issue at hand using multiple representations. This is an essential aspect of teaching and learning because of our students' wide range of learning styles. The idea is to "dissect" a given situation into verbal, pictorial, graphical, and symbolic representations. In my own experience in teaching pharmacology, I have discovered that some representations are much more effective than others. I also employ interactive and active learning strategies to engage the students in the classroom. I often remind the students that retrieval (rather than mere repetition), self-testing and "precise elaboration" can enhance the recall of information that can be effectively applied to solve problems.

The DSA approach uses computer simulations as the interface between the description of the phenomenon and its application. It is a powerful strategy in overcoming student difficulties and has a clear and direct effect on students' understanding of the concepts. Due to its real-time- interactive nature, the DSA strategy not only makes the student learn the principles of science but also gets their enthusiastic participation. It is an excellent way to stimulate the interest of even the students who may not have been excited about taking a course in pharmacology/neuroscience. I am glad to say that the National Science Foundation (NSF) regarded this as a powerful and innovative strategy to teach undergraduate and graduate courses. I received an NSF-Scholarship "Teaching Neuroscience for Undergraduates," conducted by Cornell University in June 1997. I was also invited by the Alabama Academy of Sciences to present my work on DSA in June 1999.

The best judges of the teacher are the students, and I have consistently been rated "excellent - outstanding" by student evaluations. It is a pleasure to say that I frequently receive letters of appreciation from former students stating how they have enjoyed my teaching style. This is one of the best rewards a teacher can receive. I have immense satisfaction and joy in communicating what I know to others. I have a genuine interest in teaching and firmly believe that excellent performance by the instructor alone is not sufficient to develop a smooth flow of communication; instead, the teacher needs to develop a partnership with the students

## **1. COURSES TAUGHT: Auburn University**

- **Integrated Pharmacotherapy II (PYDI 9480)** 2018 fall - present  
Depression – Neurotransmitters associated with depression.  
Pathophysiology of depression, receptor targets for treatment of depression. Relationship between depression and antidepressant drug therapy.
- **Drugs & Diseases II (PYDI 5100)** 2007 spring - 2017  
Adrenergic dysregulation, depression, bipolar disease, migraine
- **Drugs & Diseases III (PYDI 5200)** 2006 summer -2017



- Anxiety, insomnia, epilepsy & diabetes
- **Drugs & Diseases IV (PYDI 5300)** 2006 Fall -2008 Fall  
Hypertension, coronary artery disease, myocardial infarction
  - **Principals of Drug Action II (PYPS 5220)** January 2001-2006  
Serotonergic & GABAergic systems
  - **Human Pathology (PYPP 5260)** August 2002 - 2004  
Pathophysiology of cardiovascular systems
  - **Pharmacotherapy Modules (PYDI 5360-5530)** January 2000-2002  
This is an interdisciplinary course that integrates basic sciences, socio-behavioral sciences & clinical pharmacy practice. This team-taught course is developed and taught by faculty from all three disciplines. Web based presentations, small & large group facilitation, and case-based teaching were utilized.
  - **Infectious Disease Module (PYPD 5520)** Fall 2001
  - **HORD Module (PYPD 5510)** 2001 Fall  
Large group facilitation
  - **Cardiology Module (PYPD 5410)** 2004 Fall  
Large and small group facilitation
  - **Special Problems (PYPS 5900)** 2001 Spring - present  
Discussion on neuropathology of Alzheimer's disease.  
Utilized interactive computer simulations to demonstrate basic concepts in neurophysiology.
  - **Special Problems (PYPS 7900, 8900)** 2001 Spring – present  
Discussion of literature related to graduate student research that includes synaptic dysfunction during aging and in conditions like Alzheimer's disease, Parkinson's disease and schizophrenia.
  - **Special Problems (PYPS 7900, 8900)** 2001 Spring - present  
Group discussion on graduate student research "Read & critique" journal articles  
Lectures on "strategies for effective presentation"
  - **Pharmacology II (PYPS 6320)** 2001 Spring – present
  - **Neuropharmacology (PYPS 7300) & Neuropharmacology of Drug Abuse (PYPS 7360)** 2001 fall – present
  - **Pharmacology Research Methods (PYPS 7330)** 2002 Spring – present  
Lectures on receptor physiology and electrophysiology of the neuron provided hands on laboratory sessions on brain slice, slice cultures, neuronal and single receptor electrophysiology and behavioral techniques. Provided comprehensive training on data analysis.
  - **Pharmacology I, II, & III (PYPS 6010, 6020 & 6030)** 2002 Spring – present

## 2. COURSES DEVELOPED & TAUGHT:

- **Integrated Organ System Pharmacology I & Integrated Organ System Pharmacology II. (DRDD 7349 & DRDD 7350)**  
Presents, in an integrated manner, pathophysiology and chemical, pharmacological and biotechnology principles action to explain the action of drugs.

- **Cellular & Molecular Pharmacology I Cellular & Molecular Pharmacology II. (DRDD 7360 & DRDD 7370)**  
Cellular biology course integrated with Pharmaceutical Sciences for the study of pharmacologically related mechanisms at molecular and cellular levels.
- **Neuroscience Methods (DRDD 7280)**  
This course is designed to provide a conceptual and practical understanding of several of the most common techniques in neuroscience. The interactive lectures will serve to illustrate the ways in which various experimental approaches have been used to advance specific areas of neuroscience, particularly in the context of neuropsychological diseases or processes
- **Neuropharmacology of Drug Abuse (DRDD 7290)**  
An in-depth study of drugs of abuse, including mechanisms of action pharmacokinetics, addiction, physical dependence and the effects of drug use during pregnancy. Substance abuse treatment strategies will also be discussed.

### Tuskegee University:

#### 1. COURSES TAUGHT:

- **General Biology (Biology 111 & 112)** 1993 Fall –1995 Fall
- **Organismic Biology (Biology 120)** 1994 Summer –1995 Summer
- **Cell & Genetic Biology (biology 230)** 1994 Fall –1998 Fall
- **Computer Assisted Program for teaching Neuroscience Laboratory**  
Used the computer programs "Neurosim" and "Neuron" for understanding the electrophysiology of the nerve cell. This program is used in the laboratory component of the two new neurobiology courses. Neurobiology courses I have introduced are as follows:
  - **Biology 596 (Neuroscience)**
  - **Biology 315 (General Neurobiology)**

#### 2. COURSES DEVELOPED & TAUGHT:

- **Neurobiology (Biology 315)** 1994 Fall – 2000 Fall  
Undergraduate lecture laboratory courses that utilizes the Description, Simulation and Application (DSA) technique that I developed
- **Neuroscience (Biology 596)** 1994 Fall – 2000 Fall  
Graduate lecture laboratory courses that utilizes the DSA technology. Lectures include neuroanatomy and neurophysiology. Developed a laboratory manual for this course.

