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Date and Place of Birth

2nd February 1970, Imphal, Manipur state, India.

Research Interest

Main focus of the lab is to understand molecular and cellular basis of myopathies and neurodegeneration. We use both the forward and reverse genetic approaches to trace the etiology of these diseases using genetically tractable model organisms, namely, Fruitfly-*Drosophila melanogaster* and Zebrafish-*Danio rerio*. We also use both the organisms as host models for host-pathogen interaction studies.

Research Experience and Professional Career

- Apr, 2014- Present** **Associate Professor:** Department of Molecular Reproduction Development and Genetics; Indian Institute of Science; Bangalore 560012. Muscle and neuromuscular diseases, gerontology, host-pathogen interactions, drug screening and understanding science behind Ayurveda formulations using small model organisms.
- Oct. 2004- Mar 2014** **Assistant Professor:** Department of Molecular Reproduction Development and Genetics; Indian Institute of Science; Bangalore 560012. Development of *Drosophila* and Zebra fish as model organisms for studying myogenesis, human muscular diseases, axon guidance, neurodegeneration and host-pathogen interactions.
- 2012-2014** **Visiting Professor:** Institute of Ayurveda and Integrative Medicine (I-AIM), Bangalore. Development of model organisms for Rasayana studies.
- 1998-2004** **Post-Doctoral Position:** University of York, UK, “Interactions between the regulatory proteins of the thin filament in striated muscle: a molecular genetics approach” and development of *Drosophila* as model system for studying human myopathies.
- 1995-1998** **PhD:** University of Mysore, India, “Genetic Analysis of Indirect Flight Muscle development in *Drosophila melanogaster*”. As a PhD student I was responsible for initiating the use of a polarised light microscopy system for isolation of new flight muscle mutants in *Drosophila*. These newly isolated mutants were localised to particular cytological regions on the second chromosome by using several deficiency lines

that involved extensive genetic crosses. They were then characterised by physiological and biochemical tests and their developmental and ultrastructural defects determined by immunohistochemistry and electron microscopy.

Discoveries/Inventions

1. We have shown that *Drosophila* indirect flight muscles serve as a versatile model system to study the aetiology of many human myopathies. Several mutations in the fly genes produce myopathy conditions similar to their human counterparts. Using these mutations, we have investigated how structural proteins assemble to form the muscle, which also will help in understanding the progression of human myopathies.
2. We have made significant contributions in the field of muscle differentiation and the assembly of the structural proteins. We have shown that inhibition of muscle contraction is required during early muscle differentiation and the assembly of the structural proteins to form the contractile muscle unit “sarcomere”, which also depends on precise coordination amongst proteins for proper assembly.
3. We have shown that muscles are involved in innate immunity and protection of the body against pathogen invasion/infection.
4. Proper cross-talk between muscles and neurons is important for many physiological and behavioural activities, and leading a healthy life (longevity).
5. Expression levels of the cell cycle genes during myoblast fusion and differentiation stages dictate the muscle fibre number and growth.
6. Mono-ubiquitination of the thin filament protein “Actin” is important for muscle contraction and maintenance.
7. Dynamics of Mitochondria fusion and fission are important for muscle growth and maintenance.
8. Identified many genes which can be utilized/developed as biomarkers to pursue the progression of muscle diseases, particularly protein aggregate myopathies and sarcopenia.
9. Development of Laser Drop Vibrometer and Raman Spectroscopy as diagnostic instruments for evaluation of muscle diseases.
10. Identified scientific insights into working principles of many Ayurvedic formulations and active compounds. We have shown that active compound in *Decalepis hamiltonii*, 4-Hydroxyisophthalic Acid acts as a neuro-protective against neurodegenerative diseases.

Publications

Research papers:

† Corresponding Author

1. Rao V. K. P., Jayaram M., Devi L., **Nongthomba U.[†]** and Pratap R[†], **2017**. Early detection of muscle diseases using vibrational signatures. (Submitted).
2. Kamble K. and **Nongthomba U.[†]**, **2017**. Ataxin 2 Binding Protein 1 is required for maintaining the stoichiometry of structural proteins and fiber diversity in *Drosophila* muscles. *Development* (Under Revision).

3. Jhonsa R. and **Nongthomba U.[†]**, 2017. Muscle degeneration in Calcineurin-B2 knock down results from deregulated acto-myosin interaction and perturbed calcium homeostasis. [bioRxiv](#) 108605.
4. Katti P., Thimmaya D. and **Nongthomba U.[†]**, 2017. miRNA-9 generates muscle hypercontraction through translational repression of the Troponin-T in *Drosophila* indirect flight muscles. [G3](#) doi: 10.1534/g3.117.300232.
5. Kairamkonda S. and **Nongthomba U.[†]**, 2017. Beadex, a *Drosophila* LIM domain only protein, is essential in follicle cells for egg development and fertility. [Experimental Cell Research](#) (Under revision).
6. Singh D., **Nongthomba U.** and Roy J. K., 2017. Rab11 partners with Notch in mediating the early events of myoblast migration and differentiation during *Drosophila* indirect flight muscle development. [European journal of Cell Biology](#) (Under revision).
7. Madan A., Thimmaiya D., Franco-Cea A., Aiyaz M., Kumar P., Sparrow J. C. and **Nongthomba U.[†]**, 2017. Microarray analysis identifies defects in multiple pathways in the absence of myosin and actin filament proteins. [Gene](#) **631**: 16-28. doi: 10.1016/j.gene.2017.07.061.
8. Haddadi M., Jahromi S. R., **Nongthomba U.**, Shivanandappa T. and Ramesh S. R., 2016. 4-Hydroxyisophthalic Acid from *Decalepis hamiltonii* rescues the neurobehavioral deficit in transgenic *Drosophila* model of Taupathies. [Neurochemistry International](#) **100**: 78–90. doi: 10.1016/j.neuint.2016.09.007.
9. Tamreihao K., Ningthoujam D. S., Nimaichand S., Elangbam E., Reena P., Singh S. H., **Nongthomba U.**, 2016. Biocontrol and plant growth promoting activities of a *Streptomyces corchorusii* strain *UCR3-16* and preparation of powder formulation for application as biofertilizer agents for rice plant. [Microbiological Research](#) **192**: 260–270.
10. Sinam Y. M., Chatterjee A., Ranjini M. S., Poojari A., Nagarajan A., Ramachandra N. B. and **Nongthomba U.[†]**, 2016. Adaptive response of long and short lived Cytoraces of *Drosophila* to pathogens. [Infection, Genetics and Evolution](#) **44**: 1–7. doi: 10.1016/j.meegid.2016.06.025
11. Chatterjee A., Roy D., Patnaik E. and **Nongthomba U.[†]**, 2016. Muscles are important immune responsive tissues. [Disease Model Mechanisms](#) **9**: 697–705. doi: 10.1242/dmm.022665.
12. Rasmi C. K., Madhangi M., **Nongthomba, U.** and Partha Mondal, 2016. Curtailed Light Sheet Microscopy for rapid imaging of macroscopic biological specimens. [Microscopy Research and Technique](#) **79**: 455–458. doi 10.1002/jemt.22665.
13. Rai M., Katti P. and **Nongthomba U.[†]**, 2016. Spatio-temporal coordination of cell cycle exit, fusion and differentiation of adult muscle precursors by *Drosophila* Erect wing (Ewg). [Mechanism of Development](#) **141**: 109–118. doi: 10.1016/j.mod.2016.03.004.
14. Haddadi M., **Nongthomba U.**, Jahromi S. R. and Ramesh S. R., 2016. Transgenic *Drosophila* model to study Apolipoprotein E4-induced neurodegeneration. [Behavioural Brain Research](#) **301**: 10–18. doi:10.1016/j.bbr.2015.12.022.
15. Kumar R. P., Roopa L., **Nongthomba U.[†]** Mohammed M. M. S.[†] and Kulkarni N., 2016. Molecular dynamics of bond forming binding mode of Cucurbitacin E in F-actin reveals

- allosteric modulations of ADP - stabilising F-actin structure. *Journal of Molecular Graphics and Modelling* **63**: 29–37. doi: 10.1016/j.jmglm.2015.11.007.
16. Haddadi M., **Nongthomba U.** and Ramesh S. R., **2016**. Biochemical and Behavioral Evaluation of Human MAPT Mutations in Transgenic *Drosophila melanogaster*. *Biochemical Genetics* **54**: 61–72. doi: 10.1007/s10528-015-9701-1.
 17. Rasmi C. K., Mohan K., Madhangi M., Rajan K., **Nongthomba, U.** and Partha Mondal, **2015**. Limited-View Light Sheet Fluorescence Microscopy for 3D volume imaging. *Applied Physics Letters* **107**: 263701. doi: 10.1063/1.4938536.
 18. Yumnamcha T., Roy, D., Devi M. D. and **Nongthomba U.[†]**, **2015**. Evaluation of developmental toxicity and apoptotic induction of the aqueous extract of *Millettia pachycarpa* using zebrafish as model organism. *Toxicological and Environmental Chemistry* **97**: 1363–1381. doi:10.1080/02772248.2015.1093750.
 19. Devi A. L. L., **Nongthomba U.[†]** and Bobji M. S.[†], **2015**. Quantitative characterization of adhesion and stiffness of corneal lens of *Drosophila melanogaster* using Atomic Force Microscopy. *Journal of the Mechanical Behavior of Biomedical Materials* **53**: 161–173. doi:10.1016/j.jmbbm.2015.08.015.
 20. Mohan J., Firdaus H., **Nongthomba U.[†]** and Ramesh S. R.[†], **2015**. Beadex, the LIM Only protein in *Drosophila* is required for indirect flight muscle function. *International Journal of Scientific and Research Publications* **5**: 1–8.
 21. Mohanty S., Jagannathan L., Ganguli G., Padhi A., Roy D., Alaridah N., Saha P., **Nongthomba U.**, Godaly G., Banerjee S. and Sonawane A., **2015**. A mycobacterial phosphoribosyltransferase promotes bacillary survival by inhibiting oxidative stress and autophagy pathways in macrophages and zebrafish. *Journal of Biological Chemistry* **290**: 13321–13343.
 22. Firdaus H., Mohan J., Naz S., Arthi B. P., Ramesh S. R. and **Nongthomba U.[†]**, **2015**. A cis-regulatory mutation in Troponin-I of *Drosophila* reveals the importance of proper stoichiometry of structural proteins during muscle assembly. *Genetics* **200**: 149–165.
 23. Gautam R., Vanga S., Madan A., Gayathri N., **Nongthomba U.[†]** and Umapathy S.[†], **2015**. Differentiation of nemaline-myopathy and cardio-myopathy phenotypes in *Drosophila* model using Raman spectroscopy. *Analytical Chemistry* **87**: 2187–2194.
 24. Balasubramani S. P., Mohan J., Chatterjee A., Patnaik E., Kumar K. S., **Nongthomba U.[†]** and Venkatasubramanian P.[†], **2014**. Pomegranate enhances life-span and health-span in *Drosophila melanogaster*. *Frontiers in Public Health* **2**: 245.
 25. Kairamkonda S. and **Nongthomba U.[†]**, **2014**. Beadex function in motor neurons is essential for female reproduction in *Drosophila melanogaster*. *PloS One* **9**: e113003.
 26. Singh S. H., Kumar P., Ramachandra N. B. and **Nongthomba U.[†]**, **2014**. Roles of the troponin isoforms during indirect flight muscle development in *Drosophila*. *Journal of Genetics* **93**: 379–388.
 27. Singh S.H., Ramachandra N.B. and **Nongthomba U.[†]**, **2014**. Identification of *egg-derived tyrosine phosphatase* as a potential biomarker for muscle ageing and degeneration in *Drosophila melanogaster*. *Journal of Genetics and Genomics* **41**: 221–224.

