

Usha Nagarajan

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Academic Background:

Degree/Position	Location	Year
Assistant Professor (Research)	SASTRA University, Thanjavur, Tamilnadu, India 613401.	June 2014-Present
	ONGOING PROJECT Funding agency: Department of Science and Technology (DST), India. Project File No: YSS/2014/000896 Title: Genetic Screening to identify and characterize novel factors implicated in ligand-independent Notch signaling pathway Grant Size: 26,00,000 INR Duration: 3 years (2014-2017)	
Research Associate	Dr Marios Georgiou School of Life Sciences, Queens Medical Center, University of Nottingham, Nottingham, UK NG5 2UH	April 2015-April 2016
Postdoctoral Research Fellow	Dr. Thomas Vaccari, IFOM-IEO campus, Via Adamello, 16, Milano, 20139, Italy.	February 2013- February 2014
Postdoctoral Research Fellow	Dr. Matt Gibson, Stowers Institute for Medical Research, Kansas City, MO, 64110, USA	2009-2012
Postdoctoral Research Fellow	Dr Jyotsna Dhawan, Center for Cellular and Molecular Biology(CCMB), Hyderabad, India.	2008-2009
Ph.D.,(Life Sciences) Developmental Biology	Dr. L.S. Shashidhara Center for Cellular and Molecular Biology(CCMB), Hyderabad, India.	2002-2009
M.Sc., (Biotechnology)	Tamilnadu Agricultural University (TNAU), Coimbatore, India.	2000-2002

Teaching:

S No	Course Name	Students	Year
	Theory		
1.	Molecular Biology	B Tech (Bio-Engineering)	December 2014-April 2015
2.	Molecular Biology	M.Tech (Medical Nanotechnology)	December 2014-April 2015
3.	Principles of Genetics	M.Sc (Molecular Genetics)	July 2016-April 2017
4.	Cell and Molecular Biology	M.Tech (Medical Nanotechnology)	July 2016-April 2017
	Practicals		
1.	Genetic Engineering	M Sc (Bio-Engineering)	December 2014-April 2015

TECHNICAL SKILLS

Drosophila genetics and Developmental Biology:

Drosophila genetics including use of UAS-GAL4 system to study mis-expression phenotypes, and knock-down of gene, analysis of adult fly phenotypes, Excision of P-element and screening, Suppressor-Enhancer analysis of phenotypes, analysis of *Drosophila* imaginal discs for markers using Immunostaining, Recombination, Somatic Clonal analysis both by Conventional and MARCM techniques, Trafficking Assays.

Molecular biology and Biochemistry:

Plasmid and genomic DNA isolation, PCR, sub-cloning of into P-element, expression vectors, Protein expression and purification, Antibody generation, Western Analysis, RNA isolation from *Drosophila* tissues, RNA *insitu*, Reverse transcription, Real-time PCR (qPCR), Electrophoretic mobility Shift Assay (EMSA), Immunoprecipitation (IP) and

Chromatin Immunoprecipitation (ChIP), Cell Culturing(S2, D8, C2C12, Mouse Embryonic Stem Cell) and Promoter Assays, Transfection and Knockdown Techniques, Cell-based Assays, Proteomics.

Imaging techniques:

Brightfield and fluorescent microscopy, Apotome and Confocal Microscopy

Publication:

Key Articles with better Citations:

- Subba* R M, Vasundhara* V, **Usha N**, Savitri M, Subhash G and Indumathi M (2013) Derivation, characterization and retinal differentiation of induced pluripotent stem cells J. Biosci. 38(1), 123–134.
- Szuperak M, Salah S, Meyer E, **Usha N**, Ikmi A and Gibson M. (2011) Feedback modulation of *Drosophila* BMP signaling by the novel extracellular protein, Larval Translucida Development 138, 715-724.
- **Usha N** and Shashidhara LS. (2010) Interaction between Ataxin-2 Binding Protein 1 and Cubitus-interruptus during wing development in *Drosophila*. Developmental Biology 341, 389–399.

Recent Reviewa

- Pakkiriswami S*, Couto A*, **Usha Nagarajan**[#], Marios Georgiou[#] (2016) Glycosylated Notch and Cancer. Frontiers in Oncology 6(37), 1-7.
(# Corresponding Author)
- Pillai AB*[#], **Usha Nagarajan***, Mitra A, Krishnan, U, Rajendran, S, Hoti, SL; Mishra, RK[#] (2016) RNA interference in mosquito: understanding immune responses, dsRNA delivery systems and potential applications in vector control. Insect Molecular Biology (In Press).
(* Equal Contribution)
- **Usha Nagarajan**[#], Pakkiriswami S and Pillai AB. (2015) Sugar tags and tumorigenesis. Frontiers in Cell and Developmental Biology 3(69), 1-5.
(# Corresponding Author)

In Preparation

- Witt A*, Alfred V*, **Usha N*** and Vaccari T A deficiency screen to identify genetic interactors of ESCRT-II subunit, *vps25* in *Drosophila melanogaster* (Work in Progress; Manuscript in Preparation) (* Equal Contribution)
- Cornhill Z*, Couto A*, Mack N*, Canales CB*, Rusu A*, **Usha Nagarajan***, Georgiou M (2016) Invivo genetic screening using polarity regulators to identify genes implicated during tumor progression and invasion (Work in Progress; Manuscript in Preparation) (* Equal Contribution)

References:

<p>Dr. L.S.Shashidhara Professor, Head and Coordinator of Biology, Indian Institute of Science Education and Research (IISER) Pune, Maharashtra, India.</p> <p style="text-align: center;">or</p> <p>Center for Cellular and Molecular Biology (CCMB), Uppal Road, Habshiguda. Hyderabad-500 007. Email: lsshashidhara@gmail.com, ls.shashidhara@iiserpune.ac.in, shashi@ccmb.res.in</p>	<p>Dr Marios Georgiou Assistant Professor, School of Life Sciences, Medical School, Queens Medical Center, University of Nottingham, Nottingham, UK Email: marios.georgiou@nottingham.ac.uk Phone: +441158230115</p>
<p>Dr. Rakesh Mishra Director, Center for Cellular and Molecular Biology (CCMB), Uppal Road, Habshiguda, Hyderabad-500 007. Phone: +91-40-27192643 Email: mishra@ccmb.res.in</p>	<p>Dr. Indumathi M Scientist, L V Prasad Eye Research Institute, Sudhakar & Sreekanth Ravi Stem Cell Biology Laboratory, Hyderabad-500 034. Phone: +91-40-39892020 Email: indumathi@lvpei.org</p>