### C. Invited Chair/ guest presentations

2021 (July).....Hospital for Sick Children, University of Toronto, Canada (Virtual)  
 2020 (August).....Hospital for Sick Children, University of Toronto, Canada  
 2020 (August).....Hospital for Sick Children, University of Toronto, Canada

**2017 (June)**.....China Pharmaceutical University, Nanjing, PRC  
**2017 (June)**.....Jiangnan University, Wuxi, PRC  
**2017 (June)**.....Hebei Medical University, Hebei, PRC  
**2017 (June)**.....China Agricultural University, Beijing, PRC  
**2017 (June)**.....Ocean University of China, Qingdao, PRC  
**2017 (June)**.....Yangzhou College of Veterinary Medicine, PRC  
**2016 (July)**.....Jining Medical University, Rizhao, China  
**2016 (October)**.....QuFu Normal University, QuFu, China  
**2016 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2015 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2014 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2014 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2013 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2012 (June)**.....International Society Alcoholism, Atlanta, GA  
**2011 (July)**.....International Symposium on Biophotonics, Russia (not attended)  
**2010 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2009 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2008 (November)** .Duke University, Durham, North Carolina  
**2008 (July)**.....Western University of Health Sciences, Pomona, California  
**2008 (July)**.....Hospital for Sick Children, University of Toronto, Canada  
**2008 (June)**.....World Cancer Conference (Nuclear Receptors), Shanghai, China (not attended)  
**2007 (January)** .... University of Melbourne, Australia  
**2007 (July)**..... Technological Advances in Science, Medicine & Engineering, Ontario, Canada  
**2006 (March)**..... University of Connecticut, Health Science Center, Farmington, Connecticut  
**2006 (July)**..... Technological Advances in Science, Medicine & Engineering, Ontario, Canada  
**2005 (July)**..... Technological Advances in Science, Medicine & Engineering, Ontario, Canada  
**2004 (July)**..... Asian Television network, Toronto, Ontario, Canada  
**2004 (July)**..... Technological Advances in Science, Medicine & Engineering, Ontario, Canada  
**2003 (July)**..... Technological Advances in Science, Medicine & Engineering, Ontario, Canada  
**2003 (December)**. University of Peradeniya, Kandy, Sri Lanka  
**2002 (July)**..... Technological Advances in Science, Medicine & Engineering, Ontario, Canada  
**2001 (July)**..... Health Science Center, University of Western Ontario, Canada  
**2001 (December)**. Indian Institutes of Science, Bangalore, India  
**2000 (July)**..... Bioscience & Technology Conference, University of Guelph, Ontario, Canada  
**2000 (March)**..... American Society for Neurochemistry, Chicago  
**1999 (April)**..... School of Veterinary Medicine, Tuskegee University, Alabama  
**1999 (March)**..... Alabama Academy of Science, Athens, Alabama  
**1999 (March)**..... Morehouse School of Medicine, Atlanta, Georgia  
**1999 (July)**..... North American Biomedical Association, University of Guelph, Ontario, Canada

- 1998 (December). Hospital for Sick Children and University of Toronto, Ontario, Canada
- 1998 (October) .... Specialized Neuroscience Research Program. Workshop, National Institute for Neurological Disorders and Stroke at NIH, Bethesda, Maryland
- 1998 (July)..... North American Biomedical Association, University of Guelph, Ontario, Canada
- 1998 (February) .. Boys-Town Research Hospital, Omaha, Nebraska
- 1997 (July)..... North American Biomedical Association, University of Guelph, Ontario, Canada

**D. Media Coverage of Research:**

- 2019 (April) .....**News Week** ‘Pregnant women are using marijuana for morning sickness: study on rats suggests this could affect baby’s brain’
- 2019 (April) .....**Daily Mail - UK** ‘Pregnant women are using marijuana for morning sickness affect part of the baby’s brain associated with memory’
- 2019 (April) ..... **Metro - UK** ‘Pregnant women are using weed to combat morning sickness and it’s a very bad idea’
- 2019 (April).....**MSN News** ‘Cannabis for morning sickness could affect baby’s brain’
- 2019 (April)..... **Business Standard** ‘Marijuana for morning sickness? It's not great for babies brain’
- 2019 (April) .....**EurekaAlert AAAS** ‘Marijuana for morning sickness? It's not great for baby’s brain’
- 2019 (April) .....**Science Daily** ‘Real risks associated with cannabis exposure during pregnancy’
- 2019 (April) .....**VisEmbryo** ‘Marijuana For Morning Sickness Bad For Baby’
- 2019 (April) .....Earth ‘Marijuana is not a safe treatment for pregnancy morning sickness’
- 2019 (April) .....**Health News Digest** ‘Marijuana for morning sickness? It’s not great for baby’s brain’
- 2019 (April)..... **Life Science News** ‘Study assesses impact of cannabis on developing fetus’
- 2019 (April) ..... **Economics Times India** ‘Use of marijuana during pregnancy can adversely affect offspring’s brain’
- 2013 (July)..... FM1, Ontario, Canada ‘Diabetes and Alzheimer’s link’
- 2013 (July)..... Asian Television Network, Ontario, Canada
- 2006 (November) ..... Press Release Conference, Atlanta, GA
- 2005 (October) ..... Press release Conference, Washington DC
- 2002 (July)..... Asian Television Network, Ontario, Canada
- 1999 (June)..... North Carolina Public Television

### **E. Graduate Students Summary:**

#### PhD in Pharmaceutical Sciences (Chair/Co-chair):

Student	Role	Degree	Years	Current Position
Thirumalini Subramaniam	Chair	Ph.D.	2000-2005	Assistant Professor, University of Tennessee Health Science Center
Patrick Kanju	Chair	Ph.D.	2000-2005	Senior Scientist, Duke University
Nayana Wijayawardhane	Chair	Ph.D.	2003-2007	Professor & Clinical Director, University of Sri Lanka
Catrina Sims	Chair	Ph.D.	2003-2007	Associate Professor, Medical University of South Carolina
Kodeeswaran Parameshwaran	Chair	Ph.D.	2004-2008	Assistant Professor, Texas A&M University
Subramaniam Uthayathas	Co-chair	Ph.D.	2005-2009	Research Associate, Emory University Medical School
Sibel Ilbasemis-Tamer	Co-chair	Ph.D.	2008	Assistant Professor, University of Ankara, Turkey
Brian Shonesy	Chair	Ph.D.	2006-2010	Research Assistant Professor, Vanderbilt University
Senthilkumar Shanmugam	Co-chair	Ph.D.	2004-2009	Research Assistant Professor, John Hopkins University
Bessy Thrash	Co-chair	Ph.D.	2003-2009	Research Associate, University of Alabama
Karikaran Thiruchelvam	Co-chair	Ph.D.	2007-2011	Research Fellow, Michigan University
Engy A. Abdel-Rahman	Chair	Ph.D.	2008-2012	Associate Professor, University of Cairo, Egypt
Manal Buabeid	Chair	Ph.D.	2008-2013	Assistant Professor, Ajman University, UAE
Subhrajit Bhattacharya	Chair	Ph.D.	2011-2015	Assistant Professor (Research), School of Pharmacy, Auburn University
Ahmad Alhowail	Chair	Ph.D.	2012-2017	Assistant Dean, Qassim University, Saudi Arabia
Dwipayan Bhattacharya	Co-chair	Ph.D.	2013-2015	Assistant Professor, Lake Erie College of Osteopathic Medicine
Jenna Bloemer	Chair	Pharm.D. Ph.D.	2014-2020	Assistant Professor, Touro University, New York
Manoj Govidarajulu	Co-chair	Ph.D.	2016-2020	Post-Doctoral Fellow - Walter Reed Army Institute of Research, Maryland
Priyanka Das	Chair	Ph.D.	2016-2020	Post-Doctoral Fellow, University of California, Irvine
Warren Smith	Chair	Pharm.D. Ph.D.	2016 -	