28. Rai M., **Nongthomba U.** and Grounds M. D., **2014.** Skeletal muscle degeneration and regeneration in mice and flies. *Current Topics in Developmental Biology*, **108**: 247–281.
29. Yumnamcha T., **Nongthomba U.** and Devi M. D., **2014.** Phytochemical screening and evaluation of genotoxicity and acute toxicity of aqueous extract of *Croton tiglium* L. *International Journal of Scientific and Research Publications* **4**: 2579.
30. Rai M., Katti P. and **Nongthomba U.[†]**, **2014.** *Drosophila* erect wing (Ewg) controls mitochondrial fusion during muscle growth and maintenance by regulation of the Opal-like gene. *Journal of Cell Science* **127**: 191–203.
31. Rai M. and **Nongthomba U.[†]**, **2013.** Effect of myonuclear number and mitochondrial fusion on *Drosophila* indirect flight muscle organization and size. *Experimental Cell research* **319**: 2566–2577.
32. Singh B., Gautam R., Kumar S., Kumar B. N. V., **Nongthomba U.**, Nandi D., Mukherjee G., Santosh V., Somasundaram K. and Umapathy S., **2012.** Application of vibrational micro-spectroscopy to biology and medicine. *Current Science* **102**: 232–244.
33. Salvi S. S., Kumar R. P., Ramachandra N. B., Sparrow J. C. and **Nongthomba U.[†]**, **2012.** Mutations in *Drosophila* myosin rod cause defects in myofibril assembly. *Journal of Molecular Biology* **419**: 22–40.
34. Shah A. P., **Nongthomba U.**, Tanaka K. K. K, Denton M. L. B., Meadows S. M., Bancroft N., Molina M. R. and Cripps R. M., **2011.** Cardiac remodelling in *Drosophila* arises from changes in actin gene expression and a contribution of lymph gland-like cells to the heart musculature. *Mechanisms of Development* **128**: 222–233.
35. Haigh S. *, Salvi S. S. *, Sevdali M., Stark M., Goulding D., Clayton J. D., Bullard B., Sparrow J. C. and **Nongthomba U.[†]**, **2010.** *Drosophila* indirect flight muscle specific *Act88F* actin mutants as a model system for studying human congenital myopathies of the *ACTA1* skeletal actin gene. *Neuromuscular Disorders* **20**: 363–374.

***Authors contributed equally to this work.**

36. Gautam R., **Nongthomba U.** and Umapathy S., **2010.** Raman spectroscopic study of muscles related disorders using *Drosophila melanogaster* as a model system. *American Institute of Physics Conference Proceedings* **1267**: 402. [http://dx.doi.org/ 10.1063/1.3482584](http://dx.doi.org/10.1063/1.3482584).
37. **Nongthomba U.**, Ansari M., Thimmaiya D., Stark M. and Sparrow J. C., **2007.** Aberrant splicing of a novel exon in the *Drosophila* troponin-T gene affects flight muscle development. *Genetics* **177**: 295–306.
38. Ansari M, **Nongthomba U.**, Cummins M. and Sparrow, J. C., **2007.** A mutation in the tropomyosin gene is possibly responsible for suppressing the effects of troponin-I mutation in the *Drosophila melanogaster* muscles. *International Journal of Biology and Biotechnology* **4**: 315–328.
39. Ansari M., **Nongthomba U.** and Sparrow J. C., **2007.** Phenotypic affects of Troponin-T mutation *up*¹ on *Drosophila melanogaster* behaviour. *International Journal of Biology and Biotechnology* **4**: 2–3.

40. Middleton C. A., **Nongthomba U.**, Parry K., Sweeney S. T., Sparrow J. C. and Elliott C. J. H., **2006**. Neuromuscular organization and aminergic modulation of contractions in the *Drosophila* ovary. *BMC Biology* **4**: 17.
41. Zumstein N., Forman O., **Nongthomba U.**, Sparrow J. C. and Elliott C. J. H., **2004**. Distance and force production during jumping in wild type and mutant *Drosophila melanogaster*. *Journal of Experimental Biology* **207**: 3515–3522.
42. **Nongthomba U.**, Clark S., Cummins M., Ansari M., Stark M., and Sparrow, J. C., **2004**. Tnl is required for myofibrillogenesis and sarcomere formation. *Journal of Cell Science* **117**: 1795–1805.
43. **Nongthomba U.**, Cummins M., Clark S., Vigoreaux J. and Sparrow J. C., **2003**. Suppression of muscle hypercontraction by mutations in the myosin heavy chain gene of *Drosophila melanogaster*. *Genetics* **164**: 209–222.
44. **Nongthomba U.**, Pasalodos-Sanchez S., Clark S., Clayton J. D. and Sparrow J. C., **2001**. Expression and function of the *Drosophila* ACT88F actin isoform is not restricted to the indirect flight muscles. *Journal of Muscle Research and Cell Motility* **22**: 111–119.
45. Naimi B., Harrison A, Cummins A., **Nongthomba U.**, Clark S., Canal I., Ferrus A. and Sparrow J. C., **2001**. A tropomyosin-2 mutation suppresses a troponin I myopathy in *Drosophila*. *Molecular Biology of the Cell* **12**: 1529–1539.
46. Schmitz S., Clayton J., **Nongthomba U.**, Prinz H., Veigel C., Geeves M. and Sparrow J. C., **2000**. *Drosophila* ACT88F indirect flight muscle-specific actin is not N-terminally acetylated: A mutation in N-terminal processing affects actin function. *Journal Molecular Biology* **295**: 1201–1210.
47. **Nongthomba U.** and Ramachandra, N. B., **1999**. A direct screen identifies new flight muscle mutants on the *Drosophila* second chromosome. *Genetics* **153**: 261–274.
48. **Nongthomba U.**, and Ramachandra, N. B., **1997**. Isolation of an allele of yellow body mutation in *Drosophila melanogaster* by an unusual pattern of inheritance. *Drosophila Information Service* **80**: 102–103.
49. **Nongthomba U.** and Ramachandra, N. B., **1997**. Induction and isolation of chromosome specific flight muscle mutations in *Drosophila melanogaster*. *Drosophila Information Service* **80**: 45–46.

Manuscript in Preparation:

1. Franco-Cea A, Orfanos Z, **Nongthomba U**, Grice S, Pereira S and Sparrow JC. GAL4 induces muscle fibre degeneration in *Drosophila melanogaster* indirect flight muscles.
2. Haigh S., Cammarato A., **Nongthomba U.**, Craig R., Lehman W. & Sparrow JC. Actin suppressors of hypercontracting Tnl and TnT mutations in *Drosophila*.
4. Madan A., Thimmaiya D., Kumar P. and **Nongthomba U.**[†], Alternative splicing and post-translational modifications of the Troponin-T are required for normal development and function of the *Drosophila* indirect flight muscles.
5. Singh S. H., Schmitz S., Ramachandra N. B., Sparrow J. C. and **Nongthomba U.**[†], Roles of Arthrin, a monoubiquitinated actin, during flight muscle function.

6. Chatterjee A., Gopal A, Patnaik E. Merin N. and **Nongthomba U.[†]**, dLMO is required for pathogen modulation of the host *Drosophila* for effective infection.
7. Madhangi M. Kumar A. and **Nongthomba U.**, Developing a zebrafish model for studying human primary microsporidiosis: Roles of WDR8 protein.
8. Sinam Y. M., Kumar N., Ramachandra N. B. and **Nongthomba U.**, Comparison of a long-lived Cytorace (C9) with short-lived Cytorace (C3) identify new genes which are important for longevity.
9. Katti, P. and **Nongthomba, U.**, Marf-mediated mitochondrial fusion is imperative for the development and functioning of the indirect flight muscles (IFMs) in *Drosophila*.

General Articles

1. Madhangi M. and **Nongthomba U.[†]**, 2014. Zebrafish; a Model System in every way. *SBC(I) Newsletter*, 105: 12–14.
2. **Nongthomba U.[†]**, 2009. Book review “Annual Review of Genetics 2008”. *Current Science*, 97: 1376–1378.

Patent

1. Rao V. K. P., Jayaram M., **Nongthomba U.[†]** and Pratap R., 2015. Method and apparatus for detecting muscular disorders based on vibration signature of muscle cells. Indian Patent Application No. 4161/CHE/2015 dated 10/08/2015.

Neucleotide/Protein/Genomic database

1. Madan A., Thimmaiya D., Franco-Cea A., Aiyaz M., Kumar P., Sparrow J. C. and **Nongthomba U.[†]**, 2015. Indirect Flight Muscle (IFM) expression profiling of actin and myosin nulls in *Drosophila melanogaster*. Series Accession: GSE70252, ID: 200070252.
2. Singh S. H., Ramachandra N. B. and **Nongthomba U.**, 2013. *Drosophila melanogaster* strain UH3-GawB P-element insertion site genomic sequence. GenBank: KF682142.1, Accession-KF682142.
3. **Nongthomba U.**, Ansari M., Thimmaiya D., Stark M. and Sparrow J., 2007. *Drosophila melanogaster* troponin T (up) mRNA, complete cds, alternatively spliced. GenBank: AY665838.1, ACCESSION-AY665838. Protein Accession-AAU09446.

