MALATHI SRIVATSAN

Personal Information

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Faculty (Adjunct), University of Arkansas for Medical Sciences, Little Rock, Arkansas (<http://www.uark.edu/home/>)

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(<http://www.uams.edu/>)

Citizenship: USA

Profile Summary

Neuroscientist with academic leadership, teaching and research experience, have more than 25 years of experience in active research, mentoring undergraduate, graduate students as well as postdoctoral fellows and teaching undergraduate and graduate level courses in human anatomy, physiology, neuroscience, cell signaling and bioinformatics, with the know-how of setting up and running a very well-funded, inter-disciplinary, collaborative research program with state-of-the art equipment, employing cell culture, real time imaging, protein chemistry, molecular biology, multi electrode array, microarray analyses and nanotechnology towards neuro protection and regeneration. Secured successfully research grants from NIH, NSF and other resources, with significant record of publications and presentations including chairing sessions in international conferences. Recently served as AAAS Science and Technology Policy Fellow at National Science Foundation in Washington, D.C. and currently the Director of Molecular Bioscience Graduate Program, Assistant Director of Arkansas Biosciences Institute at Arkansas State University.

Education

Professional Stanford University, CA , Certification in Bioinformatics including Certification Proteomics, Genomics and Computational Molecular biology (2000-2002)

Postdoctoral Department of Physiology, University of KY College of Medicine, Training Lexington, KY, USA (1990-1993)

Ph.D Department of Cell biology and Human Anatomy, All India Institute of Medical Sciences, New Delhi, India (1973-1977)

M.Sc. Human Anatomy with Physiology and Biochemistry, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, India (1970-1972)

B.Sc. Zoology (major), Botany and Chemistry (minor), Madras University, India. (1966-1969)

Professional Experience

2013-Present Professor of Neurobiology at Dept. of Biological Sciences, Arkansas State University , Jonesboro, AR

2008-2013 Associate Professor (tenured) at Dept. of Biological Sciences, Arkansas State University , Jonesboro, AR

2012-Present Director, Molecular Biosciences Graduate Program, Arkansas State University, Jonesboro, AR

2013 Assistant Director, Arkansas Biosciences Institute, ASU

2010-2011 American Association for Advancement of Sciences (AAAS) Science and Technology Policy Fellow at National Science Foundation (NSF), Arlington, VA

2003-2008 Assistant Professor at Dept. of Biological Sciences, Arkansas State University , Jonesboro, AR

2003-Present Adjunct Faculty at Dept. of Neurobiology & Developmental Sciences, U.A.M.S. Little Rock. AR

2006-Present Adjunct Faculty, School of Bioengineering, University of Arkansas, Fayetteville, AR

1997-2003 Research Assistant Professor at Dept. of Physiology, Univ. of Kentucky

College of Medicine, Lexington, Kentucky

1994-1997 Research Associate at Dept. of Physiology, Univ. of Kentucky College of

Medicine, Lexington, Kentucky

1989-1993 Postdoctoral fellow in project funded by National Institute of Health (NIA/NIH) on “neuron survival in the aging nervous system” Mentor Dr. Bertram Peretz at Department of Physiology, Univ. of KY College of Medicine

1987-1988 Adjunct Faculty (Anatomy), School of Medicine, University of Minnesota

1986 -1987 Teaching Specialist (Anatomy), Robert Wood Johnson School of Medicine, University of Medicine and Dentistry, Piscataway, New Jersey

* 1. Adjunct Faculty (Embryology), Department of Biology and Natural Sciences, Dowling College, Oakdale, New York

1982-1984 Reader /Associate Professor, Dept. of Anatomy, Kasturba Medical College, Manipal, India

1980- 1982 Senior Lecturer /Assistant Professor, Dept. of Anatomy, Medical college,

University of Calabar, Calabar, Nigeria

1978 – 1980 Reader/Associate Professor, Dept. of Anatomy, Mahatma Gandhi Institute of Medical Sciences, Sewagram, India

1976-1978 Lecturer, L.L.R.M. Medical College, Meerut, India

Professional Development (period covered only last five years, 2008-2012)

* Training and certification in IACUC 101 and 201 at workshop with guidance from USDA, OLAW and AAALAC representatives, September 19, 20, 2012, Little Rock, Arkansas
* Participant in Arkansas Students Success Symposium, April 11, 2012, University of Central Arkansas, Conway, Arkansas.
* Participant in Annual meeting of the Arkansas Branch of the American Association of Laboratory Animal Science, March 8, 2012, Little Rock, Arkansas.
* Completed online courses on Money, Management and Marketing for Small Business from Small Biz University, November, 2011.
* Participated in symposia on Engaging Students in Undergraduate STEM Education with a Focus on Global Stewardship and Implementing the Vision and Change Report on Undergraduate Biology Education at AAAS Annual meeting, February 17-21, Washington, D.C., 2011
* Attended career development workshop: From Conflict to Collaboration: Getting the most from Mentoring, AAAS Annual meeting, February 19, Washington, D.C., 2011
* Participant in workshop, "MIT Forum on Convergence-the coming together of research in the life, physical, and engineering sciences," American Association for Advancement of Science, January 11, 2011.
* Trained in workshop on Administration in Academia, "Academic administrator career panel," American Association for Advancement of Science, Washington, D.C., 2010.
* Attended forum on "Education in the innovation economy," NSF, (2010).
* Actively participated in workshop, "Putting your science to work," AAAS. (2010).
* Invited to attend reception held at Library of Congress on "Recognizing Tomorrow's Possibilities: Celebrating a New Era of Undergraduate Research," Council on Undergraduate research, October 27, Washington, D.C., 2010.
* Participated in workshop, "NSF Program managers’ training camp," October, 2010.
* Attended forum and report release "America’s Science and Technology Talent at the cross roads: Expanding Minority Participation," National Academy of Sciences, (2010).
* Participated in Workshop, "Effective professional and community engagement," American Association for Advancement of Science, Washington, D.C., 2010.
* Participated in workshop, "The Change We Need: New Frontiers in Live-Cell Imaging," Society for Neuroscience, Chicago, October 16, 2009.
* Participated in NSF workshop on "Communicating Science," Little Rock, October, 2009.
* Selected to participate in workshop, "Bean Beetle inquiry based laboratory teaching workshop," NSF/ Emory University, Atlanta, GA, May 17-21, 2009.
* Invited to participate in workshop on "Spinal cord injury impactor and research models," Arizona State University, Tempe, AZ, March, 2009.
* Trained in SBIR Workshop, "Supercoach Entreprenuerial Training," ASTA/EPSCoR, Little Rock, March 3, 2009.
* FastTrac TechVenture (Kauffman) Certification – Jonesboro, May , 2009.
* Participated in workshops on Assertive communication skills for women and Conflict management skills for women by SkillPath Training, 2008.
* Attended workshop on "Teaching Neuroscience for Deep Learning," Faculty for undergraduate neuroscience, Washington, D.C., November 16, 2008.
* Completed short course on "Neural Signal Processing: Quantitative Analysis of Neural Activity," Society for Neuroscience short course, Washington, D.C., November 14, 2008.
* Faculty Internship, "Training on nanomaterial synthesis and characterization," UAF, HIDEC Center, July, 2008.

Duties and Accomplishments

***Director, Molecular Biosciences Graduate Program (From June 2012)***

*Arkansas State University(ASU), Jonesboro, AR 72401*

*Duties, goals and accomplishments:* Cross-Disciplinary Molecular Biosciences Graduate Program at ASU provides training and research opportunities that integrate cellular, molecular, developmental and genomic information and knowledge to students, both national and international, seeking doctoral degrees. I am updating the handbook, convening meetings of the oversight committee, initiate policies & seek approval from the members of the oversight committee, manage the budget, supervise the staff, update courses, actively recruit and mentor highly competent students, initiating focused recruitment especially from the underrepresented groups, secure funding to provide research and travel support for the students and their faculty mentors, make sure that students cross various stages of their graduate study successfully and in a timely manner, facilitate formation and meetings of thesis committees, organize seminars and discussion forums, function as a bridge between students and their research advisors, expose students to various career options, train students in grant writing and encourage them to obtain research fellowships from NSF, NIH and other agencies, encourage students and faculty to have multi-cultural exposure and sensitivity training since graduate students come from different countries and backgrounds and also showcase the accomplishments of students and the program. I have initiated the process for starting a Masters to Ph.D. bridge program, especially to recruit and mentor students from underrepresented minority groups following the blue print of a highly successful bridge program at Vanderbilt University; found funding to recruit and support three new graduate students and is hosting a researcher/professor from Turkey for three months as he wishes to get training in new research methods.