Adrienne Courville	Chair	Pharm.D. Ph.D.	2020 -	
Kawsar Chaudry	Chair	Ph.D.	2020 -	
Miles Wiley	Chair	Ph.D.	2021 -	

Ph.D. in Pharmaceutical Sciences (Committee Member):

Student	Years
Sanjay Birru	2000 – 2005
Hui Min Chan	2003 – 2008
Manuj Ahuja	2009 – 2013
Wansu Ma	2010 – 2014
Gayani Nanayakara	2010 – 2014
Sourashish Nag	2011 – 2012
Isha Dhande	2011 – 2012
Jiansheng Huang	2011 - 2014
Shravanthi Mouli	2012 - 2016
Yiwei Liu	2012 - 2016
Abdullah Alasmari	2013 - 2017
Lingxin Zhang	2013 - 2017
Chan Wang	2014 - 2018
Mohammed Nasrullah	2014 - 2019
Thamer Alqurashi	2014 - 2019
Sharay Setti	2015 - present
Jared Senfeld	2017 - present
Qianman Peng	2017 - present
Saud Alqahtani	2017 - present
Shenqi Qian	2018 - present
Yi Shi	2018 - present

PhD in Other Programs (Committee Member):

Student	Years	Degree
Amul Thottae	2000 – 2005	Chemical Engineering
Kelly Banna	2002 – 2007	Psychology
Jianjong Jang,	2004 – 2008	Biological Sciences
Hui Gao	2004 – 2008	Biomedical Science
Prithviraj Das	2007 – 2013	Entomology
Xiulei Mo	2011– 2014	Biomedical Science
Lauren Woodie	2015 – 2020	Nutrition

MS in Pharmaceutical Sciences (Chair/Committee Member):

Student	Years
Fatima Aldajani (Chair)	2012 - 2015
Mohammed Majrashi	2015 - 2017
Mohammed Almaghrabi	2016 - 2018
Ryan Heslin	2016 - 2018
Darshini Desai	2017 - 2018
Mingliu Zhao	2017 - 2020
Saud Alqahtani	2017 - present
Jeremiah Pfitzer	2018 - present

MS in Biological Sciences (Committee Member):

Student	Years
Michael Carra	2005 – 2007
Kelly Banna	2003 – 2007
Amy Muncaster	2005 – 2007

Professional (Doctor of Pharmacy) Student Trainees:

Student	Years
Susan Duggins	2001 – 2002
Michael Smith	2002 – 2003
Tara Smith	2002 – 2003
Victor Hunt	2004 – 2005
Lance Eiland	2005 – 2006
Virginia Robertson	2004 – 2005
Meredith Tate	2014 – 2016
Jamie Key	2014 – 2016

Post-Doctoral Trainees/Research Faculty:

Student	Years
Dr. Kollappa Prem Kumar	1997 –1998
Dr. K. Parameshwaran	2008 – 2009
Dr. Xiong Wu	2009 – 2010
Dr. Manal Buabeid	2013 – 2014
Dr. Yifeng Du	2017 – 2019
Dr. Subhrajit Bhattacharya	2020 – present

**Tuskegee University, Department of Biology:**

MS in Biology (Chair):

Student	Years
David Ware	1994 – 1997
Lorraine McCall	1994 – 1997
Xenoria Causey	1994 – 1997
Lynnee January	1998 – 2000
Vinson Barnes	1998 – 2000
Verneshia Robinson	1998 – 2000
Antonio Bowens	1998 – 2000
Solomon Yilma	1997 – 2000
Elgin Green	1999 – 2002
Patrick Kanju	1999 – 2002
Thiru Subramaniam	1999 – 2002

MS in Biology (Committee Member):

Student	Years
Sheryl Thompson	1994
Erman Munir	1995
Dorothy Wallaby	1996
Annie Gamil	1996
Quinee Brown	1999

- a. Primary Doctoral Advisor (Chair/Co-chair) 23
- b. Primary Masters Advisor (Chair/Co-chair) 12
- c. Dissertation (Ph.D.) Committee Member 28
- e. Thesis (M.S.) Committee Member 15

**F. Research/Creative Work**

**Grants and Contracts**

**Extramural Grants:**

“Alabama State University-Auburn University Partnership to Promote Diversity in Aging Research”

Principal Investigators (MPI): Manoj Mishra/**Vishnu Suppiramaniam**

Agency: NIH 1 R25 AG070244-01A1

Period: 09/2022-08/2027 ..... **Amount: \$ 1,459,000**

“Graduate Research Training Initiatives for Student Enhancement (G-RISE) at Auburn University”

Principal Investigators: Bruce Smith

**Mentor: Vishnu Suppiramaniam**



Agency: NIGMS 1 T32 GM141739-01  
Period: 06/2021 - 05/2026..... **Amount: \$ 1,500,484**

“Elucidation of Molecular Mechanisms of Prenatal Cannabinoid Exposure: Identification of Targets and Therapies”

Principal Investigators: **Vishnu Suppiramaniam (contact PI)**/Miranda Reed (MPI)

Agency: NIH 1 R01 DA046723-01

Period: 04/2020 - 03/2025 ..... **Amount: \$ 1,723,450**

Score: 14 (3%) (**Grant transferred to KSU – awaiting IACUC approval and completion of vivarium modification**)

“Elucidation of Molecular Mechanisms of Prenatal Cannabinoid Exposure: Identification of Targets and Therapies” – *Administrative supplement*

Principal Investigators: **Vishnu Suppiramaniam (contact PI)**/Miranda Reed (MPI)/Subhrajit Bhattacharya (co-I)

Agency: NIH 3 R01 DA046723-02S1

Period: 08/2021 - 07/2024..... **Amount: \$ 143, 637**

“Identifying therapeutic target to rescue learning and memory deficits following prenatal cannabinoid exposure”

Agency: Pharmaceutical Research and Manufacturers of America (PhRMA) Foundation

Principal Investigators: Priyanka Pinky and **Vishnu Suppiramaniam**

Period: 1/1/2020 – 12/1/2021..... **Amount: \$ 25,000**

“Novel Intranasal Pramlintide Administration for the Dissection of Metabolic and Cognitive Outcomes of Amylin-based Therapies in a Transgenic Mouse Model of Alzheimer’s Disease

