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Work Experience

- Jan 2011 – till date **Scientist and Group Leader**, Centre for DNA Fingerprinting and Diagnostics, Hyderabad.
- Mar 2009 – Jan 2011 **Postdoctoral Research Associate** – California Institute of Technology, USA
Project: Development of single allele under-dominance for population gene drive systems
- Dec 2002 – Jul 2003 **Research Associate** – Institute of Agri-Biotechnology, University of Agricultural Sciences, Dharwad
Project: Studies on genomic flux and molecular analysis of insecticide resistance in cotton bollworm, *Helicoverpa armigera*

Education

- 2003 - 2009 **Ph. D** – Centre for DNA Fingerprinting and Diagnostics, Hyderabad.
- 2000 - 2002 **MSc (Agril.)** – Department of Biotechnology, University of Agricultural Sciences, Bangalore. [GPA 9.15 (91.5%) on 10.00 point scale]
- 1996 - 2000 **BSc (Agril.)** – University of Agricultural Sciences, Bangalore
[GPA 8.38 (83.8%) on 10.00 point scale]

Publications

1. Sackton TB, Corbett-Detig RB, Nagaraju J, Vaishna RL, **Arunkumar KP*** and Hartl DL (2014) Positive selection drives faster-Z evolution in silkworms. *Evolution* (In press)
2. Shantibala T, Victor TH, Luikham R, **Arunkumar KP**, Sharma HD, Lokeshwari RK and Kim I (2014) Complete mitochondrial genome of the wild eri silkworm, *Samia canningi* (Lepidoptera: Saturniidae). *Mitochondrial DNA* (In press)
3. Singh CP, Vaishna RL, Kakkar A, **Arunkumar KP*** and Nagaraju J (2014) Characterization of antiviral and antibacterial activity of *Bombyx mori* seroin proteins. *Cellular Microbiology* (In press)
4. Saranathan R, Tomar A, Sudhakar P, **Arunkumar KP** and Prashanth K (2014) Draft genome sequence of a MDR *Acinetobacter baumannii* PKAB 07 clinical strain belonging to ST 195 from India. *Genome Announcements* 2:e00184
5. Suetsugu Y, Futahashi R, Kanamori H, Kadono-Okuda K, Sasanuma S, Narukawa J, Ajimura M, Jouraku A, Namiki N, Shimomura M, Sezutsu H, Osanai-Futahashi M, Suzuki MG, Daimon T,

- Shinoda T, Taniai K, Asaoka K, Niwa R, Kawaoka S, Katsuma S, Tamura T, Noda H, Kasahara M, Sugano S, Suzuki Y, Fujiwara H, Kataoka H, **Arunkumar KP***, Tomar A, Nagaraju J, Goldsmith MR*, Feng Q, Xia Q, Yamamoto K, Shimada T and Mita K* (2013) Large Scale Full-Length cDNA Sequencing Reveals a Unique Genomic Landscape in a Lepidopteran Model Insect, *Bombyx mori*. *G3: Genes, Genomes, Genetics* 3:1481-1492.
6. **Arunkumar KP**, Sahu, AK, Mohanty, AR, Awasthi, AK, Pradeep AR, Urs, SR and Nagaraju J (2012) Genetic diversity and population structure of Indian Golden Silkmoth (*Antheraea assama*). *PLoS ONE* 7(8): e43716.
 7. **Arunkumar KP** and Nagaraju J (2011) *Drosophila intersex* orthologue in the silkworm, *Bombyx mori* and related species. *Genetica* 139:141-147.
 8. Sarkar S, Singh MB, Yadav R, **Arunkumar KP** and Pittman G (2010) Heat Shock Proteins: Molecules with assorted functions. *Frontiers in Biology* 6: 312-327.
 9. **Arunkumar KP**, Mita K and Nagaraju J (2009) Silkworm testis specific genes are enriched on Z chromosome and are evolutionarily conserved. *Genetics* 182: 493-501.
 10. **Arunkumar KP**, Kifayathullah L and Nagaraju J (2009) Microsatellite markers for the Indian golden silkworm, *Antheraea assama* (Saturniidae: Lepidoptera). *Molecular Ecology Resources* 9: 268-270.
 11. **Arunkumar KP**, Tomar A, Daimon T, Shimada T and Nagaraju J (2008) WildSilkbase: An EST database of wild silkmooths. *BMC Genomics* 9: 338.
 12. **Arunkumar KP** and Nagaraju J (2006) Unusually long palindromes are abundant in mitochondrial control regions of insects and nematodes. *PLoS ONE* 1(1): e110.
 13. Gandhe AS, **Arunkumar KP**, John SH, Nagaraju J (2006) Analysis of bacteria-challenged wild silkworm, *Antheraea mylitta* (Lepidoptera) transcriptome reveals potential immune genes. *BMC Genomics* 7:184.
 14. **Arunkumar KP**, Metta M and Nagaraju J (2006) Molecular phylogeny of silkmooths reveals the origin of domesticated silkworm, *Bombyx mori* from Chinese *B. mandarina* and paternal inheritance of *Antheraea proylei* mitochondrial DNA. *Molecular Phylogenetics and Evolution* 40: 417-427.
 15. Prasad MD, Muthulakshmi M, **Arunkumar KP**, Madhu M, Sreenu VB, Pavithra V, Bose B, Swaminathan S, Nagarajaram HA, Mita K, Shimada T and Nagaraju J (2005) Silksatdb: a microsatellite database of silkworm, *Bombyx mori*. *Nucleic Acids Research* 33: D403-D406.