***AAAS Science and Technology Policy Fellow (September 2010 to August 2011):***

*AAAS Health, Education and Human Services Fellow at Division of Industrial Innovation and Partnerships, Directorate of Engineering at National Science Foundation*

*Duties and Accomplishments:*  Primary responsibility was to analyze policy and identify actionable measures to broaden participation in the funding initiatives of the Division of Industrial Innovation and Partnerships (IIP) towards taking research to the market place and contribute to the outreach measures of IIP in particular and ENG in general working with the Director of Diversity and Outreach at the ENG Directorate.

Major accomplishments included:

* Analysis of funding data (2000-2010) to identify patterns and trends of funding at IIP with regards to underrepresented groups.
* Data mining and researching to identify the unique needs of each of the underrepresented and disadvantaged groups in the science and technology based small business community to match measures to address them.
* Worked to organize a workshop to provide training, mentoring and a venue for networking for women and other underrepresented minority faculty, postdoctoral fellows, graduate students and others interested in entrepreneurship to convert their ideas and research into applications and products based on public-private partnership.
* Wrote and published in NSF Current Newsletter stories on the success of grantees from underrepresented groups to showcase their achievement and also used those success stories to encourage potential applicants.
* Prepared materials to create a webpage on broadening participation at IIP to provide tips and tools to help potential grantees achieve success and also to showcase their success stories.
* Presented the data on funding trends in IIP for the disadvantaged group and information on initiatives to broaden participation at the conference on “Understanding Interventions” in May of 2011 at Nashville, TN.
* Actively participated in the strategic planning retreat of IIP.
* Presented our efforts, findings and recommendations to the advisory committee of IIP and it was well received and appreciated by the members of the advisory committee of IIP/ENG/NSF.
* Participated in the weekly meetings of assessment committee (ENG) to contribute towards identifying /developing better assessment tools to evaluate the outcomes of the funding initiatives.
* Reviewed five proposals and attended two research proposal review panels to understand the peer review process at NSF.
* Contributed to several agency-wide discussions on STEM education and Diversity.
* Organized a symposium at AAAS on Diversity, titled, “STEM without borders: a dialogue on barriers and opportunities for students and researchers in the US and abroad” to exchange ideas and to learn best practices among federal agencies.
* Understood the program initiatives of Office of International Science and Engineering at NSF, and by working with AAAS fellow in US State Department helped begin a dialogue on inter-agency collaboration (between State Department and NSF) to promote entrepreneurship education and efforts globally.
* Learned agency wide best practices implemented at NSF and NIH to promote education, research and diversity.
* Attended a two and a half day training session for NSF program officers and learned about NSF policies and practices pertaining to the duties and responsibilities of program officers/directors at NSF with regards to proposal reviews, funding decisions, monitoring progress and program assessment.

Training at AAAS:

During the two weeks long intense orientation learned about the following:

1. the contrasting cultures of science and public policy making, (2) American experiment in government, (3) federal budget procedure including writing an appropriation bill, (4) Economic policy, (5) the structure, culture and function of the executive branch, (6) science policy vs. science for policy, (7) Legal aspects of science and technology policy, (8) The law making process/the path of legislation, (9) The structure and function of office of science and technology policy to the President at the white house, (10) Developing, pitching and implementing policy, (11) policy analysis, (12) introduction, ethical and legal requirements in the executive branch, (13) diplomacy, security and development, (14) effective writing in the executive branch, (15) science, diplomacy and international cooperation, (16) international development and international economics, (17) national defense and global security, (18) congressional insight, and (19) challenges and rewards of public service.

In addition, I obtained very valuable training from the following AAAS conducted workshops:

* Career development/advancement
* Leadership training
* Science communication to lay audience
* Art of negotiation
* Put your science to work

Further, I contributed by participating in the following by invitation:

 Round table discussions at National Academy of Sciences on STEM education and postdoctoral/early career training.

 Round table of committee on equal opportunities in science and engineering, Charged by Congress to advise NSF, <http://www.nsf.gov/od/oia/activities/ceose/minutes/CEOSE_MeetingMinutes_06_13-14_2011.pdf>.

 Global Diaspora Forum, hosted by US State department, and lead by Secretary of State, Hon. Hillary Clinton, <http://www.state.gov/secretary/rm/2011/05/163574.htm>

 US State department and NSF jointly hosted symposium entitled “Changing Mindsets to

Promote Women and Girls in Science” <http://www.state.gov/r/pa/prs/ps/2011/06/166481.htm>

 ***Professor (From June 2013),*** ***Associate Professor (tenured) (From June, 2008 to date) and Assistant Professor (From July 2003 to May2008)***

*Department of Biological Sciences, Arkansas State University(ASU), Jonesboro, AR 72401*

*Faculty Associate, Arkansas Biosciences Institute, Jonesboro, AR 72401*

 *Duties and accomplishments*: Primary responsibilities are distributed approximately as teaching (30%), research (55%) and service (15%). Major accomplishments were securing and managing more than 2.5 Million dollars of research grant support from NIH, NSF and State funds. As campus lead on the “Wireless, information & nano technology sensors and systems” project funded through NSF EPSCoR and ASTA (Arkansas Science and Technology Authority), helped develop biosensors and used nanomaterials for promoting neuroregeneration in collaboration with faculty in engineering at the University of Arkansas at Fayetteville (UAF). With continued funding from NIH (NCRR) investigated the mechanism of the novel action of acetylcholinesterase as a neurotrophic factor. Collaborated with faculty in computer sciences at University of Arkansas at Little Rock (UALR) and with successful funding support from NSF, worked to develop tools to filter noise from data in the large data sets on real time neural communication among neurons in a network. As a faculty associate of Arkansas Biosciences Institute, collaborated with plant biotechnologists in research testing plant-derived molecules for neuroscience applications promoting inter-disciplinary, application oriented research. Collaborated with the Director of Neurochemistry lab at National Center for Toxicology Research (NCTR) to investigate size and concentration dependent nanotoxicity of copper nanoparticles on sensory neurons innervating the skin. Chaired scientific sessions and presented research routinely in national and international meetings. Participated in international meetings to establish research network and collaborations. Reviewed book chapters and reviewed manuscripts as peer reviewer for journals. Published manuscripts in national and international journals and authored book chapters.

Trained and mentored postdoctoral fellows, graduate students and undergraduate students in state of the art, interdisciplinary research. Mentored undergraduate honors students in their thesis research. Mentored an undergraduate student who won a Student Undergraduate Research Fellowship from Arkansas Department of Higher Education. Published manuscripts with undergraduate students as authors. Recruited and mentored students from different cultural backgrounds and built a research team that reflected diversity.

Successfully introduced and taught graduate level interdisciplinary courses, “Bioinformatics for Biologists” and “ Neuroscience : Basics and applications for Bioengineering” and an advanced course in “Cellular and Molecular Neuroscience”. Conducted a workshop at UAF on fluorescence microscopy for nanomaterial research at the Bioengineering department. Introduced and taught new courses in cellular and molecular neurobiology, cell signaling and fluorescence and confocal microscopy. Developed and implemented inquiry based hands-on laboratory course using Bean Beetles as a model organism to lower and upper level Biology undergraduate students.

