

# **DR. SWARAJ P KUNAL**

## **Senior Research Scientist**

**AVISA Biotech, RGCB Kochi Campus, Kochi, Kerala, INDIA+91-9923972679 (mobile) Email: [swar.mbt@gmail.com](mailto:swar.mbt@gmail.com)**

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Dr. Swaraj Kunal is Ph.D in Biotechnology from the CSIR-National Institute of Oceanography, Goa.

### **HIS AWARDS & GRANTS ARE AS FOLLOWS:-**

- March, 2017-19 : SERB-National Postdoctoral Fellowship
- July, 2009-12 : Senior Research Fellowship for PhD research
- June, 2008 : UGC-NET Environmental Sciences
- July, 2007-09 : Junior Research Fellowship for PhD research
- June, 2005 : CSIR-UGC NET Life Sciences
- March, 2005 : GATE-XL Life Sciences
- July, 2003-05 : DBT, India fellowship for pursuing MSc Biotechnology at Goa University, Goa

### **HIS RESEARCH EXPERIENCE IS AS FOLLOWS:-**

#### **AVISA Biotech, Rajeev Gandhi Centre for Biotechnology, Kochi campus, Kochi, Kerala**

##### **Senior Research Scientist (October 2019 to Present)**

Project: 1. Molecular Characterisation of fungi producing water soluble Melanin.

2. DHA and other PUFAs from Marine microalgae
3. EPS production from Schizochrytium

#### **Goa University, Goa**

##### **SERB- National Post Doctoral Fellow (May 2017-October 2019)**

Project: Marine biological Invasion and genetic structuring of population: a case study involving commonly found Urochordate in India

#### **ICAR- Central Coastal Agricultural Research Institute, Goa, India**

##### **SRF (Dec 2014-April2017)**

Project: Genetic characterization of Indian Major Carps (IMCs).

**PhD Student**, (Dr. Maria Rosalia Menezes July 2007–October 2014)

Project: **Population genetic structure of Longtail tuna *Thunnus tonggol* (Bleeker, 1811) and Yellowfin tuna *Thunnus albacares* (Bonnaterre, 1788) from the Indian region**

**HIS PUBLICATIONS ARE AS FOLLOWS**

1. P Paria, **S P Kunal**, B K Behera, Pradeep Kumar Das Mohapatra, Abhishek Das, Pranaya Kumar Parida, Basanta Kumar Das, Molecular characterization and genetic diversity study of *Vibrio parahaemolyticus* isolated from aquaculture farms in India, *Aquaculture*, Volume 509, 2019, Pages 104-111, ISSN 0044-8486, <https://doi.org/10.1016/j.aquaculture.2019.04.076>.
2. Bijay Behera, **S P Kunal**, Vishwamitra Baisvar, D K Meena, D Panda, S Pakrashi, P Paria, P Das, D Bhakta, D Debanath, P Parida, B Das, J Jena (2018) Genetic variation in wild and hatchery population of *Catla catla* (Hamilton, 1822) analyzed through mtDNA cytochrome b region *Mitochondrial DNA Part A* 29 (1):126-131
3. Bijay Behera, Vishwamitra Baisvar, **S P Kunal**, D K Meena, D Panda, S Pakrashi, P Paria, P Das, D Bhakta, D Debanath, V R Suresh, K K Lal (2018) Population structure and genetic diversity of Indian Major Carp, *Labeo rohita* (Hamilton, 1822) from three phylo-geographically isolated riverine ecosystems of India as revealed by mtDNA cytochrome b region. *Mitochondrial DNA Part A* 29 (2):199-205
4. Behera BK, **Kunal SP**, Paria P, Das P, Meena DK, Pakrashi S, Sahu AK, Panda D; Jena JK, Sharma AP (2015) Genetic differentiation in Indian Major Carp, *Cirrhinus mrigala* (Hamilton, 1822) from Indian Rivers, as revealed by direct sequencing analysis of mitochondrial Cytochrome b region *Mitochondrial DNA* 26(3):334-6
5. Kumar G, Kocour M, **Kunal SP** (2014) Mitochondrial DNA variation and phylogenetic relationships among five tuna species based on sequencing of D-loop region. *Mitochondrial DNA Part A* 27 (3): 1976-1980
6. Kumar G, **Kunal SP**, Menezes MR, Kocour M (2014) Genetic divergence between *Auxis thazard* and *A. Rochei* based on PCR-RFLP analysis of mtDNA D-loop Region. *Turk J Fish Aquat Sci* 14: 1-2
7. **Kunal SP**, Kumar G, Menezes MR, Meena RM (2014) Genetic homogeneity in longtail tuna *Thunnus tonggol* (Bleeker, 1851) from northwest coast of India inferred from direct sequencing analysis of mitochondrial DNA D-loop region. *Mar Bio Res* 7(10)738-743.
8. Singh NS, Behera BK, **Kunal SP**, Das P, Paria P, Sharma AP (2014) Genetic stock structure of *Osteobrama belangeri* (Valenciennes, 1844) in Indian region. *Mitochondrial DNA* DOI:10.3109/19401736.2014.883602