Agency: Pharmaceutical Research and Manufacturers of America (PhRMA) Foundation

Principal Investigators: Warren Smith/Miranda Reed/ **Vishnu Suppiramaniam**

Period: 08/2019 – 07/2022..... **Amount: \$ 20,000**

“Novel PPAR agonist for mitigating Alzheimer’s disease”

Co-investigators: **Vishnu Suppiramaniam** & Robert Arnold

Principal Investigator: Rajesh Amin

Agency: NIH - SBIR

Period: 10/01/2019 - 12/30/2021..... **Amount: \$ 440, 000**

“Dissection of Metabolic and Cognitive Outcomes of Amylin based Therapies in a Transgenic Mouse Model of Alzheimer’s Disease”

Agency: American Foundation for Pharmaceutical Education

Principal investigators: Warren Smith & **Vishnu Suppiramaniam**

Period: 8/31/19 – 8/30/20 ..... **Amount: \$10, 000**

ASPET Young Scientist Travel Award

Recipient: Priyanka Pinky; **Primary Mentor; Suppiramaniam**

Agency: American Society for Pharmacology

Period: January 2019 ..... **Amount: \$ 800**

AACP Top 16 abstracts

Recipient: Priyanka Pinky; **Primary Mentor; Suppiramaniam**

Agency: American Association of Clinical Pharmacology  
 Period: May 2019..... **Amount: \$ 800**

“Novel Partial PPAR-Gamma Agonist Improve Pathology and Memory Deficits in a 3xTg-AD Mouse Mode”  
 Principal Investigators: Rajesh Amin/**Vishnu Suppiramaniam**  
 Agency: NIH/R15  
 Period: 9/1/2015 – 8/31/2019 (no cost extension) ..... **Amount: \$ 361, 955**

“Antioxidant-mediated Protection from Mitochondrial Dysfunction-induced Neuropathology”  
 Co-investigator: **Vishnu Suppiramaniam**  
 Principal Investigator: Carl Pinkert  
 Agency: Foundation for Cure from Mitochondrial Diseases  
 Period: 10/1/2013-09/31/2015..... **Amount: \$ 469,680**

“Nerve Growth Factor Signaling in P62 Knock Out Mouse”  
 Co-investigator: **Vishnu Suppiramaniam**  
 Principal Investigator: Marie Wooten  
 Agency: NIH/NINDS  
 Period: 3/1/2005-2/28/2008..... **Amount: \$ 1,100,000**

"Assessment of the Developmental Teratogenicity of Nicotine: Pharmacological Intervention by Nootropic Drugs”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Program Director: Charles Breese  
 Agency: Philip Morris  
 Period: 5/1/2003-4/30/2006..... **Amount: \$ 795,771**

“Modulation of Glutamate AMPA Receptor by Polysialic Acid”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Number: GM008091-310041  
 Agency: NIH/NIGMS  
 Period: 06/1/2002-05/30/2006..... **Amount: \$ 820,000**

“In Vitro Modeling of Olfactory Neurons”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Number: RR003059-110009  
 Agency: NIH/NIGMS  
 Period: 06/1/1998-5/31/2002..... **Amount: \$ 400,000**

“Modulation and Characterization of Glutamate (AMPA) Receptors”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Number: NS 02018  
 Agency: NIH  
 Period: 10/1/97-9/30/02..... **Amount: \$ 391,000**

“Functional Reconstitution of AMPA Receptors in Bilayers”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Number: GM-080906

Agency: NIH  
Period: 04/1/1995 - 05/1/1998..... **Amount: \$209,000**

“Initiative for Minority Students: Bridges to the Doctoral Degree”.  
Co-Investigator: **Vishnu Suppiramaniam**  
Agency: NIH, NIGMS  
Period: 01/13/99 ..... **Amount: \$320,000**

“Instrumentation for Enhanced Discovery and Learning in Biotechnology”.  
Co-Investigator: **Vishnu Suppiramaniam**  
Number: DAAG55-97-R-BAA5  
Agency: Army Research Office  
Period: 02/1/1998 ..... **Amount: \$400,000**

“Research Apprentice Program” (REAP)  
Principal Investigator: **Vishnu Suppiramaniam**  
Agency: Army Research Office  
Period: 06/01/1998 ..... **Amount: \$ 5000**

“Research Apprentice Program” (REAP)  
Principal Investigator: **Vishnu Suppiramaniam**  
Agency: Army Research Office  
Period: 06/01/1997 ..... **Amount: \$ 5000**

“Research Apprentice Program” (REAP)  
Principal Investigator: **Vishnu Suppiramaniam**  
Agency: Army Research Office  
Period: 06/01/1996 ..... **Amount: \$ 5000**

“Research Apprentice Program” (REAP)  
Principal Investigator: **Vishnu Suppiramaniam**  
Agency: Army Research Office  
Period: 06/01/1995 ..... **Amount: \$ 5000**

**Extramural Grants Submitted**

*Role of Central TGR5 in Alzheimer's Disease and Underlying Mechanisms*  
Principal Investigators: **Vishnu Suppiramaniam (MPI)**/Miranda Reed (contact PI)  
Agency: NIH 1 R01 AG0075991-01  
Period: 09/2021 - 08/2026..... **Amount: \$ 1,723,450**  
**Scored, not funded – resubmission in October 2023**

**Intramural Grants (Auburn University):**

“Elucidation of molecular mechanisms of prenatal cannabinoid exposure: Identification of targets and therapies”  
Agency: Auburn University Internal Grants Program (AU IGP)  
Principal investigators: Reed MN

Co-principal investigator: **Vishnu Suppiramaniam**  
 Period: 3/1/2019-4/30/2021..... **Amount: \$44,747**

“Nerve Growth Factor Administration for Treating Type2 Diabetes Linked Alzheimer’s Disease”  
 Agency: Alabama Agricultural Experimental Station  
 Principal Investigator: Ramesh Jeganathan  
 Co-investigator: **Vishnu Suppiramaniam**  
 Period: 10/1/18- 9/30/21..... **Amount: \$ 140, 500**

“Establishment of a Center for Neuroscience”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Agency: Presidential Award for Innovative Research (PAIR)  
 Period: 7/1/18- 6/30/21..... **Amount: \$ 637, 500**

“Molecular Mechanisms of Chemotherapy Induced Memory Loss”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Agency: Auburn University Research Initiative in Cancer  
 Period: 8/1/15- 7/31/17..... **Amount: \$ 200, 000**

“Molecular Mechanisms of Chemotherapy Induced Memory Loss”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Agency: Auburn University Research Initiative in Cancer  
 Period: 7/1/14- 7/31/15..... **Amount: \$ 20, 000**