Chaired the goals sub-committee of the departmental assessment committee to outline the mission and goals of the Department of Biological Sciences. Organized (responsible for the scientific program) and hosted the Annual National Conference of Environmental Sciences and Studies in 2008. Had contributed to recruitment as a member of the chair search committee and several faculty search committees. Reviewed proposals as a member of the IACUC (Instituional Animal Care and Use ) committee, and currently as chair of the IACUC committee, I am also helping with convening meetings, inspections as well as compliance. Identified measures and helped implement them at ASU to promote success among colleagues in obtaining federal and state funding for their research. Continued to publish articles in local newspaper to explain science and advances in scientific research to lay audience. Continued to involve colleagues and students in conducting Brain Bee competitions at high schools in North East Arkansas and organizing Brain Awareness events in the community to educate lay audience on brain function and brain fitness. Had been faculty advisor for medical arts club and arranged for health care professional to share their educational and career experiences with the student members of the club. Involved student members of the Medical Arts Club in health care related activities such as blood drive, screening for breast cancer etc. to serve the community. Through my graduate student (NSF GK-12 fellow) helped develop inquiry based hands-on experiments for teaching science in middle school in rural Arkansas. Developed hands-on experiments for middle school girls during Women in Science and Girls of Promise events to reach out to K-12 girl students to stimulate their interest in STEM areas.

***Assistant Professor (From July 2003 to May2008)***

*Department of Biological Sciences, Arkansas State University(ASU), Jonesboro, AR 72401*

*Faculty Associate, Arkansas Biosciences Institute, Jonesboro, AR 72401*

*Duties and accomplishments*: Primary responsibilities are distributed approximately as teaching (30%), research (55%) and service (15%). Major accomplishments were securing and managing more than 800,000 dollars of research grant support from NIH, NSF and State funds. Established a state-of-the art neuroscience research laboratory from scratch, assembled and trained a very successful research team. With funding support from ABI performed preliminary experiments and based on the results of these experiments obtained funding from NIH (NIDA) to investigate the effects of exposure to nicotine and cigarette smoke on developing autonomic neurons which highly express nicotinic receptors. With funding from NIH (NCRR) investigated the mechanism of the novel action of acetylcholinesterase as a neurotrophic factor. Presented research routinely in national and international meetings. Participated in international meetings to establish research network and collaborations. Reviewed manuscripts as peer reviewer for journals. Published manuscripts in national and international journals.

Trained and mentored postdoctoral fellows and undergraduate students in state of the art, interdisciplinary research. Recruited and mentored students from different cultural backgrounds and built a research team that reflected diversity. Won award for Excellence in Mentoring Undergraduate Research from the international body, the Society for Neuroscience.

 Helped outline Molecular Biosciences Ph.D. program. Successfully introduced and taught graduate level course in “Cellular and Molecular Neuroscience”. Revised, updated and taught courses in mammalian neurobiology and animal physiology. Introduced a laboratory course in mammalian neurobiology. Introduced and taught a new course in cell signaling. Designed and taught a hands on fluorescence and confocal microscopy course as a techniques course.

Helped draft a strategic plan on graduate education for the University as a member of the university strategic planning committee. Contributed to developing the twenty year blue print for the Department of Biological Sciences at ASU. Published articles in local newspaper to explain science and advances in scientific research to lay audience. Founded the ASU chapter of Society for Neuroscience and involved colleagues and students in conducting Brain Bee competitions at high schools in North East Arkansas and organizing Brain Awareness events in the community to educate lay audience on brain function and brain fitness. Had been faculty advisor for medical arts club and arranged for health care professional to share their educational and career experiences with the student members of the club. Involved student members of the Medical Arts Club in health care related activities such as blood drive, screening for breast cancer etc. to serve the community. As chair of the Diversity committee of the department, developed brochures to help in recruitment of students from diverse backgrounds. Trained high school teachers and students in research during summer and helped the teachers develop lesson plans around research topics for their students.

***Research Assistant Professor (From April 1997 to June 2003)***

*Department of Physiology, College of Medicine, University of Kentucky, Lexington, KY 40503*

*Duties and Accomplishments* Primary responsibility was performing research. Accomplishments included obtaining $490,000 research grant funding from NIH/NINDS, $180,000 from Kentucky Spinal Cord and Brain Injury Research Trust and $20,000 from the Alzheimer’s disease Research Center, setting up research laboratory, managing the funds, inventory, planning and executing experiments for performing research on neuroregeneration, publishing and presenting research results, teaching a neurophysiology graduate course, taking care of and providing training in the appropriate use of multi-user research equipment facility to colleagues, postdoctoral fellows, graduate students and technicians and mentoring undergraduate students in research. Had been a judge for Intel Science Fair for the grand price, and Fayette County Science Fairs. Organized brain awareness events. Participated in outreach to K-12 students by designing hands-on experiments in science for them.

***Research Associate (From June 1993- March 1997)***

***Postdoctoral Research Fellow (From September 1990- May 1993)***

*Department of Physiology, College of Medicine, University of Kentucky, Lexington, KY 40503**Duties and Accomplishments* Primary responsibility was performing research on neuronal plasticity and aging in neurons of the marine mollusk, *Aplysia* under the mentorship of Dr. Bertram Peretz supported by a NIH postdoctoral fellowship. Accomplishments included establishing a cell culture system for the identifiable, adult neurons of *Aplysia,* demonstrating the novel, neurotrophic action of acetylcholinesterase and publishing the results of my research. Was invited to speak at an international symposium on the non-cholinergic actions of acetylcholinesterase. Collected preliminary data for my first independent research grant. Trained graduate students and undergraduate research assistants and ran the lab of Dr. Bertram Pretz. Obtained postdoctoral research fellowship from NIH training grant.

***Assistant Professor to Reader (From 1977- 1987)*** *Dept. of Anatomy, Kasturba Medical College, Manipal, India, Mahatma Gandhi Institute of Medical Sciences, Sewagram, India, L.L.R.M. Medical College, Meerut, India*

*Duties and Accomplishments* Primary responsibilities were teaching histology, embryology and neuroscience to medical, dental and pharmacy students and developing teaching materials for medical, dental and nursing students. Accomplishments included developing a complete set of new microscopic slides for histology lab and training technician in preparing and preservation of specimens for museum displays. Wrote and published a laboratory guide for histology for the medical students. Was research advisor for two Masters students.

***Senior Lecturer (From 1980-1982)***

*Dept. of Anatomy, Medical college, University of Calabar, Calabar, Nigeria*

*Duties and Accomplishments* Primary responsibility was to help start a new department of cell biology and human anatomy from scratch in a brand new college of medicine at University of Calabar. Accomplishments included contributing to developing courses in all branches of cell biology and human anatomy and often teaching with very limited resources. Developed an integrated curriculum for teaching neuroscience. Trained junior faculty and technicians in laboratory teaching. Developed teaching materials, wrote lectures and made a set of power point slides scanning histology slides adding notes to them so that students could review materials on their own at their convenience. Procured materials and set up histology laboratory.

Honors and Awards

2012 Invited to join editorial board of Science Publishing Group Journals

2011 Invited to Chair the session on ‘Nano-Neurology’ at BIT' s 2nd Annual World Congress of Nanomedicine-2011 in Shenzhen, China.

2010 Selected as AAAS Policy Fellow to serve in Health, Education and Human Services Federal Policy areas in March 2010.

2010 Research recognized and highlighted at NSF website: <http://www.nsf.gov/od/oia/highlights/highlights2.jsp> Highlight ID: 18941

**2010 Invited to present a plenary session talk on “**Interactions of Nanomaterials and Neurons: Potential Applications and Concerns” at the Fifth International conference on Bioengineering held at Izmir, Turkey in June, 2010

2010 Chaired session on “Nanomaterials for health care” at **ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology held at Houston, Texas (02/07/2010 to 02/10/2010)**

**2009 In the news: Research recognized and highlighted at A to Z in nanotechnology, website devoted to nanotechnology information:** [http://www.azonano.com/news.asp?newsID=9394](http://www.azonano.com/news.asp?newsID=9394%20)

2009 NSF award to participate in work shop for promoting “Inquiry based laboratory training to undergraduates” at Emory University, Atlanta, GA.

