

EDUCATION

- 2008 **Ph.D. Pharmacology,**
 Major advisor: Vishnu Suppiramaniam, D.V.M, Ph.D.
 Title of dissertation: Prenatal nicotine exposure and molecular mechanisms of memory impairment.
 Department of Pharmacal Sciences, Harrison School of Pharmacy, Auburn University, United States.
- 2001 **M.Phil. Animal Science,**
 Major advisor: UdeniEdirisinghe, Ph.D.
 University of Peradeniya, Sri Lanka.
- 1994 **B.Sc. (Hons.) Zoology,**
 Research Advisor: K. Chitravadivelu, Ph.D.
 University of Jaffna, Sri Lanka

AWARDS AND HONORS

- 2012 Award for faculty presentation (third). Auburn University Research Week 2012.
- 2008 Graduation Marshal representing School of Pharmacy.
- 2007 Outstanding doctoral student award, Auburn University.
- 2006 Second Place award for presentation at Auburn University Graduate Student Research Forum.
- 2006 Outstanding Graduate Student, Department of Pharmacal Sciences, School of Pharmacy, Auburn University.
- 2005 Outstanding minority graduate student, Office of Diversity of Multicultural affairs, Auburn University.
- 2004 Travel award: *9th International Conference on Alzheimer's Disease and Related Disorders* held in Philadelphia, Pennsylvania, USA, July 17-22, 2004.
- 1994 Sir SangarapillaiPararajasingam scholarship for best performance (for topping the list in class) in Zoology major program.
- 1990 - 1994 Mahapola Higher Education Scholarship was awarded from Jaffna University, Sri Lanka for undergraduate studies.

TEACHING EXPERIENCE

- 1996 - 2003 Lecturer/Senior Lecturer; University of Jaffna, Sri Lanka.
- 2003 - 2008 Graduate teaching assistant, Instructor; Department of Pharmacal Sciences, Harrison School of Pharmacy, Auburn University, United States.

ADMINISTRATIVE AND OTHER SERVICES

- 2001 - 2003 Curriculum Development and Assessment committee (Science); University of Jaffna, Sri Lanka.
- 2001 - 2003 Curriculum Development Committee; University of Jaffna, Sri Lanka.

- 2001 - 2003 Faculty Selection committee (Biology); University of Jaffna, Sri Lanka.
 2008 - Present Editorial Board Member:
- Neurochemical Research.
- Invited Reviewer:
- ActaNeuropathologica.
 - Naunyn-Schmiedeberg's Archives of Pharmacology.
 - AGE (Official Journal of the American Aging Association).
 - Neurotoxicology.
 - Austin Journal of Clinical Neurology.
 - Journal of Pharmaceutical Sciences and Pharmacology.
 - Neurobiology of Aging.
 - Journal of Cellular Physiology.

RESEARCH INTERESTS

Developmental nicotine exposure and molecular mechanisms of memory decline; mood disorders due to developmental addiction and stress; mitochondrial mechanisms of age related dementia; mitochondrial regulation of synaptic physiology and behavior; mood disorders and memory; cellular and molecular physiological mechanisms of memory formation; dynamic crosstalk between glutamatergic and cholinergic neurotransmitter systems in the hippocampus and its role in regulating excitatory synaptic function, plasticity and behavior; neurotherapeutics (antioxidants and memory enhancers).

GRANTS

1. Project period 2013-2015
 Parameshwaran, K. (PI).
 Agency: Brain and Behavior Research Foundation/NARSAD.
 Title: Mitochondrial complex I dysfunction in stress and mood disorders.
 Amount: \$60,000 (direct).
2. Project period 2014-2015
 Parameshwaran, K. (PI).
 Agency: Auburn University Intramural Grants Program.
 Title: Hyperglycemia induced mechanisms promoting neurodegeneration.
 Amount: \$6,000 (direct).

PUBLICATIONS

Peer reviewed Journal Articles (from most recent):

(Total cites=519, h-index=12, i10 index=13; source: Google Scholar[®], search date 08/22/2014)

1. **Parameshwaran K**, Buabeid MA, Bhattacharya S, Uthayathas S, Kariharan T, Dhanasekaran M, Suppiramainam V. (2013) Long term alterations in synaptic physiology, expression of $\beta 2$ nicotinic receptors and ERK1/2 signaling in the hippocampus of rats with prenatal nicotine exposure. Neurobiol Learn Mem. 106:102-111.
2. Uthayathas S, **Parameshwaran K**, Karuppagounder SS, Suppiramianiam V, Dhanasekaran M. (2013) Selective inhibition of phosphodiesterase 5 enhances glutamatergic synaptic plasticity and memory in mice. Synapse. 67:741-747.

