SUPRAJA VARADARAJAN

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EDUCATION

University of California Los Angeles Los Angeles, CA
Ph.D. Neuroscience June 2017

New Jersey Institute of Technology Newark, NJ
M.S. Biomedical Engineering 2008

Visvesvaraya Technological University Bangalore, India
B.E. Biotechnology Engineering, First-class with Distinction 2006

RESEARCH EXPERIENCE

University of California, Los Angeles Los Angeles, CA
Graduate Student with Dr. Samantha Butler 2010-2017
Netrin1 establishes short-range axon guidance boundaries in the developing spinal cord

- Examined the role of netrin1 in the ventricular zone using genetic manipulations in mice
- Used explant assays and pioneered the use of stripe assays & Campenot chambers in the lab to assess the activity of netrin *in vitro*
- Electroporated BMP receptor constructs into chick embryos and performed live-imaging of spinal cord preparations to determine the rate of axon growth

University of California, Irvine Irvine, CA
Staff Research Associate II with Dr. Aileen Anderson 2008 - 2010
Investigating axonal regeneration in spinal cord injury models using biomaterial scaffolds

- Implanted biomaterial scaffolds in hemisected rat spinal cords and performed retrograde tracing to identify regenerating axons and their targets
- Fabricated microfluidic devices and executed surgeries, stereotactic cortical injections, cardiac perfusions, post-operative care and behavior analysis as a member of the Christopher and Dana Reeve Foundation Core Facility

New Jersey Institute of Technology Newark, NJ
Research Assistant with Dr. Mesut Sahin 2007
Micro-stimulation of the motor cortex to determine the functional organization of the cerebellum

- Determined anatomical focal points for stimulation in the motor cortex and recording in the cerebellum of rats
- Designed graphic user interfaces to record signals

Veterinary College, Department of Microbiology — Bangalore, India
Research Intern with Dr. G. V. Krishnamurthy — 2006
Animal cell culture techniques and virological studies

- Development and maintenance of cell lines and fibroblast cultures
- Qualitative and quantitative estimations of virus infections in cell lines

ACADEMIC AND PROFESSIONAL HONORS

Samuel Eiduson Student Lecture Award	2017
Dissertation Year Fellowship, University of California Los Angeles	2016-2017
Phi-Beta Kappa Alumni in Southern California International Scholarship Award	2016
Brain Research Institute/Semel Institute Neuroscience Travel Award	2016
Graduate Division Travel Award, University of California Los Angeles	2015
Qualcomm Innovation Fellowship Finalist, Qualcomm, San Diego	2013
Provost Fellowship, New Jersey Institute of Technology	2006-2007

TEACHING EXPERIENCE

Teaching Assistant, University of Southern California — Los Angeles, CA
Human Physiology, Biological Sciences — Fall 2011

Teaching Assistant, University of Southern California — Los Angeles, CA
Cell Biology and Physiology, Biological Sciences — Spring 2012

Teaching Assistant, New Jersey Institute of Technology — Newark, NJ
Elementary Science Outreach Program at the Center for Pre-College Programs — 2007 - 2008

Teaching Assistant, New Jersey Institute of Technology — Newark, NJ
Management course, Center for Pre-College Programs — Summers 2007, 2008

PUBLICATIONS

Varadarajan, S.G., Kong, J.H., Phan, K.D., Kao, T.-J., Panaitof, S.C., Cardin, J., Eltzchig, H., Kania, A., Novitch, B.G. and Butler, S.J., 2017. Netrin1 produced by neural progenitors, not floor plate cells, is required for axon guidance in the spinal cord. Neuron 94: 790–799

Recommended on F1000 Prime
Featured in Biomedical Picture of the Day

Varadarajan, S.G. and Butler, SJ (2017). Netrin1 establishes multiple boundaries for axon growth in the developing spinal cord. Developmental Biology

Yamauchi, K., **Varadarajan, S.G.**, Li, J.E., and Butler, S.J., 2013. Type Ib BMP receptors mediate the rate of commissural axon extension through inhibition of cofilin activity. Development 140: 333-342

PRESENTATIONS

Platform Presentations

Varadarajan, SG, Kong, J, Phan, KD, Cardin, J, Panaitof, SC, Kania, A, Novitch, B, Butler, SJ (2017). Redefining the role of netrin1 as an axon guidance cue in the developing spinal cord. 25th Samuel Eiduson Student Lecture. UCLA, Los Angeles, CA.