2009 Invited to chair the session on“Nanosensors, Biosensors, and Info-Tech Sensors and Systems, SPIE International conference, San Diego, CA.

2007 Chosen as distant mentor for graduate students by the Diversity committee of Society for Neuroscience.

2006 Certificate of Excellence in Mentoring undergraduate research: from Faculty for Undergraduate Neuroscience, Society for Neuroscience.

2004 & 2005 Certificate of appreciation from Arkansas STRIVE for Mentoring High School Teachers in Neuroscience Research.

2001 Scholarship from Cold Spring Harbor Laboratory to attend an international workshop for young investigators on ‘Molecular Mechanisms of Human Neurological Diseases’.

1997 Travel Award from International Society for Neurochemistry

1995 Scholarship from NIH (NIA) to attend international workshop on biology of aging held at San Antonio, Texas.

1990 - 94 Postdoctoral fellowship from NIH/NIA.

1993 Fellowship from training grant, NIH/NIMH.

1982 Best teacher award in basic medical sciences at Kasturba Medical College, Manipal, India.

1977 Graduate student representative to Institute senate at A.I.I.M.S. India.

1973-77 Graduate research fellowship from Director General of Health Services, India.

1966-1969 National Merit Scholarship, Govt. of India

Research Interests

(1) Applications of wireless and nanotechnology to develop neuro-sensors, neuro-stimulators and growth guidance scaffold

(2) Interaction of nanomaterials with neurons, Environmental impacts on nervous system (nanomaterials, organophosphate pesticides, cigarette smoke)

(3) Application of Bioinformatics in biological research

(4) Plant –derived antioxidants for neuroprotection from oxidative stress

(5) Cholinergic mechanisms in neuron regeneration

(6) Nicotine and the developing autonomic neurons

Research Support

Extramural

Pending

2013-2016 Collaborative Research: Bioengineering of Novel Neural Stem Cell

 Microenvironments, submitted to NSF, EPSCoR Track II, Total budget, $6,000,000

2013-2017 Mentor on postdoctoral fellowship proposal submitted by Dr. Addie Hicks to NSF, Total budget, $ 260,000.

Current

2009-2012 Campus Lead and Co-PI onNSF CRI-II 0855248 “Stream Computing for Research and Education in Science and Engineering” Direct cost $400,000

2010-2013 Co-PI on NSF MRI-R2 0960089 “Acquisition of Equipment for Investigating Biodynamic Interactions,” Direct cost $1,070,851.

Completed

2011 Student Undergraduate Research Fellowship grant from Arkansas Dept. of Higher Education, “Transport of nanomaterials from airways to neurons” Direct Cost $2250

2008-2010Campus Lead and Co-PI on NSF EPSCoR 0701890 “ Develop infrastructure for Wireless, Nano, Bio, Neuro sensors”. Direct cost, $4,500,000.

2010 P.I. on INBRE Equipment subaward for Epifluorescence and Camera attachments for Stereo microscope, $12,002

2009 P.I. on INBRE Equipment subaward, other P.Is were Dr. Argelia Lorence and Dr. Roger Buchanan. To purchase electrophysiological stimulator and brain slicer

2006-2010 P.I. on NIH/NIDA R15 019971 “Nicotine and development of autonomic neurons”. $194,000.

2006-2010 P.I. on NIH/NCRR INBRE P20 RR-16460 funded project on “Cholinergic mechanism in neuroregeneration ”. Direct cost, $362,000.

2004- 2005 P.I. on NIH/NCRR BRIN “Cholinergic mechanisms in neuroregeneration”. Direct Cost, $48,000.

2004-2005 PI on ABI/AR “Effects of nicotine on developing autonomic neurons” Direct cost $150,000.

2003-2005 NIH / BRIN start-up support, $200,000

2001-2003 P.I. on grant from Kentucky Spinal cord and head injury research board to study neuroregeneration in rat dorsal root ganglion neurons. Direct cost $ 171,154.

1997– 2004 P.I. on NIH/NINDS R29 to investigate acetylcholinesterase’s novel role in neuroregeneration. Direct cost $350,000.

1999 - 2000 P.I. on NIH/NIA Pilot Grant from Alzheimer’s Disease Research Center (Sanders Brown Center for Aging) University of Kentucky to investigate acetylcholinesterase and amyloidosis . Direct cost $ 20,000.

Intramural

Current

2012 P.I. on “Organophosphate toxicity on sensory neurons” $5,000

Completed

2010 P.I. on “Use of stem cells for functional recovery in spinal cord injury”: Collaborative research at Center for Brain Research at Ege University, Turkey: ASU Middle East Studies Grant, $7,500.

2009-2010 ABI Summer research support for undergraduate and graduate students, $ 4,000

2008-2009 ABI Summer research support for undergraduate and graduate students, $5,200

2006Faculty development award, P.I. on nano material and neurotoxicity.  Direct cost, $4,500.

2005 ABI/ASU P.I. Faculty research award to study “nicotine and developing sympathetic neurons”. Direct cost, $12,200.

2005 ABI/ASU P.I. Faculty research award to develop spinal cord and brain injury impactor. Direct cost, $11,800.

2004ABI/ASU Co-PI on grant proposal on “Assessing the benefits of genetically modified crops: Effects of agricultural practices on small mammal populations”. Direct cost, $75,000.

2003 ASU Faculty award P.I. on “Effects of organophosphate pesticide on aquatic organisms”. Direct cost, $4,000.

2002 P.I. Pilot grant funding from U.K.College of Medicine for microarray analysis of gene expression profiles in rat sensory neurons exposed to acetylcholinesterase and its pesticide inhibitors. Direct cost, $5,000.

1980 – 1982 PI on Senate Research Committee Grant - Calabar, Nigeria - to investigate age-related changes at the neuromuscular junctions- $2,000 / year.

Invited Presentations (National and International)

2012 “Funding Opportunities for Translational Research” at the NSF Minority Faculty Development Workshop held at Georgia Tech, Atlanta, GA from 03/16 TO 03/18/2012.

2011 “Broadening Participation in innovation and Entrepreneurship” at the Fall Advisory Committee meeting of IIP/ENG/NSF, Washington, D.C., 10/25, 10/26/2011.

2010 **“**Interactions of Nanomaterials and Neurons: Potential Applications and Concerns” at the Fifth International conference on Bioengineering held at Izmir, Turkey in June, 2010.

2010 “Nanomaterials for Developing Therapeutic Measure for Repair in the Nervous System.” **ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology (NEMB2010)** in Houston, TX. **Feb. 9, 2010.**

2009 “Nanomaterials for Neuroregeneration” seminar presented at Harrington Department of Bioengineering, Arizona State University, AZ.

2008 “Nano materials for Differentiation, Growth and repair in the Nervous system” Distinguished speaker at Fifth International conference on Smart materials, sensors and systems, Bangalore, India.

2008 “Survival and regeneration of neurons: Role of trophic mechanisms to counter neurodegeneration” seminar presented at Department of Bioengineering, University of Arkansas at Fayetteville, Arkansas.

2007 “Effects of nicotine on neuro-immune interactions in sympathetic neurons of rat” at Cellular and Molecular Mechanisms of Drugs of Addiction at IDARS symposium, International Society of Neurochemistry, Merida, Mexico.

2006 “Nicotine alters nicotinic receptor levels in a sub unit-specific manner in sympathetic neurons of rat” International Drug Abuse Research Society Symposium at Venice, Italy.

2003 “Novel neurotrophic functions of acetylcholinesterase” research seminar at Dept of Biological Sciences, Arkansas State University, Jonesboro, AR .

2002 “Neural and circulating acetylcholinesterase of *Aplysia*”*.* Biocatalysis - International conference on Chemical Enzymology at Moscow State University, Moscow, Russia.

2000 “Effects of organophosphates on survival in dorsal root ganglion neurons of rat.” International symposium on applications of enzymes in chemical and biological defense at Orlando, Florida.

1998 “Effects of organophosphates on cholinesterase activity and neurite regeneration in *Aplysia*”. At Third international meeting on esterases reacting with organophosphorus compounds at Dubrovnik, Croatia.