Other publications

1. **Arunkumar KP*** (2014) Book review of the *Annual Review of Genetics* 2013, Bonnie Bassler et al., (eds) *Current Science* (In press).
2. Gopinathan KP and **Arunkumar KP** (2013) Javaregowda Nagaraju (1954-2012). *Current Science* 104:657.
3. **Arunkumar KP*** (2012) Book review of the *Annual Review of Genetics* 2011, Bonnie Bassler et al., (eds) *Current Science* 103: 947-949.
4. Nagaraju J, **Arunkumar KP**, Sriramana K, Muthulakshmi M, Satish V, Madhu M and Subbaiah EV (2004) Silkworm genomics on fast-track. In: Frontier Areas of Entomological Research (Eds. Subrahmanyam, B., Ramamurthy, V.V. and Singh, V.S.). Proceedings of the National Symposium on

Frontier Areas of Entomological Research, IARI, New Delhi, India, Nov.5-7, 2003 (Invited Lectures), PP 471 - 485. (Book chapter).

***Corresponding/co-corresponding author**

Awards and Fellowships

- 2012 Best poster award in ‘International Consultative Meeting on Seribiotechnology’ held at Imphal, Manipur for the poster entitled, “Exploration of the diversity of wild sericigenous insects in Manipur”
- 2012 Innovative Young Biotechnologist Award (IYBA), Department of Biotechnology, Government of India
- 2011 Indian National Science Academy (INSA) Young Scientist Medal
- 2003 - 2008 Junior and Senior Research Fellowships (CSIR, Government of India)
- 2000 - 2002 Merit Scholarship for postgraduate studies awarded by Jindal Trust, Bangalore, India, for the period of 2 years (2000-2002)
- 2000 26th rank in Indian Council of Agriculture Research (ICAR) examination for Junior Research Fellowship to pursue postgraduate studies.

Research projects undertaken/grants sanctioned

Sl. No	Name of the agency	Title	Period	Amount
1	IFCPAR (India - France)	Global transcriptomics of sex specific splicing	2013-2016	INR 7.1 M
2	ICMR	Morphological and molecular taxonomy of the <i>Phlebotomus argentipes</i> species complex in relation to transmission of Kala-azar in India	2014-2016	INR 0.9M
3	IYBA, DBT, India	Development of baculovirus resistant silkworm strains through synthetic miRNA based knockdown of essential viral genes	2012-2015	INR 4.2 M
4	NE-Twinning Project, DBT, India	Exploration of wild silk moth biodiversity in Manipur and their genetic characterization using molecular markers	2012-2015	INR 1.2 M
5	DBT, India	Comparative genetic analysis of sex chromosomes and sex determining genes in silkmoths	2011-2014	INR 15.0 M
6	IJCSP (India-Japan)	Genetic and genomic basis of the evolution of bombycid and saturniid silkmoths	2012-2014	INR 1 M