Abstracts

1. Jawkar, S. and **Nongthomba, U.**, 2017. CG9650 Regulates the patterning of the indirect flight muscles of *Drosophila melanogaster*. Presented at 18th International Congress of Developmental Biology 18-22 June, University Cultural Centre, National University of Singapore. **Mechanisms of Development**, doi.org/10.1016/j.mod.2017.04.256.
2. Katti, P. and **Nongthomba, U.**, 2017. Marf-mediated mitochondrial fusion is imperative for the development and functioning of the indirect flight muscles (IFMs) in *Drosophila*. 58th Annual *Drosophila* Meeting (sponsored by Genetics Society of America), 29th March–2nd April, 2017, Town & Country Resort & Convention Center, San Diego, USA. **Annual *Drosophila* Research Conference 54**: 81.

3. Jhonsa, R. and **Nongthomba, U., 2017.** canB2, a calcium binding subunit of Calcineurin, is required for maintaining calcium homeostasis in indirect flight muscles of *Drosophila*. 58th Annual *Drosophila* Meeting (sponsored by Genetics Society of America), 29th March–2nd April, 2017, Town & Country Resort & Convention Center, San Diego, USA. **Annual *Drosophila* Research Conference 54: 224B.**
4. Kamble, K. and **Nongthomba, U., 2017.** Antaxin 2 Binding Protein 1 is required for maintaining the stoichiometry of structural proteins and fiber diversity in *Drosophila* muscles. 58th Annual *Drosophila* Meeting (sponsored by Genetics Society of America), 29th March–2nd April, 2017, Town & Country Resort & Convention Center, San Diego, USA. **Annual *Drosophila* Research Conference 54: 632B.**
5. **Nongthomba U.,** Madhangi M. and Kumar A., **2017.** Developing a zebrafish model for studying human primary microspherophakia: Roles of WDR8 protein. 42nd Annual Meeting of the Indian Society of Human Genetics & International, Jointly organized by IISc, JNCASR & CHG, India, 2-4th March, 2017, held at National Science Seminar complex Indian Institute of Science Bangalore, India.
6. Madhangi M., Kumar A. and **Nongthomba U., 2017.** Investigating the role of WDR8 in development using the Zebra fish model system. 42nd Annual Meeting of the Indian Society of Human Genetics & International, Jointly organized by IISc, JNCASR & CHG, India, 2-4th March, 2017, held at National Science Seminar complex Indian Institute of Science Bangalore, India.
7. Madhangi M., Kumar A. and **Nongthomba U., 2016.** Roles of WD-Repeat protein, WDR8 in zebrafish development. 7th Asia Oceania Zebrafish Meeting, Organised by Institute of Molecular and Cell Biology, Singapore, 1st-4th October, held at Level 4, Creation/Exploration Theatrettes Matrix, 30 Biopolis Street Biopolis, Singapore.
8. Rinchhani V., Kairamkonda S., Mishra A. and **Nongthomba U., 2016.** Behavioral and molecular characterization of taxi gene in *Drosophila melanogaster*. Neurofly 2016, 16th European Neurobiology of *Drosophila* Conference, 2nd-6th September, held at Platanias, Chania, Crete, Greece.
9. Jawkar S. and **Nongthomba U., 2016.** CG9650: A novel regulator of patterning of the indirect flight muscles of *Drosophila melanogaster*. The Allied Genetics Conference (TAGC), July 13th-17th, held at the Orlando World Center Marriott, USA.
10. **Nongthomba U., 2016.** The usage of *Drosophila melanogaster* and *Danio rerio* to validate Genome sequencing findings. National Conference on Genomics and Society-Prospects, Challenges and Concerns, February 17 – 19th, held at Inter University Centre for Genomics and gene Technology (IU-CGGT), Department of Biotechnology, University of Kerala, Thiruvananthapuram, Kerala, India.
11. **Nongthomba U., 2016.** *Drosophila* as model system for dissecting the etiology of human muscle diseases. 103rd Indian Science Congress, January 3rd – 7th, held at Mysore University, India.
12. **Nongthomba U., 2015.** Genetic and molecular characterization of *Drosophila melanogaster* mutants with compromised motor functions. Biennial Indian *Drosophila* Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India.

13. Firdaus H., Mohan J., Arthi B. P. and **Nongthomba U., 2015.** *fliH*, a novel cis-regulatory mutation in troponins-I coding gene leads to indirect flight muscle hypercontraction in *Drosophila*. Biennial Indian Drosophila Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India.
14. Jawkar S. and **Nongthomba U., 2015.** CG9650: A novel regulator of patterning of the indirect flight muscles of *Drosophila melanogaster*. Biennial Indian Drosophila Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India (**Best platform presentation**).
15. Kamble K. and **Nongthomba U. 2015.** Role of dA2BP1 in IFM development and function. Biennial Indian Drosophila Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India.
16. Sinam Y. M., Kumar N., Ramachandra N. B. and **Nongthomba U., 2015.** Comparison between a long-lived Cytorace (C9) with short-lived Cytorace (C3) to identify new genes which could be important for longevity. Biennial Indian Drosophila Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India.
17. Jayaram M., Wishard R. and **Nongthomba U., 2015.** Role of Drosophila muscle LIM protein MLP60A in the maintenance of sarcomeric structure and remodelling of muscle fibres. Biennial Indian Drosophila Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India.
18. Singh D., **Nongthomba U.** and Roy, J. K., **2015.** Rab11 partners with Notch in patterning the indirect flight muscles of Drosophila. American Society of Cell Biology (ASCB) Annual Meeting, 12-16th December, San Diego, California, US.
19. Madhangi M., Kumar A. and **Nongthomba U., 2015.** Roles of WD-Repeat proteins in zebrafish development. The XXXIX All India cell Biology Conference on Cellular Organization and Dynamics, 6-8th December, Thiruvananthapuram, Kerala, India (Best Poster award).
20. **Nongthomba, U. 2015.** Indirect flight muscles of Drosophila as a model system to study myogenesis and myopathies. 14th FAOBMB and 84th SBC(I) conference, November 27–30th, held at BITS Pilani, Hyderabad Campus, Hyderabad, India.
21. **Nongthomba U., 2015.** Drosophila and Zebrafish as model organisms for Ayurveda research. Discussion meeting on “Health and Rejuvenation: Swasthavritta and Rasayana” 18th August, SSCU Auditorium, IISc., Bangalore, India.
22. **Nongthomba U., 2015.** Importance of proper isoform and stoichiometry of structural proteins during muscle assembly in Drosophila. Biennial Meeting of Indian Society of Developmental Biologists, July 15–18th, IICT-Auditorium, CCMB, Hyderabad, India.
23. Kairamkonda S. and **Nongthomba U., 2015.** Role of Beadex in gross motor activities of *Drosophila melanogaster*. Biennial Meeting of Indian Society of Developmental Biologists, July 15–18th, IICT-Auditorium, CCMB, Hyderabad, India.
24. Chatterjee A., Aavula K. And **Nongthomba U., 2015.** Novel regulatory role of *Beadex* and *pannier* in *Drosophila* hematopoiesis. Biennial Meeting of Indian Society of Developmental Biologists, July 15–18th, IICT-Auditorium, CCMB, Hyderabad, India.

25. Katti P. and **Nongthomba U., 2015.** Dissecting the role of miR-9a in *Drosophila* indirect flight muscle function. Biennial Meeting of Indian Society of Developmental Biologists, July 15–18th, IICT-Auditorium, CCMB, Hyderabad, India.
26. Jhonsa R. and **Nongthomba, U., 2015.** Role of canB2, calcium binding subunit of calcineurin, in maintaining calcium homeostasis during the *Drosophila* indirect flight muscle development and function. Biennial Meeting of Indian Society of Developmental Biologists, July 15–18th, IICT-Auditorium, CCMB, Hyderabad, India.
27. Yumnamcha T., Devi M. D. and **Nongthomba U., 2015.** *Drosophila* and Zebra fish as models for evaluation of medicinal plants and environmental toxicants. International conference on Biotechnological advances in Environmental health and biodiversity conservation, May 21st to 23rd, organized by DBT sponsored state biotech hub, Department of Biochemistry, Manipur University, India.
28. Nongthomba U., **2015.** Zebrafish as model organism for dissecting the etiology of human diseases and toxicological research. XXXIX Mahabaleshwar Seminar on Recent Advances in Zebrafish Genetics and Development, March 21st to 23rd, Alibaug, Maharashtra, India.
29. Madhangi M., Kumar A. and **Nongthomba U., 2015.** Roles of WD-Repeat proteins in zebrafish development. XXXIX Mahabaleshwar Seminar on Recent Advances in Zebrafish Genetics and Development, March 21st to 23rd, Alibaug, Maharashtra, India.
30. Madhangi M., Kumar A. and **Nongthomba U., 2014.** Roles of WD-Repeat proteins in zebrafish development. 83rd SBC(I) Meeting, 18th–21st December, KIIT University, Bhubaneswar. (**Won best poster prize**).
31. Khare S. M., Mohan J., Koushika S. P., **Nongthomba U.** and Venkataraman V., **2014.** Coloured PDMS Micropillar Arrays for *Drosophila* Larva Force Measurement. The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences" (MicroTAS 2014), 26-30th October, 2014, Henry B. Gonzalez Convention Center, 200 East Market Street, San Antonio, TX 78205, USA, organized by The Chemical and Biological Microsystems Society (CBMS).
32. Jhonsa R. and **Nongthomba, U., 2014.** Role of canB2, calcium binding subunit of calcineurin, in maintaining calcium homeostasis during the *Drosophila* indirect flight muscle development and function. 5th International congress on Cell membranes and Oxidative Stress: Focus on Calcium Signaling and TRP channels, 9-12th September, Isparta, Turkey (**Won Platinum Rose International Award for Best Poster – Cash Prize of 250 USD**).
33. Singh S. H., Ramachandra, N. B., Sparrow J. C. and **Nongthomba U., 2013.** Arthrin, a mono-ubiquitinated actin: Mechanism of assembly and physiological function in *Drosophila melanogaster*. 3rd India Ocean Rim Muscle Colloquium, 12–13th December, Nanyang Technological University-Imperial College London, Lee Kong Chian School of Medicine, Singapore.
34. Katti P. and **Nongthomba U., 2013.** Dissecting the role of miR-9a in *Drosophila* indirect flight muscle (IFM) function. 3rd India Ocean Rim Muscle Colloquium, 12–13th December, Nanyang Technological University-Imperial College London, Lee Kong Chian School of Medicine, Singapore.