1995 “Circulating acetylcholinesterase promotes neurite growth in adult neurons of *Aplysia*”. At Satellite symposium on "Novel functions of cholinesterases in development and disease" at the annual meeting of Society for Neuroscience, San Diego, CA.

1994 “Neurotrophic function of circulating acetylcholinesterase in *Aplysia”*. At Fifth international meeting on cholinesterases at Madras, India.

Peer Reviewer

*Grants:*

2010-11 Internal Reviewer, ENG/NSF

2003 Reviewer for Alzheimer’s Association Research Grants Program

2001 Reviewer for Cooperative Grants Program of the U.S. Civilian Research and Development funded by NSF and US State Department

1980 - 1982 Reviewer for Senate Research Committee Grants, University of Calabar, Nigeria *Journal Manuscripts:*

1995 – present Reviewer for

 Materials Science and Engineering B

 International Journal of Nanomedicine

 Nanotoxicology

 Neurobiology of Aging

 Neuroscience Letters

 Journal of Neurochemistry

 Journal of Comparative Physiology

 Comparative Physiology and Biochemistry

 Environmental Chemistry and Toxicology

 Archives in Biochemistry and Biophysics

*Software and book chapters:*

2004 Hole’s Human Anatomy and Physiology, McGraw Hill

2005 Anatomy & Physiology Revealed, McGraw Hill

2008 Biology for middle school, McGraw Hill

2010, 2012 Bioinformatics, Oxford University Press

Mentoring Efforts

2011-2012 Mentoring junior faculty member Dr. Guolei Zhou in securing funding for research

2009-2010 Postdoctoral Fellow, Dr. Sahitya Chetam Pandaboina

2006- 2010 Postdoctoral Fellow, Dr.Mahadevappa P. Badanavalu

1. Postdoctoral Fellow, Dr. Meena Arvindhakshan

2008-2011 Graduate Students , Ms Madhumita Paul (Ph.D., Molecular Biosciences), Mr. Nagavenkata Kunala, Mr. Caleb Pingel (MS Biology)

2007-2010 Mr. Chandrajit Chowdhuri (Ph.D., Molecular Biosciences)

2007-2011 Mr. Seth Schirmer (M.A. Biology)

2004-2005 Summer research training for High School teachers, Ms. Theresa Fuller and Ms Amanda Herring through Arkansas STRIVE funding

1982-1984 Two postgraduate students of medicine in their research and thesis for their Master’s degree in neurobiology

Name Current Status

Dr. M.R. Belsare Professor of Anatomy, PRDM Medical College, India

Dr. K.M. Kulkarni Professor of Anatomy, Ramaiah Medical

College, Bangalore, India.

1997-2011 Undergraduates mentored in Research 25

 (Five are in graduate school, two are pursuing M.D., Ph.D. program, six are M.D. students, three are residents after finishing M.D., five are yet to graduate, two are working as research associates, one is a nurse, one has become a clinical psychologist)

Thesis Committees

2012-2013 Undergraduate Honors thesis of Linda Ogutu and Zach Marsh

2007-2012 Primary advisor for Graduate dissertation of Chandrajit Choudhuri, Seth Schirmer, Madhumita Paul, Nagavenkata Kunala, Caleb Pingel

 2007-Present Graduate dissertation of Maria Isabel Ferrand Malatesta, Guillermo Trujillo, Walter Acosta

2006-2008 Graduate dissertation of Kiran Artre, University of Arkansas, Fayetteville

2005-2008 Graduate dissertation of Jane Anfinson

2004-2009 Graduate dissertation of Katherine McKeon

2005-2010Undergraduate Honors thesis of Akash Shah, Hemab Mishra and Jessica Battisto

1980-1982 Graduate dissertation of Dr. M.R. Belsare, Dr. K.M. Kulkarni

Membership in Professional Societies

Society for Neuroscience

Women in Neuroscience

American Association for the Advancement of Science

International Society of Neurochemistry

International Society for Computational Biology

International Drug Abuse Research Society

Society of Environmental Toxicology and Chemistry

Faculty for Undergraduate Neuroscience

Mid-South Society of Bioinformatics

Society for Neuroscience – ASU (Founder)

Offices held in Professional Organizations

Society for Neuroscience - Officer in charge of Brain bee for North East Arkansas

Society of Environmental Toxicology and Chemistry – Mentor and career committee

Teaching Experience

2012 MBS 7151 Responsible Conduct in Research

2008-present BIO 6133 Bioinformatics and Applications (Lecture/Lab)

2007-present BIO 4143 Pharmacology (Team taught course, taught neuropharmacology portion)

2005-present BIO 6023 Advanced Cellular and Molecular Neurobiology

2005-present BIO 5363 / 4363 Mammalian Neurobiology (Lecture)

2005-present BIO 5361/4361 Mammalian Neurobiology (Lab)

2007-present BIO 4123/5123 Cell Signaling

2003-2006 ZOOL 2001, 2011 Human Anatomy and Physiology I & II, Lecture & Lab

2004-present BIO 3323 Animal Physiology (Lecture)

2004-present BIO 3321 Animal Physiology (Lab)

2007- present MBS 6213 Advanced Cell Biology (Team taught course, taught Microscopy, Receptors & Apoptosis portions)

2007-present MBS 6252 Techniques in Molecular Biosciences (Taught Microscopic techniques)

2006-present BIO-4393-003 Special Problems, Research in Neurobiology (Independent Study Course)

1. BIO 680V Analytical Methods for Molecular Interactions (Independent Study Course)
	1. MBS 713V Fluorescence Microscopy for the study of receptor regulation (Independent Study Course)
2. BIO 680V Fluorescence Microscopy for neuron-nanomaterial interaction (Independent Study Course)

2005 BIOL-4271-003 Research in neurochemistry (Independent Study Course) (ASU)

2004 Spring ZOOL-H-3203-001 Honors Animal Physiology (ASU)

1994 - 2000 PGY 602 (Neurophysiology section) to graduate students (Ph.D.) at Department of Physiology, College of Medicine, University of Kentucky

1. Bio 103 Introductory biology including Neurobiology at Lexington Community

 College, University of Kentucky

* 1. PGY 502 Cell and membrane physiology to graduate students at Univ. of Kentucky
1. Masters course in Neuroanatomy to Nurse Anesthetists at Univ. of Minnesota

1986 – 1987 NSCI 6000 Gross and Developmental Anatomy (embryology) to Graduate

 Students of Medicine at Department of Anatomy and Neuroscience at Robert

 Wood Johnson Medical School, UMDNJ, NJ.

1985 - 1986 Bio 351, Developmental Biology (embryology) to students in Biology Major, Department of Biology and Natural Sciences, Dowling College, Oakdale, NY.

1982 - 1984 Director of Histology, Taught Histology and Neuroanatomy to Medical, Dental

 and Pharmacy students at Dept. of Anatomy, Kasturba Medical College,

 Manipal, India.

1980 – 1982 Neuroscience, Histology and Histochemistry to Graduate Students of Medicine

 and Undergraduate students in Radiology and Physiotherapy at Dept. of Anatomy,

 Medical college, University of Calabar, Nigeria.

1978 -1980 Gross Anatomy and Histology to Graduate Students of Medicine at Mahatma

 Gandhi Institute of Medical Sciences, Sewagram, India.

* 1. Gross Anatomy and Histology to Graduate Students of Medicine at L.L.R.M.

 Medical College, Meerut, India

New Courses Developed

2009 Introduced hands on inquiry-based learning exercise using Bean Beetles and neam powder in neurobiology and animal physiology laboratory courses

2008 Bioinformatics and applications

2008 Neuroscience : Basics and applications for Bioengineering

2006 Pharmacology (neuropharmacology part)

1. Cellular and Molecular Neurobiology

2004 Mammalian Neurobiology Laboratory

2004 Cell signaling

1999 Advanced Neurophysiology (team taught course)

1981 Integrated neuroscience (team taught course by faculty from Anatomy, Physiology,

 Biochemistry, Pathology, Neurology and Neurosurgery departments)

Service

***National & International***

Reviewer, AAAS Science and Technology Policy Fellowship applications, December 2011, 2012.