3. Irwin MH, **Parameshwaran K**, Pinkert CA. (2013) Mouse models of mitochondrial complex I dysfunction. Int J Biochem Cell Biol. 45:34-40.
4. **Parameshwaran K**, Irwin MH, Steliou K, Pinkert CA. (2012) Antioxidant protection of rotenone-induced neuromotor decline, ROS generation and cellular stress in mouse brain, Pharmacol BiochemBehav. 101:487–492.
5. **Parameshwaran K**, Buabeid MA, Karuppagounder SS, Uthayathas S, Thiruchelvam K, Shonesy B, Dityatev A, Dhanasekaran M, Suppiramaniam V. (2012) Developmental nicotine exposure induced alterations in behavior and glutamate receptor function in hippocampus. Cell Mol Life Sci. 69: 829-841.
6. Kanju PM[#], **Parameshwaran K[#]**, Sims-Robinson C, Uthayathas, Josephson EM, Rajakumar R, Dhanasekaran M, Suppiramaniam V. (2012) Selective cholinergic depletion in medial septum leads to impaired long term potentiation and glutamatergic synaptic currents in the hippocampus. PLOS One. 7(2): e31073. ***#co-first author***
7. Karuppagounder SS, Ahuja M, Buabeid M, **Parameshwaran K**, Abdel-Rehman E, Suppiramaniam V, Dhanasekaran M. (2012) Investigate the chronic neurotoxic effects of Diquat. Neurochem Res. 37:1102-1111.
8. Shonesy BC, Thiruchelvam K, **Parameshwaran K**, Rahman EA, Karuppagounder SS, Huggins KW, Pinkert CA, Amin R, Dhanasekaran M, Suppiramaniam V. (2011) Central insulin resistance and synaptic dysfunction in intracerebroventricular-streptozotocin injected rodents. Neurobiol Aging. 33:430.e5-e18.
9. **Parameshwaran K**, Irwin MH, Steliou K, Pinkert CA. (2010) Murine D-galactose-induced aging model for testing therapeutic antioxidants. Rejuvenation Res. 13:729-35.
10. Gonzalez J, Du M, **Parameshwaran K**, Suppiramaniam V, Jayaraman V (2010) Role of dimer interface in activation and desensitization in AMPA receptors. ProcNatlAcadSci U S A. 107:9891-9896.
11. Jiang J, **Parameshwaran K**, Seibenhener ML, Kang MG, Suppiramaniam V, Huganir RL, Diaz-Meco MT, Wooten MW (2009) AMPA receptor trafficking and synaptic plasticity require SQSTM1/p62. Hippocampus. 19:392-406.
12. Kanju PM, **Parameshwaran K**, Sims C, Bahr BA, Shonesy BC, Suppiramaniam V (2008) Ampakine CX516 ameliorates functional deficits in AMPA receptors in a hippocampal slice model of protein accumulation. Exp Neurol. 214:55-61.
13. Vaglenova J, **Parameshwaran K**, Suppiramaniam V, Breese CR, Pandiella N, Birru S (2008) Long-lasting teratogenic effects of nicotine on cognition: Gender specificity and role of AMPA receptor function. Neurobiol Learn Mem. 90:527-536.