7	IAEA	Development and Evaluation of improved strains of insect pests for Sterile Insect Technique	2012-2014	INR0.5 M
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Professional Service

Reviewer of manuscripts submitted to: PLoS ONE, BMC Genomics, Genetica, Journal of Biosciences, International Journal of Biomedical Science, The Canadian Entomologist, Applied Biochemistry & Biotechnology, Current Science, and grants submitted to The International Foundation for Science (IFS), Sweden and Department of Biotechnology, Government of India.

Databases developed

SilksatDb: A microsatellite database of silkworm, *Bombyx mori*

WildSilkbase: An EST database of wild silkworms

Invited talks/lectures

- Delivered a talk on “Towards identifying sex determination pathway genes in silkworm *Bombyx mori* for their possible use in genetic sexing strategies” in Fourth FAO/IAEA Research Coordination Meeting On “Development and evaluation of improved strains of insect pests for SIT” held on 7-11 April 2014 in Capri, Italy
- Delivered an invited talk on “Next Generation Sequencing and its Applications” in Institute of Biotechnology, ANGRAU, Hyderabad, on 22 February 2014.
- Delivered an invited talk on “Towards physical mapping of *Spodoptera litura* genome using RAD-seq and SNP based linkage analysis” in “International Conference on *Spodoptera litura* Genome Sequencing” held in Chongqing, China from 6-7 January 2014.
- Delivered distinguished lecture on “Application of DNA Fingerprinting in Justice Delivery System” in Workshop on Research Opportunities in Biotechnology and Allied Studies held in Davangere, Karnataka from 19-20 October 2013.
- Delivered an invited lecture on “Antiviral Activity of Seroin Proteins in *Bombyx mori*” in Seri-Biotech Research Laboratory, Central Silk Board, Bangalore on 8 October 2013.
- Special lecture on “Development of baculovirus resistant silkworm strains through synthetic miRNA based knockdown of essential viral genes” at National Institute of Agrobiological Sciences, Tsukuba, Japan, on 7 March 2013.
- Guest lecture on “BmNPV resistance in silkworm, *Bombyx mori*” at University of Tokyo, Tokyo, Japan on 8 March 2013.
- Talk on “Genome Sequencing of pest species *Spodoptera litura*” in the workshop on “Lepidoptera Adaptation: Biology and Genome” held in Paris, France, from 14-16 February 2013.
- Invited talk on “Wild Silkworm Genomics” in the “International Consultative Meeting on Seribiotechnology”, held from 5th to 7th December 2012 at Institute of Bioresources and Sustainable Development, Imphal, INDIA.

- Special lecture on “seXceptional Chromosomes” at Institute of Bioresources and Sustainable Development, Imphal, INDIA on 30 May 2012.
- Invited talk on “Silkworm genetics and genomics” in the Brainstorming meeting on Silk Biotechnology held on 19 August, 2011 at APSSRDI, Hindupur, INDIA.
- Invited talk on “Molecular Phylogenetics” in the “Workshop on Genetic Fidelity Testing of Tissue Culture Raised Micropropagules”, held from 21st to 25th February 2011 at CDFD, Hyderabad, INDIA.

Course work:

- 1) Basic course on sex chromosome evolution and sex determination
- 2) Advanced course on “Small non-coding RNAs”

Other responsibilities

- 1) Member, Expert Group on ‘Research on Technology Development in Silk and its Applications in Biomaterials’ Department of Biotechnology, Government of India.
- 2) Member, Research Advisory Committee, Seri-Biotech Research Laboratory, Central Silk Board, Bangalore.
- 3) Member, Fall Armyworm (*Spodoptera frugiperda*) International Public Consortium
- 4) Member, International Consortium on *Spodoptera litura* Genome Sequencing
- 5) Warden in-charge of students’ hostel and cultural affairs, CDFD