35. **Nongthomba U., 2013.** Drosophila indirect flight muscles: A model system for understanding muscle development, function and human diseases. 3rd India Ocean Rim Muscle Colloquium, 12–13th December, Nanyang Technological University-Imperial College London, Lee Kong Chian School of Medicine, Singapore.
36. Jhonsa R. and **Nongthomba U., 2013.** Loss of Calcineurin results in flight muscle degeneration. 3rd India Ocean Rim Muscle Colloquium, 12–13th December, Nanyang Technological University-Imperial College London, Lee Kong Chian School of Medicine, Singapore.
37. Murthy S. and **Nongthomba U., 2013.** Deciphering the role of CG9650 in neural development of Drosophila melanogaster. Annual Meeting of Indian Society of Developmental Biologists, 1st–4th December, Tata Institute of Fundamental Research (TIFR), Mumbai.
38. Singh S. H., Kumar P., Ramachandra N. B. and **Nongthomba U., 2013.** Roles of the troponin isoforms during indirect flight muscle development in Drosophila melanogaster. Annual Meeting of Indian Society of Developmental Biologists, 1st–4th December, Tata Institute of Fundamental Research (TIFR), Mumbai.
39. **Nongthomba U., 2013.** Regulation of cell cycle genes during Drosophila indirect flight muscle development. Annual Meeting of Indian Society of Developmental Biologists, 1st–4th December, Tata Institute of Fundamental Research (TIFR), Mumbai.
40. Jhonsa R. and **Nongthomba U., 2013.** Loss of Calcineurin results in flight muscle degeneration. Fifth Annual Meeting of Proteomic Society – India, 28–30th November, IISc., Bangalore, India.
41. Gautam R., Vanga S. Madan A., **Nongthomba U.** and Umapathy S., **2013.** Classification of myopathies on molecular basis in Drosophila using Raman Spectroscopy. Fourth Asian Spectroscopy Conference, 15–18th December, 2013, NTU, Singapore.
42. Yumnamcha T., Devi M. D. and **Nongthomba U., 2013.** Assessment of genotoxic and teratogenic potential of the aqueous extract from Croton tiglium L. using Zebrafish. First International and Third National Conference on 'Biotechnology, Bioinformatics and Bioengineering,' 28th–29th June, Tirupati, Andhra Pradesh, India.
43. Yumnamcha T., **Nongthomba U.** and Devi M. D., **2013.** Evaluation of the embryo-toxic and teratogenic potentials of the aqueous root extract of Milletia pachycarpa using Zebrafish. National Symposium on Recent Trends in Chemical Sciences (NSRTCS-2013) 22nd–23rd March, 2013, Imphal. Organized by Department of Chemistry, Manipur University, Canchipur-795 003, India.
44. Madan A., Thimmaiya D., Kumar P., and **Nongthomba U., 2013.** Exploring mechanisms of Troponin-T isoform switching and regulation of stoichiometry in the Troponin complex of Drosophila indirect flight muscles. 54th Annual Drosophila Meeting (sponsored by Genetics Society of America), 3rd–7th April, 2013, Washington DC, USA. **Annual Drosophila Research Conference 54:** 497B.
45. Singh S. H., Ramachandra N. B., and **Nongthomba U., 2012.** Roles of actin ubiquitination during flight muscle function. Poster presented at Second Indian Ocean Rim Muscle Colloquium, 6th–8th February, 2012, inStem, NCBS, Bangalore, India.

46. Rai M. and **Nongthomba U., 2012.** Spation-temporal regulation of muscle patterning and maintenance by transcription factor erect wing. Oral presentation at second Indian Ocean Rim Muscle Colloquium, 6th–8th February 2012, inStem, NCBS, Bangalore, India.
47. Rai M. and **Nongthomba U., 2011.** Transcription factor erect wing (EWG) is involved in indirect flight muscle patterning, development and maintenance in *Drosophila*. 52nd Annual *Drosophila* Meeting (sponsored by Genetics Society of America), 30th March–3rd April, 2011, Town and Country Hotel and Convention Centre, San Diego, CA, USA. **Annual *Drosophila* Research Conference 52:** 562A.
48. Kairamkonda S. and **Nongthomba U., 2010.** Novel role of Beadex in *Drosophila melanogaster* reproduction. 79th SBC(I) Meeting, 13th–15th December, IISc., Bangalore.
49. Madan A., Thimmaiya D. and **Nongthomba U., 2010.** Functional studies of the alternatively spliced isoforms of Troponin T (TnT) in the indirect flight muscles (IFM) of *Drosophila melanogaster*. 79th SBC(I) Meeting, 13–15th December, IISc., Bangalore.
50. Chatterjee A., Gopal A., Merin N., Selvi V. and **Nongthomba U., 2010.** Roles of indirect flight muscles (IFM) in lifespan and optimal stress tolerance. 79th SBC(I) Meeting, 13–15th December, IISc., Bangalore.
51. Rai M. and **Nongthomba U., 2010.** Role of erect wing (EWG) in muscle maintenance and protection against oxidative stress. 79th SBC(I) Meeting, 13–15th December, IISc., Bangalore.
52. Mohan J., Firdaus H., Ramesh S. R. and **Nongthomba U., 2010.** Roles of LIM domain proteins in indirect flight muscle development and function. 79th SBC(I) meeting, 13–15th December, IISc., Bangalore.
53. Singh S. H., Ramachandra N. B., Sparrow J. C. and **Nongthomba U., 2010.** Arthrin, a monoubiquitinated actin in *Drosophila*: Mechanism of assembly and physiological function. 79th SBC(I) Meeting, 13–15th December, IISc., Bangalore.
54. Chatterjee A. and **Nongthomba U., 2010.** Importance of *Drosophila* indirect flight muscles in lifespan and optimal stress tolerance. XXXIV All India Cell Biology Conference and Symposium on Quantitative Biology: From Molecules to Cells, 4–6th December, Bose Institute, Kolkata, India.
55. Singh S. H., Ramachandra N. B., Sparrow J. C. and **Nongthomba U., 2010.** Assembly and physiological function of Arthrin: a monoubiquitinated actin. 6th *Drosophila* Meeting, 19–20th November, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India. (**Best Poster award**).
56. Rai M. and **Nongthomba U., 2010.** Role of erect wing (EWG) in indirect flight muscle development and maintenance in *Drosophila*. 6th *Drosophila* Meeting, 19–20th November, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India. (**Best Oral presentation award**).
57. Madan A., Thimmaiya D., Sparrow J. C. and **Nongthomba U., 2010.** Insights into myofibrillogenesis and myopathy: Whole genome expression analysis of myosin and actin null mutations in indirect flight muscles of *Drosophila melanogaster*. 6th *Drosophila* Meeting, 19–20th November, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.

58. Kairamkonda S. and **Nongthomba U., 2010**. Beadex function in follicle cells is essential for female fertility in *Drosophila melanogaster*. 6th *Drosophila* Meeting, 19–20th November, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.
59. Mohan J., Firdaus H., Ramesh S. R. and **Nongthomba U., 2010**. LIM domain proteins are required for maintenance of muscle cytoarchitecture in *Drosophila melanogaster*. 6th *Drosophila* Meeting, 19–20th November, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.
60. Gautam R., **Nongthomba U.** and Umopathy S., **2010**. Raman spectroscopic study of muscles related disorders using *Drosophila melanogaster* as a model system. XXII International Conference on Raman Spectroscopy, 8–13th August, Boston, Massachusetts, USA.
61. Umopathy S., Santosh V., Somasundaram K., Nandi D. and **Nongthomba U., 2010**. Infrared and Raman microscopic studies of cells, tissues and model systems for muscles related disorders. Second International Conference on Vibrational Optical Activity (VOA-2) and Bio-Medical Applications of Raman Spectroscopy (BMARS), 5–7th August, University at Albany State University of New York, USA.
62. Rai M. and **Nongthomba U., 2010**. Spatio-temporal regulation of muscle pattern, growth and differentiation by a transcription factor, erect wing (EWG) in *Drosophila*. Japanese Society of Developmental Biology Conference, 21st–23rd June, Kobe, Japan. (**Best poster award**).
63. Salvi S. S. and **Nongthomba U., 2009**. Mutations in *Drosophila* myosin rod cause muscle defects similar to human myopathies, SBC(I) 78th Annual Meeting, 30th October–1st November, Pune, India. (**Best poster award**).
64. Tyagi R., Shenoy A. R., Shivalingaiah L. M., **Nongthomba U.** and Visweswariah S. S., **2009**. Biochemical analysis and function of the 239FB gene family: From flies to man. EMBO Meeting, 29th August–1st September, 2009, Amsterdam, Netherlands.
65. Kairamkonda, S., Firdaus, H. and **Nongthomba, U., 2009**. Molecular-genetic characterization of genes involved in reproduction in *Drosophila melanogaster*. “International Conference on Germ Cell Development Function and ISSRF 19th Annual Meeting”, 22nd–24th January, IISc, Bangalore, India.
66. **Nongthomba U., 2008**. *Drosophila* indirect flight muscles as model system for studying sarcomerogenesis. 5th *Drosophila* Meeting, 28–29th March, 2008, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.
67. Thimmaiya D., Sparrow J. C. and **Nongthomba U., 2008**. Fine tuning muscles for flight: Alternative splicing and post-translational modifications of the Troponin-T of *Drosophila* Indirect Flight Muscles. 5th *Drosophila* Meeting, 28–29th March 2008, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India. (**Best oral presentation**).
68. Salvi S. S. and **Nongthomba U., 2008**. Mutations in *Drosophila* myosin rod cause defects in development of myofibrils. 5th *Drosophila* Meeting, 28–29th March, 2008, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.