“Microelectrode Array System: Electrical Measurements from Brain, Heart, Muscle & More”  
 Co-Principal Investigator: **Vishnu Suppiramaniam**  
 Agency: Auburn University  
 Period: 2/1/12- 1/31/13..... **Amount: \$ 60, 000**

“Integrin Linked Kinase, Synaptic Plasticity and Memory: The Diabetes, Alzheimer’s Link”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Agency: Auburn University  
 Period: 2/1/11- 1/31/13..... **Amount: \$ 93, 352**

“Thiazolidinediones Rescue Impaired AMPA Receptor-Mediated Transmission in STZ-diabetes”  
 Principal Investigator: **Vishnu Suppiramaniam**  
 Agency: Auburn University  
 Period: 5/1/2007-4/30/2009..... **Amount: \$ 29, 252**

“Sildenafil (Viagra) in Alzheimer’s Disease”  
 Co-Investigator: **Vishnu Suppiramaniam**  
 Agency: Auburn University  
 Period: 5/1/2007-4/30/2009..... **Amount: \$ 10, 000**

“Neuroprotection Against Environmental Neurotoxins”

Co-Investigator: **Vishnu Suppiramaniam**

Agency: Auburn University

Period: 2006 ..... **Amount: \$ 3, 000**

“Role of Glutamatergic Function on Nicotinic Receptor Regulation”

Co- Investigator: **Vishnu Suppiramaniam**

Agency: Auburn University

Period: 5/1/2002-4/30/2004..... **Amount: \$ 47,468**

“Induction of Lysosomal Dysfunction in Hippocampal Neurons: A Model to Investigate Alzheimer’s Disease”

Principal Investigator: **Vishnu Suppiramaniam**

Agency: Auburn University

Period: 5/1/2002-4/30/2004..... **Amount: \$ 40,126**

### **Statement of Research**

I joined Auburn University in 2001, at a time when it could best be characterized as a teaching institution. There were no more than 4 NIH-RO1 grants at any given time. I started a research laboratory with limited startup funds (\$50,000) and developed it into a neurophysiology laboratory capable of performing single ion channel, intracellular, extracellular, and in vivo electrophysiological recordings along with molecular, biochemical, and behavioral methodologies.

One of the unique techniques that we developed in our laboratory was to directly record single ion channel currents of synaptic neurotransmitter receptors. There are currently no other techniques available to directly measure the functionality of synaptic receptors, which is a critical measure of synaptic transmission. We use an upstream approach to investigate how modifications in the electrical properties (Channel open probability, conductance, dwell time distribution and burst activity) of single synaptic glutamate (AMPA & NMDA) receptor will alter the electrical properties of the neurons in; animal and tissue models of neurodegeneration (J. Neuropathol. Exp. Neurol. 2007, 66:779-788; Exp. Neurol. 2008, 214:55-61), and animal models of diabetes and prenatal alcohol/nicotine exposure. When electrical properties of a group of neurons are altered, this may lead to dysfunction of specific regions of the brain and in turn can cause behavioral deficits. Currently, we have the technology available to investigate how modifications in electrical properties of single synaptic glutamate receptors (synaptosomal recording) can lead to altered synaptic currents (whole cell patch clamp technique), which in turn may modify plasticity mechanisms (slice and in vivo electrophysiology) resulting in behavioral deficits (Morris Water Maze, Y-Maze, & fear conditioning) in animal models of Alzheimer’s disease and diabetes. Collaborating with faculty members in our department with expertise in cutting-edge molecular biology techniques, we have already begun to probe the intracellular signaling pathways that contribute to altered expression and modified electrical properties of synaptic glutamate receptors in animal models of diabetes and Alzheimer’s disease. The recent projects in the laboratory include **i)** elucidating the mechanism of memory loss in “**chemobrain**” and rescue by a novel selenide compound, **ii)** time-dependent receptor trafficking and synaptic plasticity during memory reconsolidation, **iii)** illustrating the role of Integrin-linked kinase (ILK) in synaptic plasticity and memory, and **iv)** elucidation of molecular mechanisms of cognitive deficits due to prenatal cannabis exposure.

### Research highlights of the laboratory:

Our laboratory was the first to *i*) develop a novel technique to directly measure the single ion channel properties of synaptic AMPA and NMDA receptors and demonstrate the interactive (cooperative) channel gating of synaptic AMPA receptors (*Methods Enzymol* 2006, 417:80-90). *ii*) illustrate the direct modulation of synaptic AMPA receptors by the Alzheimer peptide Ab1-42, *iii*) demonstrate the direct modulation of AMPA receptors by PSA and thereby establishing the neuroprotective role for PSA (*J Biol Chem* 2004 279:47975-47984), *iv*) identify subunit and region specific modulation of NMDA receptors by NCAM-PSA (*J Biol Chem* 2006 281:34859-34869; *J Neurosci* 2010 17:30 (11):4171-83), *v*) elucidate the molecular mechanism of memory loss in prenatal alcohol (*Neurobiol Dis* 2007, 26:696-706) and nicotine exposure (*Cell Mol Life Sci.* 2012 69 (5):829-41) as well as identifying a possible therapeutic option (*Neurobiol Dis* 2008, 29:81-91) and *vi*) illustrate the role of dimmer interface AMPA receptor channel kinetics (*Proc Natl Acad Sci U S A.* 2010 25; 107 (21):9891-6).

### Peer Reviewed Publications

1. Pinky PD., Pfitzer JC., Senfeld J., Hong H., Bhattacharya S., Suppiramaniam V., Qureshi I., & Reed MN. (2022). Recent Insights on Glutamatergic Dysfunction in Alzheimer's Disease and Therapeutic Implications. *Neuroscientist*, 25. <https://doi:10.1177/10738584211069897>.
2. Hunsberger HC., Setti SE., Rudy CC., Weitzner DS., Pfitzer JC., McDonald KL., Hong H., Bhattacharya S., **Suppiramaniam V.**, & Reed MN. (2021). Differential Effects of Human P301L Tau Expression in Young versus Aged Mice. *International Journal of Molecular Sciences*. <https://doi:10.3390/ijms222111637>. (Impact Factor 5.9)
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## Book Chapters

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2. **Suppiramaniam V**, Bloemer J, Reed M, Bhattacharya S. 2017. Ion channels. In: Charlene A. McQueen, Comprehensive Toxicology, volume 14, Oxford Academic Press.
3. **Suppiramaniam V**, Bloemer J, Reed M, Bhattacharya S. 2017. Neurotransmitter receptors. In: Charlene A. McQueen, Comprehensive Toxicology, volume 14, Oxford Academic Press.
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## SELECTED CONFERENCE PRESENTATIONS:

1. Pinky, P.D., Bloemer, J., Du, Y., Setti S.E., Heslin. R.T., Smith W.D, Dhanasekaran M, Reed, M.N, **Suppiramaniam, V.** Elucidation of molecular mechanisms of learning and memory deficits in adolescent offspring. Technological advances in Science, Medicine and Engineering conference (TASME). 24th Annual Virtual Symposium at the Sick Children's Hospital in Toronto, Canada, August 2020.
2. Pinky, P.D., Pfitzer, C. J., Qureshi, A.I., Berman, M. R., **Suppiramaniam, V.**, Reed, M.N. ‘Troriluzole restores synaptic plasticity deficits in a 3xTg Alzheimer’s disease model by modifying glutamatergic synaptic transmission’ Webinar presentation at



‘Alzheimer’s Disease Drug Foundation Conference on Neurodegeneration’. Philadelphia, PA, April 2020.

