

Dr. Shamprasad Varija Raghu

Ramalingaswami Fellow (DBT)
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Summary

- Expertise and experience in molecular biology, microscopy, immunohistochemistry, embryo injection and cell culture techniques.
- Experience in developing animal model and drug screening assay for Schizophrenia, a neuropsychiatric disorder.
- Experience is using different animal models (*Drosophila* and Mouse).
- Experience in analyzing large data sets by applying matlab.
- Team player with good communication skills, experience in project preparation, writing the manuscript and training graduate/postgraduate students.
- One of the brain images was selected as a cover page for "Science Signalling" journal. (<http://stke.sciencemag.org/content/vol6/issue274/cover.dtl>).

Educational Qualification

- Ramalingaswami Fellow (DBT), Dept of Applied Zoology, Mangalore University
- Research Scientist in Duke NUS Graduate Medical School, Singapore
- Research Scientist in Neuroscience Research Partnership (NRP), Singapore
- Postdoctoral Fellow in Max-Planck Institute of Neurobiology, Germany
- DAAD (Deutscher Akademischer Austausch Dienst) Fellow in University of Freiburg, Germany
- PhD in Neurobiology at Mangalore University, India
- Master of Science (M. Sc.) in Applied Zoology, Mangalore University, India
- Bachelor of Science (B.Sc.) in Mangalore University, India

Technical Skills

Molecular Biology	DNA, RNA, protein isolation, c-DNA preparation, southern, Western and Northern hybridization, PCR, RT-PCR, qPCR, cloning and generation of transgenic animals.
Immunology	Immunofluorescence staining of tissues and cell lines, ELISA, immunoprecipitation, FACS analysis, raising polyclonal antibody in mice and rabbit model, animal handling.
Animal tissue and cell culture	Monolayer and tissue culture, maintenance of cell and tissue lines, transformation of different protein/DNA into different cell lines, viability assay of cells, cryopreservation of cell lines.
Biochemistry	In vitro kinase/phosphate assay, UV-VIS spectroscopy, spectrofluorimetric analysis, Affinity and thin layer chromatography.
Neuroscience	Patch clamp technique, using genetic tools, animal behavior screening.
Toxicology	Evaluating effects of different drugs in both vertebrate and invertebrate system, micronucleus and chromosome aberration test.
Microscopy	Confocal, two-photon and electron microscopy.

Software Skills

Data analysis software	Matlab
Image processing software	Amira, ImageJ, Adobe Photoshop, Adobe Illustrator, Coral Drawing
Operating Systems	Microsoft and Mac

Publications

1. **Shamprasad Varija Raghu**, Claudia Barros, Farhan Mohammad, Joanne Lam, Mavis Loberis, Sadhna Sahani and Adam Claridge-Chang (2016). ZAL, a novel genetic tool for intersectional neuronal mapping (under review – Cell Report).
2. Hermann Cuntz, Friedrich Forstner, Bettina Schnell, **Shamprasad Varija Raghu**, Alexander Borst (2013). Preservation of dendrite function under extreme scaling. **PLoS ONE**. 8(8):e7154.
3. **Shamprasad Varija Raghu***, Jing Claussen, Alexander Borst (2013). Neurons with GABAergic phenotype in the visual system of *Drosophila*. **J. Comp. Neurol.** 521(1):252-65.
4. Bettina Schnell, **Shamprasad Varija Raghu**, Aljoscha Nern, Alexander Borst (2012). Columnar cells Necessary for motion responses of wide-field visual interneurons in *Drosophila*. **J Comp. Physiol A**, 198(5):389-395.
5. **Shamprasad Varija Raghu***, Alexander Borst (2011). Candidate glutamatergic neurons in the visual system of *Drosophila melanogaster*. **PLoS ONE**, 6(5): e1947.
6. **Shamprasad Varija Raghu***, Dierk F. Reiff, Alexander Borst (2011). Neurons with cholinergic phenotype in the visual system of *Drosophila melanogaster*. **J. Comp. Neurol.**, 519:162–176.
7. Maximilian Joesch, Bettina Schnell, **Shamprasad Varija Raghu**, Dierk F. Reiff, Alexander Borst (2010). On and off pathways in *Drosophila* motion vision. **Nature**, 468:300-304.
8. Bettina Schnell, Maximilian Joesch, Friedrich Forstner, **Shamprasad Varija Raghu**, Otsuna H, Ito K, Alexander Borst, Dierk F. Reiff (2010). Processing of horizontal optic flow in three visual interneurons of the *Drosophila* brain **J Neurophysiol.**, 103:1646-1657.
9. **Shamprasad Varija Raghu**, Maximilian Joesch, Stephan Sigrist, Alexander Borst, Dierk F. Reiff (2009). Synaptic organization of lobula plate tangential cells in *Drosophila*: Da7 cholinergic receptors. **J. Neurogenetics**, 23:200-209.
9. **Shamprasad Varija Raghu***, Maximilian Joesch, Alexander Borst and Dierk F. Reiff (2007). Synaptic organization of lobula plate tangential cells in *Drosophila*: γ -Aminobutyric acid receptors and chemical release sites. **J. Comp. Neurol.**, 502:598-610.
10. Rajashekhar K P and **Shamprasad V R** (2004). Golgi analysis of tangential neurons in the lobula plate of *Drosophila melanogaster*. **J. Biosci.**, 29:93-104.
11. Rajashekhar K P and **Shamprasad V R** (2004). Maxillary palp glomeruli and ipsilateral projections in the antennal lobe of *Drosophila melanogaster*. **J Biosci.**, 29:423-9.
12. **Shamprasad VR** and Rajashekhar K P (2001). Neural architecture of the mushroom body region of the brain of *Drosophila melanogaster*. Proceedings of National seminar on Comparative Animal Physiology for 21st century, Goa University, Goa, India. pp. 55-59.