14. Dhanasekaran M, Karuppagounder SS, Uthayathas S, Wold LE, **Parameshwaran K**, Babu RJ, Suppiramaniam V, Brown-Borg H (2008) Effect of dopaminergic neurotoxin MPTP/MPP+ on coenzyme Q content. Life Sci. 83:92-95.
15. **Parameshwaran K**, Dhanasekaran M, Suppiramaniam V (2008) Amyloid beta peptides and glutamatergic synaptic dysregulation. Exp Neurol. 210:7-13.
[1] *Editor's pick as a newsworthy article.*
[2] *Comment: Gasparini L and Dityatev A (2008) Beta-amyloid and glutamate receptors. Exp Neurol. 212:1-4.*
16. Uthayathas S, Karuppagounder SS, Tamer SB, **Parameshwaran K**, Degim T, Suppiramaniam V, Dhanasekaran M (2007) Evaluation of neuroprotective and anti-fatigue effects of sildenafil. Life Sci. 81:988-992.
17. Kanju PM, **Parameshwaran K**, Vaithianathan T, Sims CM, Huggins K, Bendiske J, Ryzhikov S, Bahr BA, Suppiramaniam V (2007) Lysosomal dysfunction produces distinct alterations in synaptic alpha-amino-3-hydroxy-5-methylisoxazolepropionic acid and n-methyl-d-aspartate receptor currents in hippocampus. J NeuropatholExp Neurol. 66:779-788.
18. Uthayathas S, Karuppagounder SS, Thrash BM, **Parameshwaran K**, Suppiramaniam V, Dhanasekaran M (2007) Versatile effects of sildenafil: recent pharmacological applications. Pharmacol Rep. 59:150-163.
19. **Parameshwaran K**, Sims C, Kanju P, Vaithianathan T, Shonesy BC, Dhanasekaran M, Bahr BA, Suppiramaniam V (2007) Amyloid beta-peptide A beta(1-42) but not A beta(1-40) attenuates synaptic AMPA receptor function. Synapse. 61:367-374.
20. Hammond MSL, Sims C, **Parameshwaran K**, Suppiramaniam V, Schachner M, Dityatev A (2006) Neural cell adhesion molecule-associated polysialic acid inhibits NR2B-containing N-methyl-D-aspartate receptors and prevents glutamate-induced cell death. J Biol Chem. 281:34859-34869.
[1] *Comment: Elstermann VE (2006) Neuronal activity: Polysialic acid as a modulator of neurotransmission. Nature Functional Glycomics. doi:10.1038/fg.2006.4*
21. Dhanasekaran M, Uthayathas S, Karuppagounder SS, **Parameshwaran K**, Suppiramaniam V, Ebadi M, Brown-Borg HM (2006) Ebselen effects on MPTP-induced neurotoxicity. Brain Res. 1118:251-254.
22. Suppiramaniam V, Vaithianathan T, Manivannan K, Dhanasekaran M, **Parameshwaran K**, Bahr BA (2006) Modulatory effects of dextran sulfate and fucoidan on binding and channel properties of AMPA receptors isolated from rat brain. Synapse. 60:456-464.

Manuscripts in preparation:

1. **Parameshwaran K**, Irwin MH, Steliou K, Suppiramaniam V, Pinkert CA. Antioxidant-mediated reversal of oxidative damage from rotenone-induced mitochondrial complex I inhibition in the mouse hippocampus.

Book Chapters:

1. **Parameshwaran K**, Irwin MH, Steliou K, Pinkert CA. (2013) D-Galactose, dietary sugars and modeling neurological aging. In: Preedy VR. (Ed.) Food and Nutritional Components in Focus 3. pp. 668-685. Royal Society of Chemistry/Springer.
2. Suppiramaniam V, Abdel-Rahman EA, Buabeid MA, **Parameshwaran K**. (2010) Ion Channels. In: Charlene A. McQueen, Comprehensive Toxicology, volume 13, pp. 129-171 Oxford: Academic Press.
3. Suppiramaniam V, Abdel-Rahman EA, **Parameshwaran K**. (2010) Neurotransmitter Receptors. In: Charlene A. McQueen, Comprehensive Toxicology, volume 13, pp. 101-128 Oxford: Academic Press.
4. Suppiramaniam V, Vaithianathan T, **Parameshwaran K** (2006) Electrophysiological analysis of interactions between carbohydrates and transmitter receptors reconstituted in lipid bilayers. Methods Enzymol. 417:80-90.

Abstracts:

(selected out of 51)

1. **Parameshwaran K**, Irwin MH, Steliou K, Pinkert CA (2012) PMX-500F, a lipocarnitine derivative protects against rotenone induced neurotoxicity. Auburn University Research Week Presentations. [Award (3rd place) for faculty Presentation].
2. **Parameshwaran K**, Irwin MH, Steliou K, Pinkert C. (2010) Evaluation of a D-galactose model of aging in mice for testing of therapeutic antioxidant compounds. Third annual research day of Boshell Diabetes and Metabolic Diseases Research Program:52.
3. **Parameshwaran K**, Uthayathas S, Karuppagounder SS, Thiruchelvam K, Shonesy BC, Huggins KW, Dhanasekaran M, Suppiramaniam V. (2008) Prenatal nicotine exposure impairs AMPA receptor mediated synaptic transmission and memory. Program No./Poster No.: 130.13/C61. Washington, DC. Society for Neuroscience.
4. **Parameshwaran K**, Uthayathas S, Sims CM, Suppiramaniam V. (2006) Anampakine CX-717 potentially modulate the single channel properties of synaptosomal AMPA receptors. Program No. 424.11. Atlanta, GA: Society for Neuroscience.
5. **Parameshwaran K**, Vaithianathan T, Kanju PM, Wijeyawardhane KAN, Sims CM, Breese CR, Bahr BA, Suppiramaniam V. (2004) Amyloid B-peptide 1-42 but not 1-40 modulate channel properties of AMPA receptors. Soc. Program No. 276.6. Washington, DC: Society for Neuroscience.

PROFESSIONAL MEMBERSHIPS

- Member, Sri Lanka Association for the Advancement of Science.
- Member, Society for Neuroscience.
- Member, Jaffna Science Association.