3. Pinky, P.D., Majrashi, M., Ayaka, F., Bloemer, J., **Suppiramaniam, V.**, Dhanasekaran, M. ‘Role of Prenatal Synthetic Cannabinoid Exposure on the Cerebellum of Adolescent Rat Offspring’ VCOM Research Day, Auburn University, Auburn, AL, February 2020.
4. Patel, S., Ahuja. M., Ramesh. S., Govindarajulu, M., Almaghrabi, M., **Suppiramaniam. V.**, Moore, T., Dhanasekaran, M. Neuroprotective effects of Centella asiatica extract (CaE) against hydrogen peroxide induced oxidative stress in in-vitro hippocampal cell lines. Technological advances in Science, Medicine and Engineering conference (TASME) 24th Annual Virtual Symposium at the Sick Children's Hospital in Toronto, Canada, August 2020.
5. Mullins, C., Bhattacharya, D., Ramesh, S., Govindarajulu, M., Bloemer, J., Bhattacharya, S., Buabeid, M., Escobar, M., Moore, T., **Suppiramaniam, V.**, Dhanasekaran, M. Investigation of ILK signalling deficits in prenatal alcohol rats exposed to 7,8-dihydroxyflavone, Center for Neuroscience initiative-CNSi, Auburn, AL, February 2020.
6. Schwartz, J., Mohammed, M., Almaghrabi, M., Fujihashi, A., Ramesh, S., Reed, M., **Suppiramaniam, V.**, Dhanasekaran, M. “ $\beta$ -hydroxybutyric acid”- A budding therapeutic drug for Dementia. Center for Neuroscience initiative-CNSi, Auburn, AL, February 2020.
7. Pinky, P., Bloemer, J., Setti, S., Heslin, R., Du, Y., Smith, W., Dityatev, A., Dhanasekaran., Reed, M., **Suppiramaniam, V.** Elucidation of the mechanisms of cognitive deficits in adolescent offspring due to prenatal cannabinoid exposure, Center for Neuroscience initiative-CNSi, Auburn, AL, February 2020.
8. Justin, H., Priyanka, P., Mohammed, M., Fujihashi, A., Bloemer, J., **Suppiramaniam, V.**, Muralikrishnan, D. Role of Prenatal Synthetic Cannabinoid Exposure on the Cerebellum of Adolescent Rat Offspring. Center for Neuroscience initiative-CNSi, Auburn, AL, February 2020.
9. Mentlick, K., Ahuja, M., Buabeid, M., Ramesh, S., Govindarajulu, M., Almaghrabi, M., Alturki, M., Smith, F., **Suppiramaniam, V.**, Moore, T., Dhanasekaran, M. Ayurvedic botanical exhibits Anti-Alzheimer’s effect by exhibiting significant neuroprotective effects, Center for Neuroscience initiative-CNSi, Auburn, AL, February 2020.
10. Schwartz, J., Majrashi, M., Almaghrabi, M., Fujihashi, A., Ramesh, S., Reed, M., **Suppiramaniam, V.**, Dhanasekaran, M. Elucidate the *in vitro* neuroprotective effects of ketone bodies in hippocampal HT-22 neurons. (2020) Auburn Research Day.
11. Mullins, C., Bhattacharya, D., Ramesh, S., Govindarajulu, M., Jenna, B., Bhattacharya, S., Buabeid, M., Escobar, M., Moore, T., **Suppiramaniam, V.** Dhanasekaran, M. Elucidating the neuroprotective effects of 7,8 DHF in prenatal exposed rats. (2020) Auburn Research Day.

12. Mentlick, K., Ahuja, M., Buabeid, M., Ramesh, S., Govindarajulu, M., Almaghrabi, M., Alturki, M., Smith, F., **Suppiramaniam, V.**, Moore, T., Dhanasekaran, M. *Centella asiatica* extract affects the glutamatergic signaling to induce neuroprotection. (2020) Auburn Research Day.
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14. Pinky, P., Bloemer J, Setti, S., Heslin, R., Du, Y., Smith, W., Dityatev, A., Dhanasekaran, M., Reed, M., **Suppiramaniam, V.** Elucidation of the mechanism of Prenatal Cannabinoid Exposure Mediated Learning and Memory deficits in offspring: Identifying Therapeutic Targets. (2020) Auburn Research Day.
15. Pinky, P., Majrashi, M., Ayaka, F., Bloemer, J., **Suppiramaniam, V.**, Dhanasekaran, D. Role of Prenatal Cannabinoid Exposure on the Cerebellum of Adolescent Rat Offspring. (2020) Auburn Research Day.
16. Neurotropic Effect of  $\beta$ -Hydroxybutyric Acid, Schwartz, J., Majrashi, M., Almaghrabi, M., Fujihashi, A., Alghenaim, F., Reed, M., **Suppiramaniam, V.**, Dhanasekaran M. (2020) VCOM, Auburn AL.
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19. Trish, A., Buabeid, M., Pinky, P.D., Smith, W.D., Bloemer, J., Parameshwaran, K., Almaghrabi, M., Dhanasekaran, M., Reed, M.N., **Suppiramaniam, V.** Prenatal Nicotine Exposure Leads to Alterations in Hippocampal Cholinergic and Glutamatergic Neurotransmission, VCOM, Auburn AL, February 2020.
20. Pinky, PD., Majrashi, M., Ayaka, F., Bloemer, J., **Suppiramaniam, V.**, Dhanasekaran, M. Effects of Prenatal Synthetic Cannabinoid Exposure on the Cerebellum of Adolescent Rat Offspring, VCOM, Auburn AL, February 2020.