9. **Kunal SP**, Kumar G, Menezes MR, Meena RM (2013) Mitochondrial DNA analysis reveals threestock of yellowfin tuna *Thunnus albacares* (Bonnaterre, 1788) in Indian waters. *Conserv Genet.*14(1): 205-213 DOI:10.1007/s10592-013-0445-3
10. Kumar G, **Kunal SP**, Menezes MR (2012) Genetic Stock Structure of Frigate Tuna (*Auxis thazard*) Along Indian Coast based on PCR-RFLP Analyses of mtDNA D-Loop Region. *Turk J Fish Aquat Sci* 12:893-903.
11. Kumar G, **Kunal SP**, Menezes MR (2012) Low genetic variation suggests single genetic stock of kawakawa. *Turk J Fish Aquat Sci* 12:371-380.
12. Kumar G, **Kunal SP**, Menezes MR, Meena RM (2012). Single genetic stock structure of kawakawa *Euthynnus affinis* (Cantor, 1849) along the Indian coast inferred from sequence analyses of mtDNAD-loop region. *Conserv Genet* 13:1119-1131.
13. Kumar G, **Kunal SP**, Menezes MR, Meena RM (2012). Three genetic stocks of frigate tuna *Auxisthazard thazard* (Lacepede, 1800) along the Indian coast revealed from sequence analyses of mitochondrial DNA D-loop region. *Mar Bio Res* 8:992-1002.
14. Menezes MR, Kumar G, **Kunal SP** (2012). Population genetic structure of skipjack tuna (*Katsuwonus pelamis*) from the Indian Peninsular inferred by RFLP analysis of mitochondrial DNA. *J Fish Biol* 80:2198-2212.
15. Prasad NK, Vindal V, Narayana SL, Ramakrishna V, **Kunal SP**, Srinivas M (2012). In silico analysis of *Pycnopus cinnabarinus* laccase active site with toxic industrial dyes. *J Mol Model* 18(5):2013-9.
16. **Kunal SP**, Kumar G, Menezes MR (2014) Genetic Variation in Yellowfin Tuna *Thunnus albacares* (Bonnaterre, 1788) Along Indian Coast Using Pcr-Rflp Analysis of Mitochondrial Dna D-Loop Region. *Int J of Sci Res* 3(1)25-30.
17. **Kunal SP**, Kumar G (2013) Cytochrome oxidase I (COI) sequence conservation and variation patterns in the yellowfin and longtail tunas. *Int J Bioinfo Res Appl* 9(3):301–309.
18. Kumar G, **Kunal SP**, Shyama SK (2013) Evolutionary history and phylogenetic relationship between *Auxis thazard* and *Auxis Rochei* inferred from COI sequences of mtDNA. *Int J Bioinfo Res Appl* 9(6):604-13. DOI: 10.1504/IJBRA.2013.056655.
19. Kumar G, **Kunal SP** (2013) Historic demography and phylogenetic relationship of *Euthynnus* species based on COI sequence analyses. *Int J Bioinfo Res Appl* 9(5):547-555.
20. Menezes MR, Kumar G, **Kunal SP** (2009). Tuna fishery research in India. *Enviroscan Newsletter* 2(1):7-9.

## **HIS PATENT IS PUBLISHED AND WAITING FOR PATENT NUMBER:-**

Raghukumar, Seshagiri, ; Jalmi, Pratibha, ; **Kunal, Swaraj** Production of extracellular tyrosinase enzyme using the fungus *Gliocephalotrichum* for various applications WO 2014020517 A3 (Published Sep 2016)

## **HIS LABORATORY SKILLS AND TECHNICAL EXPERTISE ARE AS FOLLOWS:-**

**Molecular biology:** Genomic DNA extraction and quantification, PCR-RFLP, mt-DNA analysis, DNA Sequencing, PAGE, RT-qPCR, Southern Blotting, Western blotting and ELISA.

*Instruments Handled:*ABI PRISM 3130x Genetic analyzer/ Sequencer (Applied Biosystems, USA), SHIMADZU UV-1800 spectrophotometer, BIO-RAD gel electrophoresis system, BIO-RAD Gel Doc system, Ultracentrifuge (Beckman OptimaL 50K), Eppendorf 5804 R cooling centrifuge, BIO-RAD shaker incubator, Eppendorf vapo protect thermal cycler, NanoDrop ND-1000, Eppendorf Master Cycler Thermal cycler

**Microbiology skills:** Light microscopy, Staining and Culture of Microorganisms

**Biochemistry skills:** Spectrophotometry, Protein purification, membrane filtration, dialysis, SDS-PAGE, Western blot, ELISA, Gas chromatography.

**Software Proficiency:** Knowledge of computer hardware and good command over installation, operation, and configuration of OSs like MS Win9x, 2k Pro & server, XP Pro, 2003, and windows-7, Window-8. Well versed with softwares for bioinformatics such as, BLAST, BIO-EDIT, Phylip, MEGA, HapStar, migrate-n, DNA SP, Phylip and NETWORK. Used CorelDraw (v12.0 and v10.0) and Adobe photoshop 7 for obtaining publication-quality figures.

Currently he is associated with Chourangi Group of Companies, Mumbai as a 'Scientist Incharge (Research & Development)' since June 2014.