69. Firdaus H. and **Nongthomba U., 2008.** Characterization of fliH mutation which leads to the indirect flight Mmuscles hypercontraction in *Drosophila melanogaster*. 5Th Drosophila Meeting, 28–29th March, 2008, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India. (**First prize in poster presentation**).
70. Rai M. and **Nongthomba U., 2008.** Muscle mutants to the cause of deciphering muscle patterning in *Drosophila melanogaster*. 5Th Drosophila Meeting, 28–29th March, 2008, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.
71. Singh S. H. and **Nongthomba U., 2008.** Generation of tissue specific enhancer trap Gal4 strains in *Drosophila melanogaster*. 5Th Drosophila Meeting, 28–29th March, 2008, Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysore, India.
72. Thimmaiya D., Sparrow J. C. and **Nongthomba U., 2008.** Aberrant Splicing of a Novel Exon in the *Drosophila* Troponin-T gene affects flight muscle development. International Symposium on “Model Organisms and Stem Cells in Development, Regeneration and Disease”, 23rd–25th February, 2008, NCBS, Bangalore, India. (**Second best poster prize**).
73. Salvi S. S. and **Nongthomba U., 2008.** Mutations in *Drosophila* myosin rod cause developmental defects and protein aggregates. International Symposium on “Model Organisms and Stem Cells in Development, Regeneration and Disease”, 23rd–25th Februar, 2008, NCBS, Bangalore, India.
74. **Nongthomba U.,** Ansari M., Thimmaiya D., Stark M. and Sparrow, J., **2007.** Aberrant splicing of a novel exon in the *Drosophila* troponin-T gene affects flight muscle development. 20th European *Drosophila* Research Conference, 12–14th September, 2007, Vienna, Austria.
75. Sparrow, J., Sevdali, M., and **Nongthomba, U., 2007.** A human skeletal actin (ACTA1) myopathy mutation (R372H): Studied using *Drosophila* indirect flight muscles. 20th European *Drosophila* Research Conference, 12–14th September, 2007, Vienna, Austria.
76. Elliott C. J. H., **Nongthomba U.,** Parry K., Sweeney S. T., Sparrow J. C. and Middleton C. A., **2006.** Neuromuscular organization and aminergic modulation of contractions in the *Drosophila* ovary. Society for Neuroscience Annual Meeting, 14–18th October, Atlanta, Georgia, USA.
77. Middleton C. A., **Nongthomba U.,** Parry K., Sweeney S. T., Sparrow J. C. and Elliott C. J. H., **2006.** Neuromuscular organization and aminergic modulation of contractions in the *Drosophila* ovary. The 11th European *Drosophila* Neurobiology Conference, 2–6th September, 2006, Universiteitshal, Leuven, BELGIUM. **Journal of Neurogenetics 20: 179–180.**
78. Orfanos Z., Franco-Cea A., Pereira S., Grice S., **Nongthomba U.** and Sparrow J. C., **2005.** GAL4 overexpression in *Drosophila* IFM causes muscle defects. MYORES meeting, 16 – 19th November, 2005, Rome, Italy.

79. **Nongthomba, U., 2005.** Development and disease–indirect flight muscles of *Drosophila* as model system to study myogenesis and myopathies. SBC(I) Meeting, CDRI Lucknow, India.
80. Sparrow J. C., Haigh S., Kumar V., **Nongthomba U.**, and Peckham M., **2005.** A *Drosophila* model of human ACTA1 nemaline rod myopathies. **Journal of Muscle Research and Cell Motility 26: 76.**
81. Sparrow J. C., Haigh S., **Nongthomba U.**, Kumar V., and Peckham M., **2005.** A *Drosophila* model of human ACTA1 nemaline rod myopathies? **Annual Drosophila Research Conference 46: 938B, FBrf0183500.**
82. **Nongthomba U.** and Sparrow J. C., **2004.** Roles of troponin complex during myofibrillogenesis. 13th London Muscle Conference, Imperial College London, National Heart and Lung Institute, SW3 6LY, London, UK.
83. Zumstein N., Forman O., **Nongthomba U.**, Sparrow J. C. and Elliott C. J. H., **2004.** Biomechanics of jumping in *Drosophila*. **Comparative Biochemistry and Physiology 137A: S101.**
84. Elliott C. J. H., Zumstein N., Forman O., **Nongthomba U.**, and Sparrow J. C., **2004.** Octopaminergic modulation of distance and force production during Jumping in wild type and mutant *Drosophila melanogaster*. **Neurofly**, 4–8th September Neuchâtel Switzerland.
85. Zumstein N., Forman O., **Nongthomba U.**, Sparrow J. C. and Elliott C. J. H., **2004.** Biomechanics of jumping in *Drosophila*. **Comparative Biochemistry and Physiology Part A 137: S101.**
86. Sparrow J. C., Haigh S., Clayton J. D., Bullard B. and **Nongthomba U.**, **2003.** *Drosophila* Act88F actin mutants: A model system for studying human ACTA1 nemaline rod myopathies. XXXII European Muscle Congress, Montpellier, France. **Journal of Muscle Research and Cell Motility 24: 331.**
87. Sparrow J. C., **Nongthomba U.**, Clark S., Haigh S. and Ferrus A., **2002.** The *Drosophila* troponin-tropomyosin complex and regulation of muscle contraction. America *Drosophila* Conference, San Diego, USA. **Annual Drosophila Research Conference 43: 268A.**
88. **Nongthomba U.** and Sparrow J.C., **2002.** Sarcomere formation requires the inhibition of the actomyosin force-generating system. Presented at the American *Drosophila* Conference, San Diego, USA. **Annual Drosophila Research Conference 43: 265A**
89. Haigh, S., **Nongthomba, U.**, Pasalodos-Sanchez S. and Sparrow, J., **2001.** Actin suppressors of mutants in the *Drosophila* troponin complex. 17th European *Drosophila* Research Conference, Edinburgh, UK. **European Drosophila Research Conference 17: 256 [Fbrf0110441].**
90. Sparrow J., Haigh S. E., Clark S. and **Nongthomba U.**, **2001.** Molecular genetic studies of the *Drosophila* troponin-tropomyosin complex and regulation of muscle contraction. 17th European *Drosophila* Research Conference, Edinburgh, UK. **European Drosophila Research Conference 17: 250 [Fbrf0110441].**

91. **Nongthomba U.** and Sparrow, J. C., **2001**. Sarcomere formation requires the inhibition of the actomyosin force-generating system. Presented at the 17th European Drosophila Research Conference, Edinburgh, UK. **European Drosophila Research Conference 17:** 256 [Fbrf0110441].
92. Vigoreaux J. O, **Nongthomba U.**, Cummins M. and Sparrow J. C., **1999**. Genetic analysis of flight muscle hypercontraction in Drosophila. American Biophysical Society Meeting, USA. **Molecular Biology of the Cell 10** (Suppl.): 24a [FBrf0123230].
93. **Nongthomba U.**, Cummins M., Vigoreaux J. and Sparrow J., **1999**. Suppression of muscle hypercontraction phenotypes in Drosophila melanogaster. Presented at the 16th European Drosophila Research Conference, Zurich, Switzerland. **European Drosophila Research Conference 16:** 264 [Fbrf0110441].
94. **Nongthomba U.**, Pasalodos-Sanchez S. and Sparrow J., **1999**. Act88F: Analysis of expression pattern and functional roles in muscles other than indirect flight muscles in Drosophila melanogaster. Presented at the XXVIII European Muscle Congress, York, UK. **Journal of Muscle Research and Cell Motility 20:** 844.
95. **Nongthomba U.** and Ramachandra N. B., **1998**. Structural and developmental characterisation of new second chromosomal muscle mutants in Drosophila, presented at the International Symposium on Biology in 21st century and XXI All India Cell Biology Conference, IISc., Bangalore, India.
96. **Nongthomba U.** and Ramachandra N. B., **1997**. Second chromosome muscle mutants in Drosophila. Presented at the Fourth Drosophila Meeting, Mysore, India.
97. **Nongthomba U.** and Ramachandra N. B., **1996**. Isolation of indirect flight muscle mutants in Drosophila. Presented at the International Symposium on the Present and Future of Major aspects of Modern Biology, TIFR, Bangalore, India.

Research Covered in News and Media

1. <http://www.bangaloremirror.com/others/sci-tech/Healthy-muscles-can-fight-infections-says-IISc-study/articleshow/52734466.cms>
2. <http://timesofindia.indiatimes.com/city/bengaluru/Pomegranate-juice-adds-days-to-life/articleshow/45860730.cms>
3. <http://www.newindianexpress.com/cities/bengaluru/A-Simpler-way-to-Diagnose-Muscular-Diseases/2015/02/17/article2672753.ece>
4. <http://www.deccanherald.com/content/509618/iisc-study-reveals-toxic-effects.html>

Research Support

- 1) Validation of the potential of a novel 2' o methyl ps based RNA antisense mediated exon skipping strategies as therapeutics in duchenne muscular dystrophy Department of Science and Technology (DST; SERB-Chemical Biology), Govt. of India, New Delhi; September 2017-August 2020; Grant amount ~ Rs. 80 lakhs (as co-PI).
- 2) Unraveling the Cellular and Molecular roles of CG9650, taxi and Beadex genes during development and function of the neurons in Drosophila melanogaster. Department of

- Science and Technology (DST; SERB-BBMM), Govt. of India, New Delhi; August 2017-July 2020; Grant amount ~ Rs. 57 lakhs (as PI).
- 3) Investigation of molecular mechanism of lung and prostate cancers metastasis and in vivo validation using Zebrafish xenograft models. Funded by Department of Biotechnology's Twinning Program for the North East, Govt. of India, January 2017 – January 2020; Grant amount ~Rs. 87.69 lakhs (as a Co-PI, Rs. 23.67 lakhs).
 - 4) Whole genome sequencing and functional genomics of golden silk moth *Antheraea assamensis*. Funded by Central Silk Board, Ministry of Textiles – Govt. Of India, Lahdoigarh, Jorhat, Assam; November 2015-October 2018 (as a Co-PI).
 - 5) Development of Transgenic Silkworm (*Bombyx mori*) for the overexpression of Disease-Resistant genes for enhanced immunity. Funded by Central Silk Board, Ministry of Textiles – Govt. Of India, Bangalore; September 2015-August 2018; Grant amount ~ Rs. 40 lakhs (as a Co-PI, Dr. Ravikumar, SBRL-PI).
 - 6) Protein aggregate myopathies:- A clinical, pathological, immune-histochemical, molecular genetics and proteomic investigation. Department of Science and Technology (DST), Govt. of India, New Delhi; October 2011-October 2014; Grant amount ~ Rs. 45 lakhs (as PI with 2 Co-PIs, Prof. N. Gayathri and Prof. A. Nalini from National Institute of Mental Health and Neuro Sciences, Bangalore).
 - 7) Discovery of Bioactive natural products from microbes especially actinomycetes in niche biotopes in Manipur. Department of Biotechnology's (DBT) Twinning Program for the North East, Govt. of India; October 2010-March 2014; Grant amount ~ Rs. 130 lakhs (Co-PI, Rs. 15 lakhs).
 - 8) Research in Biophotonics and Biomedical Instrumentation, DBT, Govt. of India, New Delhi; October 2010-October 2015; Grant amount ~ Rs. 663 lakhs (Co-PI, Rs. 20 lakhs).
 - 9) Development of *Drosophila melanogaster* and *Danio rerio* (Zebrafish) as host model systems to study *Mycobacterium*-host interactions. DBT; February 2007-September 2012; Grant amount ~ Rs. 431.13 lakhs (Co-PI, Rs. 65 lakhs).
 - 10) Molecular genetic studies of thin filament proteins in sarcomere assembly and muscle contraction using Indirect Flight Muscles in *Drosophila*. DBT; October 2006-October 2009; Grant amount ~ 30.611 lakhs (as PI, completed).
 - 11) Molecular-genetic characterization of two mutants that cause muscular myopathies in *Drosophila melanogaster*. Council of Scientific and Industrial Research (CSIR), Govt. of India, New Delhi.; October 2005-October 2008; Grant amount ~ Rs. 19 lakhs (as PI, completed).