## **Selected Abstracts**

### Abstracts published in peer-reviewed journals:

1. Shonesy, B, Thiruchelvam, K, Karuppagounder, SS, **Suppiramaniam, V.** (2009) Brain specific insulin resistance leads to postsynaptic deficits in glutamatergic pathways of the hippocampus. *Alzheimer's and Dementia*. 4:4 T753-T753

2. Karuppagounder S, Uthayathas, S, **Suppiramaniam, V**, Dhanasekaran, M. Behavioral and neurochemical effect of environmental toxin (diquat). Annual meeting of Society of Toxicology 2009 Baltimore, MD (Published as a supplement to Toxicological Sciences, 2009, pp 445)
3. Uthayathas, S, Karuppagounder, S, Shonesy, B, Thiruchelvan, K, Parameshwaran, K, **Suppiramaniam, V**, Dhanasekaran, M. Neuroprotective effect of sildenafil against amyloid-beta ( $A\beta$ )-induced toxicity, Annual meeting of Society of Toxicology 2009 Baltimore, MD (Published as a supplement to Toxicological Sciences, 2009, pp 375)
4. Wijayawardhane, N, Vaithianathan, T, Manivannan, K, Sims, C, Parameshwaran, K and **Suppiramaniam, V**. (2005) Modulation of channel properties of synaptic AMPA receptors by zinc. *Biophys J* 88(1): 306A-306A
5. Parameshwaran, K, Vaithianathan, T, Kanju, P, Bahr, BA and **Suppiramaniam, V**, (2004) Amyloid  $\beta$ 1–42 peptide potently modulates synaptic AMPA receptor channel properties. *Neurobiol Aging* 25, Supplement 2: S441
6. Vaithianathan, T, Bedi, D, Kanju P, M. Patrick, Parameshwaran, K, McMahon, L.L, Judd, R.L. and **Suppiramaniam, V**, (2004) Synaptic AMPA receptor dysfunction: a mechanism for cognitive decline in type-1-diabetic rats. *Neurobiol Aging* 25, Supplement 2: S444-S445
7. Vaithianathan, T, Bedi, D, Kanju, PM, Parameshwaran, K, McMahon, LL, Judd, R.L. and **Suppiramaniam, V**. (2004) Glutamatergic synaptic dysfunction in the brain of streptozotocin-diabetic rats. *FASEB J* 18(4): A580-A580
8. Parameshwaran, K, Vaithianathan, T, Kanju, P. M, Bahr, B.A, **Suppiramaniam, V**. Amyloid  $\beta$ 1–42 peptide potently modulates synaptic AMPA receptor channel properties. *Neurobiology of Aging*, Volume 25, Supplement 2, July 2004, Page S441
9. Vaithianathan, T, Bedi, D, Patrick, KM, Parameshwaran, K, McMahon, LL, Judd, RL, **Suppiramaniam, V**. Synaptic AMPA receptor dysfunction: a mechanism for cognitive decline in type-1-diabetic rats. *Neurobiology of Aging*, Volume 25, Supplement 2, July 2004, Pages S444-S445
10. Manivannan, K, Subramaniam, T, Kanju, P, Green, E. and **Suppiramaniam, V**. (2002) Single channel recordings of synaptic AMPA receptors: evidence for the presence of low and high conductance states. *Biophys J* 82(1): 257A-257A
11. Manivannan, K, Subramaniam, T. and **Suppiramaniam, V**. (2001) Cooperative gating of AMPA channels: A model for synaptic strengthening. *Biophys J* 80(1): 105A-106A
12. Manivannan, K. and **Suppiramaniam, V.**, (2000) A steady-state model to describe cooperative gating of purified and reconstituted glutamate (AMPA). *Biophys J* 78(1): 355A-355A
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14. Manivannan, K, Schlecht, L.C, Beadle, A. and **Suppiramaniam, V.** (1999) Comparative study of cooperative gating of ion channels. *Biophys J* 76(1): A209-A209
15. Born, C.K., Hamrick, M.E. and **Suppiramaniam, V.** (1998) Calcium channel blockade in smooth muscle by methylmethacrylate. *FASEB J* 2(4): A795-A795
16. Davidson, J.P., Chiu, J.L, Session, W, **Suppiramaniam, V.** and Munir, E. (1995) The effect of temperature on DNA supercoiling in a GYRB mutant in *Salmonella typhimurium* *J Cell Biochem* 19A: 103-103
17. Sinnarajah, S., **Suppiramaniam, V.**, and Vodyanoy, V. (1995) Channel modulating effects of heparin in AMPA receptors reconstituted in lipid bilayers. *FASEB J* 9(3): A373-A373
18. **Suppiramaniam, V.**, Sinnarajah, S, and Vodyanoy, V. (1995) The benzoylpiperidine compound BDP-5 prolongs single channel open times of AMPA receptors reconstituted in lipid bilayers. *FASEB J* 9(3): A373-A373

Meeting Abstracts: (Selected)

1. \*Pinky PD, @Bloemer J, \*Smith, WD, \*Setti S, \*Heslin RT, Du, Y, Dityatev A, Dhanasekaran M, Bhattacharya S, Reed MN, Suppiramaniam V. "Elucidating mechanisms of prenatal cannabinoid exposure mediated learning and memory deficits in offspring: identifying therapeutic targets" Poster presented at 2021 Auburn University Student Research Symposium, Auburn, AL March 2021.
2. Majrashi M, Altukri M, Rames S, Govindarajulu M, \*\*Schwartz J, Almaghrabi M, Smith F, Thomas T, Suppiramaniam V, Moore T, Reed MN, Dhanasekaran M. "β-hydroxybutyric acid attenuates oxidative stress and improves markers of mitochondrial function in the HT-22 hippocampal cell line". Poster presented at 2021 Auburn University Student Research Symposium, Auburn, AL March 2021.
3. Pfitzer JC, Pinky P.D., Qureshi I.A., Berman R.M., Suppiramaniam V.S., Reed M.N. Modifying Glutamatergic neurotransmission rectifies synaptic plasticity and memory deficits in a 3xTg Alzheimer's disease model. Harrison School of Pharmacy Seminar Series, Auburn AL, April 2021.
4. Pfitzer JC. Pinky P.D., Qureshi I.A., Berman R.M., Suppiramaniam V.S., Reed M.N. Modifying Glutamatergic neurotransmission rectifies synaptic plasticity and memory deficits in a 3xTg Alzheimer's disease model. Boshell Research Day, Auburn AL, September 2021.
5. Pinky, S. Yoo, M. Govindarajulu, J. Bloemer, R. Amin, V. Suppiramaniam, V. Mechanism of action of BNIP3 induced autophagy for amelioration of AD pathology. Alzheimer's Disease Drug Foundation Conference on Neurodegeneration. Long Beach, CA, March 2019
6. Pinky, P.D., Bloemer, J., Setti, S. E., Heslin, R.T., Smith, W.D., Du, Y., Dityatev, A., Reed, M.N., **Suppiramaniam, V.** Identifying Drug Targets for Prenatal Cannabinoid

Exposure Mediated Learning and Memory Deficits. American College of Clinical Pharmacology, Chicago, IL, September 2019