Hosting Dr. Sefa Celik, as visiting professor from Afyon Kocatepe University, Turkey, 2012

Edotorial Board, Science Publishing Group Journals

***National***

Member, Mentor Committee (Committee for Career Development), Society of Environmental Toxicology and Chemistry (2009-present)

Co-Chair, Organizing Committee, “STEM without Borders: A Dialogue on Barriers and Opportunities for Students and Researchers in the US and Abroad” at AAAS (American Association for the Advancement of Science), June 6th, 2011.

Strategic Planning Committee, Division of Industrial Innovation and Partnerships, National Science Foundation, USA (2010-2011)

Chair, Program Committee, 3rd Annual *National* Environmental Studies *and* Sciences Summit, 2008

Mentor, Mentornet (<http://www.mentornet.net/>) (2006-present)

Mentor, Distance Mentoring, Society for Neuroscience (2009-present)

***State***

Reviewer, Student Undergraduate Research Fellowship grants, Arkansas Department of Higher Education, Arkansas, 2012.

Member, Scientific Advisory Committee, Arkansas Stem Cell Coalition

Chair, Arkansas Stem Cell Coalition

***University***

1. Graduate Council

2. IACUC Committee (2009-present, also current Chair)

3. Sponsored Research Committee (2006-Present)

4. Strategic planning committee on graduate education and research (2003-2004)

 5. ABI Protein Chemist Faculty recruitment committee (2005-2006)

 6. ABI Microscope facility management committee (2005-Present)

 7. Attended NCSE- organized fall capitol hill meeting and communicated the importance of increased funding to ASU through NSF to the elected representatives (2006)

 8. Participated in Minority role model conference to learn and network for increasing enrollment of minorities at ASU(2005)

 9. Member, Committee for integrated neuroscience curriculum development, Calabar

 Medical College, University of Calabar, Nigeria (1980-1982)

***Department***

1. Chair, Goals subcommittee of Assessment committee (2012)
2. Search Committee for Cellular and Molecular physiologist position (2012)
3. Search Committee for Director, Biotechnology (2010-2011)
4. Search committee for Chair, Department of Biological Sciences(2009-2010)
5. Search committee , Assistant Professor in Molecular Physiology (2009-2010)

3. Electronic Journal (2004 - 2008)

4. Strategic committee (2004 & 2005)

5. Curriculum Committee (2005- Present)

6. Committee on Ecotox facility (2005)

7. Pre Professional interview committee (2005- Present)

8. Departmental website committee (2005-2006)

9. Scholarship committee – pre professional (2004 & 2005)

10. Diversity Committee / Chair (2004 – present)

11. Graduate students / Teaching assistants task force (2003-2004)

 12. In-charge of purchase, maintenance and training of users of shared equipment

 facility at Dept. of Physiology, University of Kentucky (1996-2003)

 13. Faculty search committee, Department of Physiology, Univ. of KY (1998-1999)

 14. Supervisor in-charge of delegation of duties and performance evaluation of

 lecturers, instructors and technical staff in medical colleges in India (1978-1982)

 15. Director of graduate studies, Director of Histology, Kasturba

 Medical college, Manipal, India (1982)

 16. Member, Committee for integrated neuroscience curriculum development, Calabar

 Medical College, University of Calabar, Nigeria (1980-1982)

***Student Academic Clubs***

 Faculty advisor for Medical Arts Club (2005-2012)

 Founding Faculty Advisor for ASU – Society for Neuroscience (2005-Present)

***Community***

2005-present Grand Prize Judge for Craighead County Science Fair

2005- Along with Dr. Amy Pearce conducting Brain awareness day at public library for

present Jonesboro public. This was well received by the public with requests for several

 repeat performances.

2005 Judged graduate student presentations for best presentation award in Biological sciences at Annual Meeting of Arkansas Academy of Sciences, 2005, Hendrix college, Arkansas

2005 Chaired a session during undergraduate scholars day, ASU, 2005

2005 Participated in Minority access annual conference at Los Vegas, and moderated a session on recruitment and retention of minority students

2004 Trained two high school students in neuroscience research during summer of under Science, Society, Leadership Program

 2004 Category Judge for Craighead County Science Fair

2003 As a member of the ASU environmental science forum, “ Second Nature”, have

 encouraged student participants towards organizing events to promote community

 awareness of environment

1997 Judge for International science fair organized by Intel and GE

1993 - 1999 Judge for Science fair, Fayette county schools, KY

* 1. Speaker on neuroscience and research to school children at Fayette county, KY

 during brain awareness week

Patents

M.Srivatsan, Xie, J., Chen, L., Varadan, V.K. Provisional application on “Magnetic Nanotube Facilitation of Neurite Growth” filed on 08/01/2012

Publications (communicating science to lay audience)

**M. Srivatsan** (2005) Researchers investigating enzymes to treat spinal cord injury: in Jonesboro Sun, 10/08/2005

**M.Srivatsan** (2006) Scientists find bad experiences may cause 'scars' in brain tissue: in Jonesboro Sun, 04/01/2006

J.Treece and **M.Srivatsan** (2007) ASU researchers studying effects of nicotine in cigarette smoking in newborn rats: in Jonesboro Sun, 06/15/2007

J.Yancey and **M. Srivatsan** (2009) Can small (nano) materials help fix big problems? Role of nanotubes in neuroregeneration: in Jonesboro Sun, 07/26/2009

A.Pearce and M. Srivatsan (2009) Bean Beetles:  Can they improve laboratory learning? :in Jonesboro Sun, 09/27/2009

**M. Srivatsan** and A. Pearce (2009) Get Fired Up” Brain awareness day Jonesboro Sun, March, 2009

Pearce, A., **Srivatsan, M**. (2010). Arkansas State University Prepares for Brain Awareness Day. Jonesboro, Arkansas: Jonesboro Sun. www.jonesborosun.com/

Publications (Book Chapters)

Pearce, A., Biondolillo, K., **Srivatsan, M**. (2009) Enhancing faculty and student experiences in

neuroscience at a predominantly undergraduate institution. In “Translational Neuroscience in Animal Research: Advancement, Challenges, and Research Ethics” Jason Warnick and Allan Kalueff (Ed.), Pp-155-164 NovaScience.  ISBN**:** 978-1-60876-185-2 <https://www.novapublishers.com/catalog/product_info.php?products_id=10962>

Sharmila Venugopal, Sharon Crook, **Malathi** **Srivatsan** and Ranu Jung (2011) Principles of computational neuroscience, in " Biohybrid Systems*:* Nerves, Interfaces, and Machines. Ranu Jung (Editor), Pp11-30, ISBN: 978-3-527-40949-5. Wiley-VCH publishers, Weinheim, Germany.

Linfeng Chen, Jining Xie, Hargsoon Yoon, **Malathi Srivatsan**, Robert E. Harbaugh and Vijay Varadan**.** (2011) Nanotransducers linking cells and neural electrodes, in " Biohybrid Systems*:* Nerves, Interfaces, and Machines. Ranu Jung (Editor). Pp 95-113, ISBN: 978- 3-527-40949-5. Wiley-VCH publishers, Weinheim, Germany.

Publications (Peer Reviewed)

Badanavalu M. Prabhu, Fabricio Medina-Bolivar, Jose Condori, Ganapathy Sivakumar, **Malathi Srivatsan** (2013) Neuroprotective effects of peanut hairy root extract against oxidative stress in PC 12 cell derived neurons. Journal of Medicinally active plants (in press).