Varadarajan, SG, Kong, J, Phan, KD, Cardin, J, Panaitof, SC, Kania, A, Novitch, B, Butler, SJ (2016). Netrin1 establishes multiple boundaries to locally guide axons in the developing spinal cord. Axon and dendrite development Nanosymposium, Society for Neuroscience, San Diego

Varadarajan, SG, Kong, J, Phan, KD, Cardin, J, Panaitof, SC, Kania, A, Novitch, B, Butler, SJ (2016). Netrin1 establishes multiple boundaries to locally guide axons in the developing spinal cord. Axon guidance, Synapse Formation & Regeneration Meeting, Cold Spring Harbor Labs.

Varadarajan, SG, Kong, J, Phan, KD, Cardin, J, Panaitof, SC, Kania, A, Novitch, B, Butler, SJ (2016). Netrin1 establishes short-range axon guidance boundaries in the developing spinal cord. Synapse to Circuit Seminar Club, UCLA, Los Angeles, CA.

Varadarajan, SG, Yu, L, Butler, SJ, Meng, E. 2013. Design and analysis of dynamic neural circuits within Microfluidic systems. Qualcomm Innovation Fellowship Finalists presentation. San Diego, CA

Varadarajan, SG. 2011. BMP signal modulation in commissural axons. Neurobiology Seminar. Los Angeles, CA.

Varadarajan, SG. 2011. Exploring the regulation of BMP signaling from cell body to growth cone. Neurobiology Retreat. Los Angeles, CA

Varadarajan, SG. 2011. Compartmentalization of neurons using a Campenot chamber. Neurobiology Seminar. Los Angeles, CA

Poster Presentation

Varadarajan, SG, Kong, J, Cardin, J, Panaitof, SC, Kania, A, Novitch, B, Butler, SJ, 2016. Netrin1 mediates an extensive axon growth boundary in the developing spinal cord. 12th Annual Stem Cell Conference, Los Angeles, CA.

Varadarajan, SG, Kong, J, Cardin, J, Panaitof, SC, Kania, A, Novitch, B, Butler, SJ, 2016.

Netrin1 mediates an extensive axon growth boundary in the developing spinal cord. Axons: from Cell Biology to Pathology, Keystone Symposia, NM.

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2015. Netrin1 present in the ventricular zone defines a repulsive boundary in the developing spinal cord. 27th Annual Brain Research Institute's Neuroscience Poster Session. Los Angeles, CA

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2015. Netrin1 present in the ventricular zone defines a repulsive boundary in the developing spinal cord. 9th Annual Neural Microcircuits Training Program Symposium, Los Angeles, CA.

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2015. Netrin1 present in the ventricular zone defines a repulsive boundary in the developing spinal cord. UCLA Stem Cell Conference. Los Angeles, CA

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2014. Netrin1 present in the ventricular zone defines a repulsive boundary in the developing spinal cord. 26th Annual Brain Research Institute's Neuroscience Poster Session. Los Angeles, CA

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2014. Netrin1 present in the ventricular zone defines a repulsive boundary in the developing spinal cord. Axon Guidance, Synapse formation and Regeneration, Cold Spring Harbor Laboratory Meeting, NY.

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2014. 8th Annual Neural Microcircuits Training Program Symposium, Los Angeles, CA.

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2014. Broad Stem Cell Research Center Meeting. Asilomar, CA

Varadarajan, SG, Cardin, J, Panaitof, SC, Kania, A, Butler, SJ, 2014. Netrin1 in the ventricular zone defines a repulsive boundary. UCLA Stem Cell Symposium. Los Angeles, CA

Varadarajan, SG, Butler, SJ. 2012. The role of BMPs in modulating the response of commissural axons to Netrin1. Neuroscience Graduate Student Symposium. Los Angeles, CA