7. Pinky, P.D., Bloemer, J. Setti, S. E., Heslin, R.T., Smith, W.D., Du, Y., Dityatev, A., Reed, M.N., **Suppiramaniam, V.** Mechanism of Prenatal Cannabinoid Exposure Mediated Memory Loss in Adolescent Offspring: Opportunities for Identifying Therapeutic Target. Experimental Biology, Orlando, FL, April 2019
8. Pinky P, Bloemer J, Setti S, Heslin R, Smith W, Du Y, Dityatev A, Reed M, **Suppiramaniam, V.** Identifying Drug Targets for Prenatal Cannabinoid Exposure Mediated Learning and Memory Deficits. American College of Clinical Pharmacology, Chicago, IL, September 2019
9. Ramesh, S, Govindarajulu, M, Lynd, T, Jones, E, Amin, R, **Suppiramaniam, V.** Moore T, Dhanasekaran M. Sirt3 activator Honokiol attenuates Amyloid Beta through AMPK-CREB-PGC1a Pathways. 12th annual drug discovery for neurodegeneration conference, February 4-6, 2018, Arlington, VA.
10. Govindarajulu M, Bloemer J, Das P, Acevedo O, Boncher T, Reed M, Arnold R, Amin R, Dhanasekaran M, **Suppiramaniam V.** Novel PPAR-gamma agonist improve pathology and memory deficits in a triple transgenic mice model of Alzheimer's disease. 12th annual drug discovery for neurodegeneration conference, February 4-6, 2018, Arlington, VA.
11. Majrashi MA, Almaghrabi M, Ramesh S, Desai D, Govindarajulu M, **Suppiramaniam V.** Deruiter J, Clark CR, Dhanasekaran M. Investigate the neurotoxic effects of the designer drug TriFluoroMethylPhenylPiperazine derivatives. Society for Neuroscience meeting, 2017.
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131. **Suppiramaniam, V**, Wilena, S, Davidson, J. and Gry, B. (1992) Mutation in Salmonella typhimurium alters negative super helical density of a receptor plasmid. 20th Minority Biomedical Research Support Symposium - NIH, 1992, October 22-26
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## Service and Outreach Activities

### Sponsorship of Student Activities:

#### **Auburn University:**

**2001 – 2003** ..... Advisor to Student National Pharmaceutical Association

#### **Tuskegee University:**

**1997 – 2000** ..... Student summer research activities - Established collaboration with Vanderbilt University and Cornell University to accept Biology students for research training in Neuroscience

**1997 – 2000** ..... Established Collaboration with Boys-Town National Research Hospital, Omaha, Nebraska, to accept Biology majors (Tuskegee University) for pre-doctoral fellowship program in Neuroscience  
Supported more than forty undergraduate, graduate students and high school summer trainees in various research projects in neuroscience

**1994 – 1997** ..... Summer Research Training for High School Students at Tuskegee Neuroscience Laboratory under Research Apprenticeship Program (REAP) by Army Research Office



Editorial Duties in peer reviewed journals:

**2019 – present**..... International Journal of Molecular Sciences  
**2018 – present** ..... Frontiers in Neuroscience  
**2015 – 2016**..... Neuronal Regeneration Research  
**2011 – present** ..... Clinical and Experimental Pharmacology  
**2011 – present** ..... Journal of Clinical Pharmacology & Biopharmaceutics  
**2007 – present** ..... World Journal of Biological Chemistry

Invited Reviewer:

**2020 – present** ..... Brain Pathology  
**2020 – present** ..... Journal of Comparative Neurology  
**2020 – present** ..... Journal of Metabolic Brain Disease  
**2019 – present** ..... Nutritional Neuroscience  
**2013 – present** ..... Neurobiology of Aging  
**2012 – present** ..... Nature Communications, Nature Publishing Group  
**2010 – present** ..... European Journal of Pharmacology  
**2009 – present** ..... Journal of Neuroscience  
**2008 – present** ..... Neuroscience  
**2007 – present** ..... Phytotherapy Research  
**2007 – present** ..... Life Sciences  
**2006 – present** ..... Neuropharmacology  
**2001 – present** ..... Journal of Neuroscience Research  
**2000 – present** ..... Synapse  
**2000 – present** ..... PLoS1

Grant review services:

**2020 – 2022**.....NIH Continuous submission privilege  
**2019 – present**.....National Science Center, Poland  
**2016 – present**.....Grant Reviewer, Study section member, ZRG1-ETTN-P (13)  
**2016 – present**.....Grant Reviewer, Study section member, ETTN P13 F01B  
**2015 – present** ..... Grant Reviewer, Medical Research Council, United Kingdom  
**2012 – present** ..... Grant Reviewer, Netherlands Scientific Association  
**2012 – present** ..... Grant Reviewer, Alzheimer’s Association, United Kingdom  
**2011 – present** ..... Study section member, ZRG1 F03A (late submission privilege)  
**2011 – present** ..... Grant Reviewer, Department of Defense (DOD)  
**2010 – present** ..... Grant Reviewer, Alzheimer’s Association, USA  
**2010**..... Grant Reviewer, NIH Special Emphasis Panel  
**2009**..... Grant reviewer, NIH challenge grants  
**2008 – present** ..... Ad-hoc Grant reviewer, National Institutes for Environmental Health Sciences (NIH/NIEHS)  
  
**2004 – present** ..... Ad-hoc Grant reviewer, National Institutes for General Medical Sciences (NIGMS/NIH)  
**2003 – 2006**..... Biogrant Committee Member – Auburn University  
**2001 – 2002**..... Morehouse college, faculty research proposal reviewer

Community Services:

**2014 – 2017** ..... Alabama Loving Hearts Service Project, Montgomery, Alabama  
**1999** ..... Judge, Alabama Junior Academy of Science paper reading contest  
**1996 – 2003** ..... Organizer of “Share a meal” campaign, Auburn and  
Montgomery, Alabama  
**1995 – 1997** ..... Judge, St. Joseph's Catholic School Science Fair, Tuskegee, Alabama  
**1991 – 1992** ..... Member, Auburn Greater Kiwanis Association

Professional Societies:

- Member, American Association for the Advancement of Science
- Member, Society for Neuroscience Member
- New York Academy of Science Member
- Alabama Academy of Science Member
- Sigma XI Scientific Research Society
- Member, National Council for Academic Advisors
- Executive Officer, NAT Bioscience & Technology Conference

International Committees:

**2004 – present** ..... Chair, program committee, Technological Advances in  
Science, Medicine & Engineering Symposium  
**2002 – present** ..... Member of the Board of Directors, Academy for  
Advancement of Science, Medicine & Engineering  
**2004 – Present** ..... Founding member, Technological Advances in Science, Medicine  
& Engineering Symposium Series  
**1997 – 2004** ..... Founding Member, North American Bioscience & Technology  
Conference, Guelph, Ontario, Canada

Consultant services:

**2015 – 2018** ..... Consultant and Scientific Advisor, Kalgene Pharmaceuticals, Ontario,  
Canada  
**2005 – 2019** ..... Consultant and member of the Board of Directors: Association for  
Advancement of Science - Non- profit organization based in British  
Columbia, Canada  
**1997 – 2001** ..... Research Consultant to Cortex Pharmaceutical, Irvine, California  
**1997 – 2004** ..... Consultant and Scientific advisor to North American  
Biomedical Conference, Guelph, Canada  
**1999 – 2000** ..... Consultant - Boys-Town Research Hospital, Omaha, Nebraska