Jining Xie, Linfeng Chen, Vijay K. Varadan, Sahitya Chetan, **Malathi Srivatsan** (2011) Magnetic nanotubes influence the response of Dorsal root ganglion neurons to alternating magnetic fields . J. Nanotech. Eng. Med. Vol. 2 / 031009-1, [DOI: 10.1115/1.4004305]

Linfeng Chen; Jining Xie; Kiran R. Aatre; Justin Yancey; Sahitya Chetan; **Malathi Srivatsan**; Vijay K. Varadan (2011) Synthesis of hematite and maghemite nanotubes and study of their applications in neuroscience and drug delivery. SPIE, 7980, DOI: 10.1117/12.881843

Amy R. Pearce and **Malathi Srivatsan** (2011) Volunteerism is Key to Offering Successful Neuroscience Outreach with Limited Resources. Journal of Undergraduate Neuroscience Education (JUNE), Spring 2011, 9(2):A62-A65

Linfeng Chen, Jining Xie, J. Yancey, **Malathi Srivatsan**, and Vijay K. Varadan (2010)

Biocompatibility and delivery of NGF by hematite nanotubes for differentiation of PC12 cells. J. Nanotech. Eng. Med. 1: 041014-3.

Prabhu, B., Ali, S. F., Hussain, S. M., **Srivatsan, M**. (2010) Copper nanoparticles exert size and

concentration dependent toxicity on somatosensory neurons of rat. Nanotoxicology, 1;4(2):150-160.

**Malathi Srivatsan**, Mahadevappa Badanavalu, Madhumita Paul, Jining Xie, Linfeng Chen and

Vijay K. Varadan (2010) . Nanomaterials for Developing Therapeutic Measure for Repair in the Nervous System. **ASME Proccedings:** NEMB2010-13201.

Jining Xie, Linfeng Chen, **M. Srivatsan**, Vijay K. Varadan (2010) Magnetic iron oxide nanotubes and their neuronal applications,  Proceedings of ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology,  NEMB2010.

Chen, L.,, Xie, J., **Srivatsan, M.,** Varadan, V. (2009). Magnetic nanoparticles and nanotubes for

 biomedical applications. S.P.I.E., 7291: 729108-1-729108-8.

**Malathi Srivatsan**; Mahadevappa P. Badanavalu; Justin Yancey; Jining Xie; Linfeng Chen; Philip T. Hankins; Hargsoon Yoon; Vijay K. Varadan (2009) New materials for old problems: What can nanomaterials do for biology and neuroscience?S.P.I.E. Vol 7291: 729107-1-729107-7.

Jining Xie; Linfeng Chen; **Malathi Srivatsan**; Vijay K. Varadan (2009) Tubular nanostructure materials for bioapplications. SPIE, Vol. **7291**, 729103-1-729103-10.

### Jining Xie, Linfeng Chen, Vijay K Varadan, Justin Yancey and [**Malathi Srivatsan**](http://www.iop.org/EJ/search_author?query2=Malathi%20Srivatsan&searchfield2=authors&journaltype=all&datetype=all&sort=date_cover&submit=1) (2008) The effects of functional magnetic nanotubes with incorporated nerve growth factor in neuronal differentiation of PC12 cells. Nanotechnology **19**: 105101-105108.

**Srivatsan, M**. (2006) An analysis of acetylcholinesterase sequence for predicting mechanisms of its non-catalytic actions. Bioinformation, 1(8): 281-284.

**M. Srivatsan**, J. Treece and E.E. Shotts (2006) : Nicotine alters nicotinic receptor subunit levels differently in developing mammalian sympathetic neurons. Ann N.Y.Acad. Sci. 1074: 505-513.

Jining Xie, Linfeng Chen, Kiran R Aatre, **M Srivatsan** and V K Varadan(2006) **Somatosensory neurons grown on functionalized carbon nanotube mats. Smart Materials and Structures, 15: N85-88.**

Linfeng Chen; Jining Xie; **Malathi Srivatsan**; Vijay K. Varadan (2006) Magnetic nanotubes and their potential use in neuroscience applications. SPIE, Vol. **6172**:1720J.

Chad Fite, **Malathi Srivatsan** (2003**)**  Neural and circulating cholinesterases of the marine mollusk *Aplysia californica*. Chem. Bull. Vol. 44: 62 -65.

**Srivatsan, M**. (2001) Effects of organophosphates on survival in dorsal root ganglion neurons of

rat in Enzymes, 2001 (proceedings of international symposium on applications of enzymes in chemical and biological defense).

**Srivatsan, M.** (1999) Organophosphates inhibit acetylcholinesterase and impair neurite growth

of cholinergic neurons in *Aplysia.* Chemico-Biological Interactions, 119-120: 371-378.

**Srivatsan, M.** and Peretz, B. (1997) Acetylcholinesterase promotes regeneration of neurites in

Cultured adult neurons. Neuroscience, 77:921-931.

**Srivatsan, M.** and Peretz, B. (1996) Effects of acetylcholinesterase inhibition on behavior is

age-dependent in freely moving *Aplysia* . Behav. Brain Res. 77: 115-124.

Peretz, B. and **Srivatsan, M**. (1996) Chronic stimulation increases acetylcholinesterase in old

*Aplysia* Behav. Brain Res. 80:203-210.

**Srivatsan, M**. and Peretz, B. (1995) Neurotrophic function of circulating acetylcholinesterase in

 *Aplysia*. pp 449-450, In " Enzymes of the Cholinesterase family" Eds. A.S. Balasubramanyan, B.P. Doctor, P. Taylor and D.M. Quinn, Plenum Publishing CO., New York, NY.

**Srivatsan, M**., Peretz, B., Hallahan, B. and Talwalker, R. (1992) Acetylcholinesterase and other

hemolymph proteins change with age in *Aplysia*. J. Comp. Physiol. B. 162: 29-37.

Peretz B. and **Srivatsan, M.** (1992) Differences in aging in two neural pathways: Proposed

explanations from the nervous system of *Aplysia* . Expr. Geront. 27:83-97.

Kindy, M.S., **Srivatsan, M**. and Peretz, B. (1991) Age-related differential expression of

neuropeptide mRNAS in *Aplysia*. Neuroreport 2:465-468.

**Malathi, S**. and Batmanabane, M. (1988) Effects of immobilization of a limb on the maturation

of a peripheral nerve in kittens. Acta Anat. 132(3):191-6.

**Malathi, S.** and and Batmanabane, M. (1986) Influence of immobilization of limbs in kittens on

the morphology of the developing neuromuscular junctions. Acta Morphol. Neerl. Scand., 24: 139-143.

Batmanabane, M. and **Malathi, S**. (1985) Movements at the carpometacarpal and

metacarpophalangeal joints of the hand and their effect on the dimensions of the articular ends of the metacarpal bones. Anat Rec. 1985;213(1):102-10.

Batmanabane, M. and **Malathi, S.** (1983) Identification of human second, third, and fourth

metatarsal bones. Anat Rec. 1983;207(3):509-11.

**Malathi, S**. and and Batmanabane, M. (1983) Alteration in the Morphology of the

 neuromuscular junction following experimental immobilization in cats. Experientia, 39: 547-549.

**Malathi, S.** and Batmanabane, M. (1983) Effects of varying periods of immobilization of a

limb on the morphology of a peripheral nerve. Acta Morphol, Neerl. Scand., 21: 185-198.

Batmanabane, M,, **Malathi, S**. and Ekandem, G.J. (1982) Polymethyl methacrylate dissolved in

chloroform as treatment for superficial digital injuries. Am J Surg. 1982 Nov;144(5):527.

**Malathi, S.** (1982) Morphology of the Schwann cells and the myelinated fibers of a nerve

supplying an immobilized muscle. Experientia, 38: 22-28.

**Malathi, S.** (1981) A histochemical study of the acetylcholinesterase activity at neuromuscular

 junctions in the tibialis anterior and the soleus muscles of the dog. Curr. Sci., 50: 443-447.

Presentations (Abstracts)

**Srivatsan, M.** (2012) “Funding Opportunities for Translational Research” at the NSF Minority Faculty Development Workshop held at Georgia Tech, Atlanta, GA from 03/16 TO 03/18/2012

**Srivatsan, M.** (2012) “ASU:IACUC Guidelines” Spring Faculty Development workshop, ASU, Jonesboro, April, 2012

**Srivatsan, M**. (2011) Broadening participation in innovation: NSF SBIR/STTR, at symposium on "Diversity as a Catalyst for Innovation in the Sciences:  Connecting Women and Under-Represented Innovators to Regional Resources" at Skandalaris Center for Entrepreneurial Studies, Washington University, St. Louis, July 25th, 2011.