Research Students Supervision

PhD Students

- 1) Hena Firdaus (2004-2009): Genetics of *Drosophila* indirect flight muscles: Unravelling the roles of genes involved in muscle development and function.
- 2) Late Divesh Thimmaiya (could not complete, 2004).
- 3) Sheetal Salvi (2005-2011): Unravelling the mechanisms of myofibrillogenesis and human myopathies using *Drosophila* mutants.

- 4) Mamta Rai (2006-2012): Spatio-temporal control of *Drosophila* indirect flight muscle development and maintenance by the transcription factor “Erect wing”.
- 5) Kairam Konda Subhash (Int. PhD) (2006-2015): Genetic and molecular characterization of *Drosophila melanogaster* mutants with compromised motor and reproductive functions.
- 6) Salam Herojit Singh (as a Co-guide with Prof. NB Ramachandra, Mysore University) (2005): Generation and characterization of some of the flight muscles and neuron specific enhancer trap Gal4 strains in *Drosophila melanogaster*.
- 7) Mohan J. (as a Co-guide with Prof. S.R. Ramesh, Mysore University) (2005): Role of LIM domain proteins in Indirect Flight Muscle development and function in *Drosophila melanogaster*.
- 8) Smrithi Murthy (Int. PhD) (2006): Role of CG9650 in neuronal development and function of *Drosophila melanogaster*.
- 9) Arunita Chatterjee (2009-2015): Novel regulators of *Drosophila melanogaster* immune system.
- 10) Jawkar Saroj Sushil (2009 moved to lab on May 2013):
- 11) Lavanya Devi A.L. (joint PhD student with Dr. Bobji, Mechanical Engineering, registered under interdisciplinary program on Nanoengineering for integrated system, 2009): Characterization of Corneal lens of *Drosophila melanogaster* and its genetic mutants using Atomic Force Microscopy and Scanning Electron Microscopy.
- 12) Aditi Madan (Int. PhD) (2007-2016): Developmental and Functional roles of Troponin-T isoforms, and exploring genome-wide alternations in *Drosophila* indirect flight muscle mutants.
- 13) Ruchi Jhonsa (2011-2016): Dissecting the role of calcium binding proteins in muscle development and function.
- 14) Katti Prasana (2011-2016): Investigating the novel roles of miR-9a and the regulators of mitochondrial dynamics during the development and functioning of indirect flight muscles (IFMs) in *Drosophila melanogaster*.
- 15) Madhangi M (2012-2017) (Joint student with Prof. Arun Kumar): Functional characterization of WD40-repeat protein, WDR8, in Zebrafish to gain insight into its role in isolated Microspherophakia.
- 16) Ketaki Kamble (Int. PhD) (2011-2017)
- 17) Vidyashankar R. (2013-ERP student from FRLHT)
- 18) Rohan Wishard (2014)
- 19) Vanlalrinchhiani (moved from Anapoorni Rangarajan’s lab on March 2015)
- 20) Shree Chaitranjali Yadla (Int. PhD) (2014).
- 21) Kripa Chitre (2016)

Post doctoral fellows

- 1) Ms. Suneetha P., Post-doc under DBT post-doc programme; Expression of major thin filament protein (troponin and tropomyosin) of indirect flight muscle of drosophila in *E. coli* to study muscle protein interaction; Jan 2007.
- 2) Surjya Narain Dash, post-doc November, 2008. Roles of Pax3 and Pax7 in muscle satellite specification in zebra fish. Left March 31st 2010.
- 3) Ms. Vani Khare, post-doctoral fellow under DBT-research associate program. Actin isoform switching during zebra fish development, August 2011, left 31st May 2012.
- 4) Sinam Yoirentomba Meitei, post doctoral fellow under DBT-research associate program. Identification of Ageing network in Cytoraces of Drosophila and anti-ageing activities of certain medicinal plants from Manipur, joined January 2012, left on 30th April, 2017.
- 5) Dr. Khaleelulla Saheb Shaik, post doctoral fellow under DBT-research associate program. Molecular-genetic dissection of cell cycle proteins/genes during indirect flight muscles development, started on 07-01-2013, left 30th November, 2013.
- 6) Dr. Aravind S., post doctoral fellow under DBT-research associate program. Exon skipping and potential therapeutic intervention of small molecules in treatment of DMD. Started on 01-01-2017.

Master Research/Summer students/Project students

Have supervised numerous students for the Institute Integrated Ph.D. programme (Lab rotations, research projects); also supervised biotechnology, bioinformatics and M.Sc. Biology students from all over the country for their projects. Many students were also trained as project assistants and trainees in the lab.

Invited Talks

1. 5-6th July, **2017**, gave two talks at Science Academies Lecture Workshop on “New Horizons in Genome Engineering” organized by Nehru Arts and Science College, Coimbatore. Titles of the talks were “RNA interference technologies for Gene expression studies” and CRISPR-CAS9 technique for Genome Engineering”.
2. 12th May, **2017**, gave an invited talk entitled “decoding human diseases in Zebrafish and Drosophila: A fish and/or fly for every individual” at Department of Zoology and Applied Genetics, Bangalore University.
3. 28th April, **2017**, invited talk at Science Academies' Lecture workshop on Current trends in Biological Sciences, held at Vignana Bhavan, University of Mysore, India. Titles of talks “Functional Genomics Validation using Zebrafish and Fruit fly model organisms” and “Healthy Ageing: Removing unwanted cellular aggregates”.
4. 21st April, **2017**, gave an invited talk “Decoding human neuromuscular diseases using Drosophila and Zebrafish as model organisms” at pre-conference workshop of Neuropathology Society of India Conference, held at NIMHANS, Bangalore.
5. 3rd April, **2017**, gave an invited talk “Functional genomics using Zebrafish and Fruit Fly model systems” at PES University, Bangalore.
6. 21st March, **2017**, gave an invited talk “Functional genomics using Zebrafish and Fruit Fly model systems” at Stand Life Science, Bangalore.
7. 17th March, **2017**, gave an invited talk “Genetic and molecular basis of neurodegenerative disorders” at Blue Ribbon Rare Disease Symposium and Film Festival 2017 organized by Centre for Health Ecologies and Technology (CHET) and

- International Institute for Art, Culture and Democracy (IIACD), held at Auditorium, National Gallery of Modern Art (NGMA), Bengaluru Manikyavelu Mansion, #49, Palace Road, Bangalore 560052.
8. 6-7th March, **2017**, invited talk at Science Academies' Lecture workshop on Genetics Today, held at St. Xavier's College, Palayamkottai, Tamil Nadu, India. Titles of talks "Validation of genome sequencing data using model organisms" and "Genetics of Ageing".
 9. 20th January, **2017**, invited talk at Science Academies' Refresher Course for College Teachers MCB (Biological Sciences), Indian Institute of Science, Bangalore, Jan 16, 2017 to Jan 28, 2017. Title of the talk "Drosophila as model for studying human muscular and neurodegenerative diseases".
 10. 16th November, **2016**, invited talks at UGC-Academic Staff College, Mysore- 12th Refresher course for Life Science Teachers On "Innovations in Life Sciences". Delivered two talks, "Validation of Genome sequencing data using Drosophila and Zebra fish model organisms" and "Keeping the Cellular Garbage system at Bay for healthy ageing".
 11. 15th September, **2016**, delivered invited talk "Validation of Genome sequencing data using Drosophila and Zebra fish model organisms" Centre for Human Genetics, Bangalore.
 12. 17th August, **2016**, delivered invited talk "The humble Fruit fly as a model to study human muscle and neurodegeneration diseases" Centre for Human Genetics, Bangalore.
 13. 6th August, **2016**, delivered invited talk "Fruit fly as model to study human muscle diseases" organized by Research Institute of Science and Technology, Manipur.
 14. 23rd April, **2016**, delivered invited talk "Development of new diagnostic tools for muscle diseases using the humble fruit-fly as model organism" at Workshop "To develop a scientific program for research on rare diseases" held at Indian National Science Academy, New Delhi, India, 22-23 April 2016.
 15. 12th April, **2016**, delivered invited lectures "Drosophila as host model for infection studies and Validation of Genome sequencing findings using model organisms" at Academies' Sponsored Workshop for students on "Lecture Workshop on Recent Advances in Life Sciences" held at School of Biosciences, Mar Athanasios College for Advanced Studies Tiruvalla (MACFAST), Kerala, 11-12 April 2016.
 16. 19th February, **2016**, delivered special invited lecture "The usage of *Drosophila melanogaster* and *Danio rerio* to validate Genome sequencing findings" at National Conference on Genomics and Society-Prospect, Challenges and Concerns, 17-19th February, held at Inter University Centre for Genomics and gene Technology (IU-CGGT), Department of Biotechnology, University of Kerala, Thiruvananthapuram.
 17. 2nd January, **2016**, gave a talk entitled "model organisms and confocal imaging" during UGC-NRC-DBS series course on Basic Confocal Microscopy Course 2015; 28th December, 2015-6th January, 2016, held at Indian Institute of Science, Bangalore, India.

18. 6th January, **2016**, gave an invited talk “Drosophila as model system for dissecting the etiology of human muscle diseases” during 103rd Indian Science Congress, January 3rd – 7th, held at Mysore University, India.
19. 22nd December, **2015**, delivered invited talk “Genetic and molecular characterization of Drosophila melanogaster mutants with compromised motor functions” at Biennial Indian Drosophila Research Conference (InDRC), December 20th–23rd, held at IIT Kanpur, India.
20. 27th-30th November, **2015**, delivered invited talk “Indirect flight muscles of Drosophila as a model system to study myogenesis and myopathies” in the alternate model system for human diseases session during the 14th FAOBMB and 84th SBC(I) conference held at BITS Pilani, Hyderabad Campus, Hyderabad, India.
21. 22nd September, **2015**, delivered invited talk “Innovations and challenges for Biologists in the 21st Century” at REVA Institute of Science and Management, Kattigenahalli, Yelahanka Post, Bengaluru-560064, India.
22. 18th August, **2015**, delivered invited talk “Drosophila and Zebrafish as model organisms for Ayurveda research” at discussion meeting on “Health and Rejuvenation: Swasthavritta and Rasayana”, SSCU Auditorium, IISc, Bangalore, India.
23. 17th July, **2015**, delivered invited talk “Importance of proper isoform and stoichiometry of structural proteins during muscle assembly in Drosophila” at Biennial Meeting of Indian Society of Developmental Biologists, July 15–18th, IICT-Auditorium, CCMB, Hyderabad, India.
24. 15th April, **2015**, delivered invited talk “Whole genome sequencing: How much is Hype?” at Bangalore University Golden Jubilee Lecture Series organized by Centre for applied Genetics, Department of Zoology, Bangalore University, Bengaluru, India.
25. 23rd March, **2015**, gave an invited talk “Zebrafish as model organism for dissecting the etiology of human diseases and toxicological research” at XXXIX Mahabaleshwar Seminar on Recent Advances in Zebrafish Genetics and Development March 21st to 23rd 2015 Alibaug, Maharashtra, India.
26. 29th January, **2015**, invited talk at JSS college Mysore “Innovations and challenges for Biologists in the 21st Century” organized by Karnataka Science and Technology Academy (KSTA).
27. 20th December, **2014**, invited talk at Seri-Biotech research Laboratory, Bangalore, “Making sense of muscle, neuron and infection.
28. 2nd December, **2014**, invited talks at UGC-Academic Staff College, Mysore- Refresher course for Life Science Teachers On “Frontiers in Life Sciences in the 21st Century”. Delivered two talks, “Drosophila as a model for studying microbial infection and host-response mechanisms” and “Model organisms and targeted drug discovery”.
29. 15th October, **2014**, Invited talk entitled “Genetics of muscle development and function” was delivered at Karnataka Science and Technology Academy sponsored lecture programme, October 14-15, 2014, held at Department of Biochemistry, Davangere University, Karnataka.