13. Rajashekhar K P and **Shamprasad V R** (2001). Giant movement detector neurons of the lobula plate of *Drosophila melanogaster*. Proceedings of National seminar on Comparative Animal Physiology for 21st century, Goa University, Goa, India. pp. 31-35.

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Invited Talks

1. Indian Institute of Science, Bangalore, India – 2010
2. Manipal University, Manipal, India – 2010
3. University of Virginia, Charlottesville, Virginia, USA – 2011
4. Duke NUS Graduate Medical School, Singapore – 2014
5. DST-SERB School in Insect Biology, Hyderabad -2015
6. Central University of Kerala -2016

Poster presentation

1. Francis Crick Neuroscience Conference, Shanghai, China.
2. 47th Annual Drosophila meeting, Houston, USA.
3. Gottingen Neurobiology Conference, Gottingen, Germany.
4. Network and Behavior, NCBS Neurobiology symposium 2003, National Centre for Biological Sciences, Bangalore, India.
5. National seminar on Comparative Animal Physiology for 21st century, Goa University, Goa, India
6. 55th Drosophila Conference, San Diego, USA
7. Young Investigator Meeting (YIM2016)- India

Reviewer:

1. Journal of Microscopy
2. Journal of Neurochemistry
3. Insect Science
4. Plos One

Memberships:

1. Indian Science Congress Association (Life member)
2. Indian Academy of Neurosciences (Life member)
3. Indian Society of Developmental Biologists (Life Member)

Collaborators:

1. Professor Alexander Borst, Max Planck Institute of Neurobiology, Germany
2. Professor Rajashekhar Patil, Mangalore University
3. Professor Hiromo Tanimoto, Tohoku University, Japan
4. Dr. Adam Claridge-Chang, Duke NUS Graduate Medical School, Singapore
5. Dr. Jishy Varghese, IISER, Trivandrum
6. Dr. Guruprasad Kalthur, Manipal University, Manipal
7. Dr. Arun Isloor, NITK, Surathkal
8. Dr. Sudheer Shenoy, Yenepoya Research Centre, Mangalore
9. Dr. Ramesh Tamankar, Singapore
10. Dr. Naveen Kaushal, Panjab University, Chandigarh

Fellowships and Awards:

1. DAAD (Deutscher Akademischer Austausch Dienst) Fellow in University of Freiburg, Germany (2002)
2. Max Planck Postdoctoral fellowship (2003-2007)
3. ASTAR Research fellowship (2011-2013)
4. Duke NUS Graduate Medical School fellowship (2013-2015)
2. DBT Ramalingaswami re-entry fellowship (2015-2020)
3. DST Ramanujan Fellowship (2015-2020)

Funding

1. Ramalingaswami Fellowship (DBT, 2015-2020) - 89 lakhs
2. Ramanujan Fellowship (DST, 2015-2020) - 87.5 lakhs
3. BRNS (Co-investigator)- 37 lakhs