**Srivatsan, M**. and Narayanan, K. (2011) Broadening participation in economic growth through industrial innovations and partnerships at 4th annual conference on Understanding Interventions, Nashville, TN, May 26-28, 2011.

**Srivatsan, M.** (2011) Entrepreneurship as a career path for graduates and faculty in engineering at annual conference of “Quality Education for Minority” Baltimore, MD, May 13th, 2011.

Daniel, J., Pingel, C. J., **Srivatsan, M**. (2011) From airways to neurons:Retrograde transport of nanomaterials, 3rd annual conference on Nanotechnology for Healthcare, PetitJean, AR, April6-9, 2011.

 Pearce, A., **Srivatsan, M**., Grippo, A., Lovelace, A. (2011) Introducing Inquiry-Based Investigation in Biology Laboratories: Does Neem Provide Bioprotection Against Bean Beetles? AAAS annual meeting, Washington D.C., February 2, 2011.

Pingel, C. J., **Srivatsan, M**. (2010). Determination of retrograde transport of nanomaterials from airways to neurons (vol. 40). : Society for Neuroscience. Annual conference of Society for Neuroscience,San Diego, CA, November, 2010.

Paul, M., **Srivatsan, M**. (2010). Exposure to cigarette smoke during pregnancy in rats: Effects on adult behavior and neonatal nicotinic receptor levels (vol. 40).: Society for Neuroscience. Annual conference of Society for Neuroscience,San Diego, CA, November, 2010.

Badanavalu, M., Pandanaboina, S., **Srivatsan, M**. (2010). Neuroprotective effect of nicotine against nerve growth factor withdrawal in superior cervical ganglion neurons (vol. 40): Society for Neuroscience. Annual conference of Society for Neuroscience,San Diego, CA, November, 2010.

Medina-Bolivar, F., Condori, J. Atwill, R. L. Nopo, C. Nopo, L. Carrier, D. J. **Srivatsan, M**. Nair, V. Sivakumar, G. Dolan, M. C. (2010) ABI Fall Research Symposium, "Bioproduction of bioactive prenylated resveratrol analogs in root cultures," Arkansas Biosciences Institute, Little Rock, Arkansas. (September 29, 2010).

Medina-Bolivar, F., Condori, J. Nopo-Olazabal, L. Nopo-Olazabal, C. Carrier, D. J. **Srivatsan, M.** Sivakumar, G. Dolan, M. C. (2010)1st International Conference of Resveratrol and Health, "Natural prenylated resveratrol analogues from root cultures: Induced biosynthesis, purification and biological activity," Helsingor, DENMARK. (September 13, 2010).

Medina-Bolivar, F. , Condori, J. Nopo-Olazabal, C. Nopo-Olazabal, L. Dolan, M. C. Carrier, D. J. **Srivatsan, M**. Sivakumar, G. Nair, V. Hubstenberger, J. International Conference on Polyphenols, "Biosynthesis of monomeric and oligomeric stilbenoids in hairy root cultures of peanut and muscadine grape," Montpellier, FRANCE. (August 24, 2010)

Medina-Bolivar, F., Condori, J. Carrier, D. J. **Srivatsan, M**. Radominska-Pandya, A. Sivakumar, G. Nair, V. Dolan, M. C. . 1st Annual Conference of the American Council for Medicinally Active Plants, "Natural resveratrol analogs from root cultures of peanut and muscadine grape: bioproduction, biotransformation and bioactivity," New Brunswick, NJ. (July 20, 2010).

**M.Srivatsan** (2010) Interactions of Nanomaterials and Neurons: Potential Applications and Concerns” at the Fifth International conference on Bioengineering held at Izmir, Turkey in June, 2010.

**Malathi Srivatsan**, Mahadevappa Badanavalu, Madhumita Paul, Jining Xie, Linfeng Chen and Vijay K. Varadan (2010) Nanomaterials for Developing Therapeutic Measure for Repair in the Nervous System. **ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology (NEMB2010)** in Houston, TX. **Feb. 9, 2010**

Badanavalu, M, Ali, S. F., Hussain, S. M., **Srivatsan, M.,.(**2010) Copper nanoparticles exert concentration and size-dependent toxicity on somatosensory neurons of rat, Second Annual Nanotechnology and Healthcare Conference, Arkansas Nanotechnology consortium, Winthrop Rockefeller Institute, Petit Jean, Arkansas. (January 9, 2010).

**Srivatsan, M**. Schirmer, S. Yancey, J., Xie, J. Chen, L., Varadan, V. (2010) Nanomaterials for neuroregeneration, Second Annual Nanotechnology and Healthcare Conference, Arkansas Nanotechnology consortium, Winthrop Rockefeller Institute. (January 7, 2010).

**Srivatsan, M**.(2009) Breaking Shackles: The Power of Education, The power of Story: Honors College Program, Honors College, ASU, Jonesboro, AR. (October 6, 2009).

Chen, L.,, Xie, J., **Srivatsan, M**., Varadan, V. (2009). Magnetic nanoparticles and nanotubes for biomedical applications. International Conference on Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring, San Diego, CA March 9, 2009.

**Srivatsan, M**., Badanavalu, M., Yancey, J., Xie, J., Chen, L., Yoon, H., Hankins, PT*,,* Varadan, V. K. (2009). New materials for old problems: What can nanomaterials do for biology and neuroscience?International Conference on Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring, San Diego, CA March 9, 2009.

Xie, J., Chen, L.,, **Srivatsan, M.,** Varadan, V. (2009). Tubular nanostructured materials for bioapplications. International Conference on Smart Structures and Materials & Nondestructive Evaluation and Health Monitoring, San Diego, CA March 9, 2009.

Madhumita Paul, Amy Pearce and **Malathi Srivatsan** (2009) Volunteerism Key to Offering Brain Awareness Program on a Limited Budget, Society for Neuroscience Annual meeting, Chicago, October 17, 2009

Rolandas Hill, Mahadevappa P. Badanavalu, Sahitya C. Pandanaboina and **Malathi Srivatsan** (2009) Nicotine- induced changes in intracellular calcium in sympathetic neurons. Society for Neuroscience Annual meeting, Chicago, October 17, 2009.

 Seth Schirmer, Jining Xie, Vijay K. Varadanand **Malathi Srivatsan** (2009) Spinal cord injury and regeneration: use of carbon nanotubes as a growth promoting substratum. Society for Neuroscience Annual meeting, Chicago, October 21, 2009.

 Seth Schirmer, Jining Xie, Vijay K. Varadan and **Malathi Srivatsan**, “Spinal cord injury and regeneration: use of carbon nanotubes as a growth promoting substratum” Arkansas Association of Public Universities and NSF EPSCOR, NSF/ASTA, Little Rock, Arkansas. (October 2, 2009).

 Mahadevappa P. Badanavalu, Justin Yancey, **Malathi Srivatsan**, Jining Xie, Linfeng Chen, Phillip T. Hankins, Hargsoon Yoon and Vijay K. Varadan “Interactions of nanomaterials and neurons and their potential applications”Arkansas Association of Public Universities and NSF EPSCOR, Little Rock, Arkansas. (October 2, 2009).

Rolandas Hill,  Jonathan Treece, Madhumita Paul, and **Malathi Srivatsan**

“Neuro Immuno Modulation: Role of Nicotine in Autonomic Neurons” ABI Annual symposium, Jonesboro, Arkansas (September 25, 2009)

A.Pearce, **M. Srivatsan**. "Outreach activities stimulate public interest and participation in neuroscience in Northeast Arkansas Location,". in Society for Neuroscience,. November 16, 2008. Washington DC.

D. Lovellette, S.S., S. Haran, **M. Srivatsan**,. "Design and development of a prototype impactor

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