30. 13th April, **2014**, Plenary talk “Drosophila and Zebrafish as model organisms for studying cardiovascular diseases” at National symposium on Lipids and Cardiovascular diseases, April 13-14, 2014, organized by Department of studies in Biochemistry, University of Mysore, Mysore.
31. 7th February, **2014**, served as resource person for UGC sponsored refresher course conducted at Academic staff college, Mysore University. Gave two talks, “Drosophila as model organism for genetics and genomics studies” and “Epigenetics inheritance”. Served as resource person for discussion on “Genetics Today”.
32. 22nd November, **2013**, “Drosophila and Zebrafish as alternative models for preclinical research”. Invited Talk at AICTE sponsored hands on training and workshop on Preclinical Research, November 21-23, 2013, Acharya and BM Reddy College of Pharmacy, Bangalore.
33. 4th November, **2013**, “Basic Science as career option”, talk given at Workshop for Manipur Students at Talent development program, Challakere.
34. 28th October, **2013**, “Basic Science as career option” Invited talk at DAV Public School, Chandrasekharpur, Bhubaneswar.
35. 23rd August, **2013**, Chief Guest and delivered inaugural talk “Drosophila as Model for studying microbial infection and host-response mechanisms” at Association of microbiologists of India, Mysore Chapter function held at CFTRI, Mysore.
36. 19th October, **2012**, invited classroom lecture at PES, Bangalore. “Segmentation in insects”.
37. 24th February, invited talk at Biofutura-**2012**, National conference on Frontiers in Biosciences, organized by Department of Biosciences, CMR institute of management studies (Autonomous), Bangalore 560043. “Roles of model organisms in dissecting the etiology of human muscle diseases”.
38. 10th January, **2012**, Indo-Japan collaboration initiative workshop organized by Mahendra, Manisha and VijayRaghavan at NCBS. Spoke on “To switch or not to switch: The enigma of isoform switching during myofibrillogenesis”.
39. 21st March **2011**, Invited talk “Model organisms and Drug discovery” at two day National Seminar on “Relevance of Chemistry in Chemical Biology” organized by St. Philomena’s college, Mysore, 21-22nd March 2011.
40. 28-29th March **2011**, Coordinator of Academies sponsored lecture workshop on “Recent advances in Biology”, held at Manipur University. Two talks, “Roles of Ubiquitination in muscle disease and function” and “model organisms and drug discovery”.
41. 13th October 2010, Invited talk at Foundation for revitalization of local health traditions (FRLHT), Yelahanka, Bangalore. “Making sense of muscles and neurons in Drosophila”.
42. 8th July **2010**, RVK school, Bangalore “Science as a Career option”.
43. 10th April **2010**, Resource person for UGC sponsored two days State level seminar on Recombinant DNA Technology on “Biopesticides and Bioinsecticides” held at St. Philomena’s College, Mysore. Spoke on “RNAi for development of Pest proof plant.

44. 28th October **2009**, invitational talk at Biochemistry Department, Manipur University “Making sense of muscles and neurons”.
45. 12th September **2009**, invited talk at Bangalore Genei, Bangalore “Making sense of muscle, neuron and infection”.
46. 20th March **2009**, Invited talk at Space technology cell (STC), IISc. “Flies in Space”.
47. 27th September **2008**, given talk “Drosophila as model for studying human diseases” to school students during research awareness programme conducted by Prof. S. Umapathy, IPC, IISc
48. 14th March **2008**; Invited talk at Centre for Applied Genetics, Bangalore University, Bengaluru, “Drosophila indirect flight muscles as model system for studying human myopathies and sarcomerogenesis”.
49. 2nd July **2007**, University of the Manchester, UK, “Drosophila and Zebrafish as model systems to dissect molecular-genetic mechanisms of muscle development, function and neuro-muscular cross talk”.
50. 5th July **2007**, University of York, York, UK, “Drosophila and Zebrafish as model systems to dissect molecular-genetic mechanisms of muscle development, function and neuro-muscular cross talk”.
51. 2nd February **2007**, Invited talk at Vittal Mallya scientific Research Foundation, Bangalore “Fly and Human actin mutations”.
52. 13th January **2007**, invited talks at UGC-Academic Staff College, Mysore- Refresher course for Life Science Teachers On “Recent Advances in Life Sciences”. Delivered two talks, “MicroRNA” and “New concepts of Lamarkism”.
53. 27th October; invited talk “The muscular system in Drosophila as a model for the study of human myopathies” at Discussion meeting on Genes, Development and disease; (October 27th-28th **2006**); held at Raman Research Institute, organized by Indian Academy of Science, JNCASR and Centre for Human Genetics.
54. SBC meeting CDRI Luknow (November **2005**): – Development and disease – indirect flight muscles of Drosophila as model system to study myogenesis and myopathies.
55. 13th London Muscle conference, Imperial College London, National Heart and Lung Institute, UK (September 28, **2004**). Roles of the Troponin complex during myofibrillogenesis.
56. Scindia Kanya Vidyalaya Gwalior, Madhya Pradesh, India (January **2004**). Identity of a Cell.
57. Centre for Cellular and Molecular Biology, Uppal Road, Hyderabad, India (January **2004**). Indirect Flight Muscles of Drosophila: A model system for understanding myofibrillogenesis, muscle function and human diseases.
58. Department of Molecular Reproduction, Development and Genetics, Indian Institute of Science, Bangalore, India (January **2004**). Indirect Flight Muscles of Drosophila: A model system for understanding myofibrillogenesis, muscle function and human diseases.

59. The Department of Zoology, University of Mysore, India (January, **2003**). Presentation entitled “Indirect flight muscle as a model system for understanding human diseases”.
60. Alternative Muscle Conference, Birmingham, UK (**2000**). Presentation entitled, “Role of troponin I in sarcomere formation”
61. British Informal *Drosophila* meeting held at Imperial College, London, UK (November, **1998**). Presentation entitled “Indirect flight muscle mutants in *Drosophila*”.

Meetings Attended (Invited international or major national presentations)

1. **2017**, attended 42nd Annual Meeting of the Indian Society of Human Genetics & International, Jointly organized by IISc, JNCASR & CHG, India, 2-4th March, 2017, held at National Science Seminar complex Indian Institute of Science Bangalore, India. Gave an invited talk “Developing a zebrafish model for studying human primary microspherophakia: Roles of WDR8 protein”.
2. **2016**, attended 103rd Indian Science Congress, January 3rd – 7th, held at Mysore University, India gave an invited talk “*Drosophila* as model system for dissecting the etiology of human muscle diseases”.
3. **2015**, attended Biennial Indian *Drosophila* Research Conference (InDRC), from December 20th–23rd, held at IIT Kanpur, India and delivered invited talk “Genetic and molecular characterization of *Drosophila melanogaster* mutants with compromised motor functions”.
4. **2015**, attended 14th FAOBMB and 84th SBC(I) conference held at BITS Pilani, Hyderabad Campus, Hyderabad, India, 27th-30th November, delivered invited talk “Indirect flight muscles of *Drosophila* as a model system to study myogenesis and myopathies” in the alternate model system for human diseases session.
5. **2015**, attended XXXIX Mahabaleshwar Seminar on Recent Advances in Zebrafish Genetics and Development held at Alibaug, Maharashtra, India, 21st to 23rd March. Gave an invited talk “Zebrafish as model organism for dissecting the etiology of human diseases and toxicological research”.
6. **2014**, *Drosophila* meeting 2014, held at Banaras Hindu University, India, 12-13th March. Gave a talk “Making sense of muscle, neuron and infection: what can we learn from *Drosophila* Studies?”
7. **2013**; 3rd India Ocean Rim Muscle colloquium, held at NTU-Imperial College London, Lee Kong Chian School of Medicine, Singapore, 12-13th December, 2013. Gave a talk entitled “*Drosophila* indirect flight muscles: A model system for understanding muscle development, function and human diseases”.
8. **2013**; Annual Meeting of Indian Society of Developmental Biologists, held at Tata Institute of Fundamental Research (TIFR), Mumbai, 1st-4th December, 2013. Gave a talk entitled “Regulation of cell cycle genes during *Drosophila* indirect flight muscle development”.
9. **2008**; 5th National *Drosophila* Meeting, Dept of Zoology; University of Mysore (Plenary Lecture); *Drosophila* indirect flight muscles as model system for studying human myopathies and sarcomerogenesis”.

10. **2007**; Attended 20th EDRC Meeting, Vienna (12-14th September 2007). Presented two posters:
- a) **Nongthomba U.**, Ansari M., Thimmaiya D., Stark M. and Sparrow J., **2007**. Aberrant splicing of a novel exon in the *Drosophila* troponin-T gene affects flight muscle development. 20th European *Drosophila* Research Conference 12–14 September 2007, Vienna, Austria.
 - b) Sparrow J., Sevdali M. and **Nongthomba U.**, **2007**. A human skeletal actin (ACTA1) myopathy mutation (R372H): Studied using *Drosophila* indirect flight muscles. 20th European *Drosophila* Research Conference 12–14 September 2007, Vienna, Austria.
11. **2005**; SBC meeting CDRI Luknow; Development and disease – indirect flight muscles of *Drosophila* as model system to study myogenesis and myopathies.
12. **2004**; 13th London Muscle conference, Imperial College London, National Heart and Lung Institute, SW3 6LY, London, UK; platform presentation “Roles of troponin complex during myofibrillogenesis”.
13. **2002**; the American *Drosophila* Conference, San Diego, USA; presented a poster “Sarcomere formation requires the inhibition of the actomyosin force-generating system”.
14. **2001**; 17th European *Drosophila* Research Conference, Edinburgh, UK; presented a poster “Sarcomere formation requires the inhibition of the actomyosin force-generating system”.
15. **2000**; Alternative Muscle Conference, Birmingham, UK; “Role of troponin I in sarcomere formation.
16. **1999**; attended the 16th European *Drosophila* Research Conference, Zurich, Switzerland and presented a poster “Suppression of muscle hypercontraction phenotypes in *Drosophila melanogaster*”.
17. **1999**; XXVIII European Muscle Congress, York, UK *Act88F*; presented poster “Analysis of Expression pattern and functional roles in muscles other than indirect flight muscles in *Drosophila melanogaster*”.
18. **1998**; British Informal *Drosophila* meeting held at Imperial College, London, UK (November, 1998). Presentation entitled “Indirect flight muscle mutants in *Drosophila*”.
19. **1997**; Fourth National *Drosophila* Meeting, Dept of Zoology, University of Mysore, “Second chromosome muscle mutants in *Drosophila*”.

Meetings/Conferences organized

- 1) Organizing member of the 3rd Annual Conference of the Society for Mitochondrial Research and Medicine (SMRM-2013) – India, held at National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, 19–20th December, 2013.
- 2) Organizing member of the Fifth Annual Meeting of Proteomic Society–India, held at IAS, Bangalore, 28–30th November, 2013.

- 3) Organizing Secretary of the 79th SBC(I) Meeting held at IISc, Bangalore, 13th–15th December, 2010.
- 4) Organizing member of the Indian Society for the Study of Reproduction and Fertility (ISSRF) meeting held at IISc, 22nd–24th January, 2009.
- 5) Organized one day mini-symposium between University of York and Institute investigators on 19th February, 2008.

Workshops and courses conducted/organized

- 1) One of the organising conveners and resource persons for UGC-NRC-DBS sponsored workshop on “Teaching and Learning with Drosophila: Mendel to Genomics”, held at Biological Science Building, IISc, Bangalore, 29th December, 2014-10th January, 2015.
- 2) One of the organising coordinators and resource persons for Academies’ sponsored lecture workshop on “Recent advances in Chemical Biology”, held at Manipur University, Imphal, 24-26th March, 2014.
- 3) Organizing coordinator and one of the resource persons for Academies’ Sponsored Workshop for research scholar on “Transferable skills” held at Manipur University, Imphal, 4th–5th April, 2012 and at North-Eastern Hill University (NEHU), Shillong, 9th–10th April, 2012.
- 4) Organizing coordinator and one of the resource persons for Academies’ Sponsored Workshop for college teachers and students on “Recent advances in biology” held at Manipur University, Imphal, 28th–29th March, 2011.
- 5) Conducted workshop on “Transferable skills-the successful scientist’s other toolbox” for the IISc PhD and Int. PhD students, with Prof. John Sparrow, York University, UK, 28th February, 2006.
- 6) One of the organizers and instructors for the Indian Science Academies’ Sponsored Workshop for college teachers on developmental biology, 14th–20th December, 2004.

Society Membership

1. Life member of the Indian Society of Human Genetics (ISHG).
2. Life member of the Society of Biological Chemist, India (SBC(I)).
3. Life member of the Indian Society of Cell Biology (ISCB).
4. Member of the Indian Developmental Biologists’ Society (InDBS).
5. Member of the Federation of Asian and Oceanian Biochemists and Molecular Biologists (FAOBMB).
6. Member of the Society for Mitochondrial Research and Medicine, India (SMRM).
7. Member of the British Developmental Biologists’ Society, 2000-2005 (BDBS).

Editorial experience

Refereed papers for the following journals

- 1) Disease Models and Mechanisms
- 2) The Journal of Biological Chemistry

- 3) PloS One
- 4) FEBS Journal.
- 5) Journal of Genetics and Genomics
- 6) Journal of Proteomics
- 7) Journal of Bioscience.
- 8) Current Science.
- 9) Journal of Agricultural and Food Chemistry
- 10) International Journal of Biodiversity and Conservation.
- 11) Journal of Ayurveda and Integrative Medicine.
- 12) African Journal of Biotechnology.
- 13) Insect Biochemistry and Molecular Biology.
- 14) Phytochemistry Letters.
- 15) Journal of Thermal Biology.
- 16) Current Topics in Medicinal Chemistry
- 17) iNote
- 18) Austin Aging Research

Other Academic Services

- 1) Editorial Board Member, Journal of Cell Science and Molecular Biology, India.
- 2) Member, Screening Committee for Life Sciences, IISc Int. PhD program 2005–present.
- 3) Departmental Representative and member of Int. PhD. Core committee, 2005-2015.
- 4) Member, Screening Committee for MRDG, IISc PhD programme, 2005–present.
- 5) Member, Executive Scientific Advisor for SBC(I), 2007–present.
- 6) General Secretary, SBC(I), India, 2008-2010.
- 7) Reviewed Grants for Indian Govt. Funding Agencies and Indo-French Centre for the Promotion of Advanced Research (IFCPAR).
- 8) Resource person for many UGC sponsored seminars and workshops.
- 9) Examiner for PhD thesis evaluation for many universities.
- 10) Member of thesis defense board for students from different universities and research institutions.
- 11) Served as resource person for setting question papers for institute's entrance examinations, M.Sc. examination of Mysore University, Kishore Vaigyanik Protsahan Yojana (KVPY) and Graduate Aptitude Test in Engineering (GATE) examinations.
- 12) Served as resource person for conducting Kishore Vaigyanik Protsahan Yojana (KVPY) interviews from 2012 onwards.

- 13) Secretary of the IISc Faculty Club 2009–2011; and a member of the Steering Committee of the same, 2005–2016.

Interaction with Industry

- 1) Consultant for Arjuna Natural Extracts Ltd., Alwaye, Kerala, India on project “A Fish Embryo Toxicity (FET) Tests to Check the Toxicity of the Natural Extracts” (Feb 2016- till now).
- 2) Member of the Scientific Advisory Board of Merck Millipore Bioscience Research, India Branch (October 2011-2014).

Consultancies/Committee Members

- 1) Member of Research Advisory Committee (RAC), Central Silk Board, Bangalore (August, 2017-July, 2020)
- 2) Member, Board of Studies (BOS) in “Master’s by Research program in Ayurveda Biology” at Institute of Trans-Disciplinary Health Sciences and Technology, Bangalore (March, 2017-Present).
- 3) Scientific Advisor of Dystrophy annihilation research trust (DART), Bangalore, India (2015-Present).
- 4) Member of Institute Biosafety committee, Indian Institute of Science (2016-2019).
- 5) Member of Institute Biosafety committee, Seri-Biotech Research Laboratory, Central Silk Board, Bangalore (2017-present)
- 6) Member of Institute (IISc.) Biology Building committee (2016-Present).
- 7) Member of Academic council and research council of the Institute of Trans-Disciplinary Health Sciences and Technology (ITD-HST) University, Yelahanka, Bangalore, India (2014-2016).
- 8) Member of “Indian Fly Board” (March 2014 – Till now).
- 9) Member, Board of Examiner (BOE) of Genetics for Post-graduate/M. Phil. Degree/ Diploma/Certificate Course examinations at Mysore University during June/July-2014 and Jan/Feb-2015.
- 10) Consortium Advisory Committee member for National Agricultural Innovation Project on “Potential of RNAi in insect pest management: a model in silencing genes specific to tomato fruit borer, *Helicoverpa armigera*”, Indian Institute of Horticulture Research (IIHR), Bangalore (2008-2011).
- 11) Member of the Institutional Bio-safety Committee (IBSC), Manipur University.
- 12) Co-coordinator of the DBT sponsored Research Associate Programme for North-East region (2010 – present).
- 13) Member of the expert committee set by the Ministry of Environment & Forests, Govt. of India, New Delhi, for accessing Centre of Excellence on Medicinal Plants and Traditional Knowledge at Foundation for Revitalisation of Local Health Traditions, Bangalore.
- 14) Member, Board of Studies (BOS) in “Biochemistry and Molecular Biology” at Mysore University, December, 2014-December, 2020.

- 15) Member, Board of Studies (BOS) in “Department of Studies in Genetics and Genomics” at Mysore University, January, 2015-December, 2017.

Teaching Experience

- 2014- Present** Associate Professor, Department of Molecular Reproduction Development and Genetics; Indian Institute of Science; Bangalore 560012, Karnataka, India. Involved in teaching of developmental biology course for PhD, Int. PhD students and undergraduate program. I am also involved in teacher/student training program at Challakere Campus.
- 2004- 2014** Assistant Professor, Department of Molecular Reproduction Development and Genetics; Indian Institute of Science; Bangalore 560012, Karnataka- conduct developmental biology course for PhD, Int. PhD students and undergraduate program. I am also involved in teacher training program at Challakere Campus and teach Human physiology.
- 1994-95** Lecturer, St. Philomena’s college, Mysore, Karnataka.

Educational Qualifications

- 1995-99** **Ph.D.:** University of Mysore, India
- 1992-94** **M.Sc.:** University of Mysore, India, (Zoology/Genetics-First Class).
- 1989-92** **B.Sc.:** University of Mysore, India, (Botany/Chemistry/Zoology-First Class).
- 1982-89** **School Education:** Special Central School, Janakpuri and Ghaziabad, Delhi; Central Board of Secondary Education, New Delhi, India.
- 2006** **Certificate course on Biotechnology and Intellectual Property Rights;** National Law School of India University, Bangalore.

Awards/Fellowships

- 1) Sir C.V. Raman Karnataka State Award for **2014**, in the field of Life Sciences.
 - 2) Senior Research Fellowship, **1998**; awarded by Council of Scientific and Industrial Research (CSIR), New Delhi, India.
 - 3) Junior and Senior Research Fellowship, **1995-98**; Department of Science and Technology, Government of India sponsored project to Dr. N.B. Ramachandra.
 - 4) Gold Medal M.Sc., **1994**; for obtaining highest mark in Zoology.
 - 5) Iyengar Cash Prize, **1994**; for obtaining highest mark in M.Sc. Zoology.
 - 6) Prof. Balakrishna Merit Scholarship, **1992**; for obtaining highest marks in Zoology in final year B.Sc.
 - 7) Central School Scholarship, **1982-1989**; Ministry of Human Resource Development (MHRD), Government of India.
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