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| DSC_1258 |  |  |  |
| **Name** | **:** | **Amrendra Kumar, Ph.D** |
| **Designation** | **:** | **Senior Research Officer** |
|  |  | **Theevanam Additives and Nutraceuts 218, Department of Biotechnology,** **Indian Institute of Technology Madras, Chennai, India** |
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**Current position**

Senior Research officer at Theevanam Additives and Nutraceuts in DBT-BIRAC funded project entitled “Development of improved β-glucan based natural immunity booster for **aqua,** poultry and human applications with enhanced absorption and potency” under **Department of Biotechnology, IIT Madras**.

**Research area**

* Development and characterization of **Nano Beta glucan** from yeast
* Best absorptions with high potency quantification in shrimp intestine
* Feeding trial on shrimp
* Histology and immunological changes of shrimp
* Enzymes assay
* Immune gene expression of shrimp

**Products worked on**

* Prebiotics: FOS (Fructo oligosaccharide), Beta-glucan (Yeast 1,3-1,6 and barley 1,6), Mannan oligosaccharides (MOS)
* Probiotics: *Bacillus clausii, Bifidobacteria infantis, Bifidobacteria longum, Bifidobacteria bifidum, Saccharomyces boulardii* as specified product. Soil probiotics isolated from pond as unspecified product yet.

**Technology under working on**

* Proposed to work on mixture of **weak organic acid** as feed acidifier by using biological consortium
* Nano formulation of probiotics

**Educational Qualifications**

* **Ph.D**: Marine Biotechnology (2011-2016) CAS in Marine biology, Faculty of Marine sciences, Annamalai University, Tamilnadu, India
* **M.Sc**: Biotechnology (2007-2009): Boston College for Professional Studies, Jiwaji University, Gwalior, India
* **B.Sc:** Biotechnology (2003-2007): Dr. J.M. College, Bhim Rao Ambedkar University, Muzaffarpur, Bihar, India

**Previous work experience**

1. **ICAR-Central Institute of Freshwater Aquaculture (CIFA) as Research Associate for 2 Y and 4 month’s**

**Research area**

* Transcriptome analysis to delineate nutrigenomics information of fish
* Feed designing, formulation and conduct related trial experiment
* Blood glucose analysis and ammonia analysis
* Analysis of differential gene expression
* Gene ontology annotation and KEGG pathways mapping,
* Protein regulatory network analysis

**Key responsibilities**

* To plan and carryout objective wise research work
* To provide training to the M.Sc and Ph.D student in the given project work
* To discuss methodology in planed research work with co-workers and P.I.
* To conduct conference, workshop and summer school
1. **Organization: Alkem labs Ltd. as Chemist (Bio-Technologist) from 14th Oct 09 to April 2011(Successfully participated in ISO, FDA and HALAL audit)**

**Job Profile**

* Culture maintainance, Fermentation 50-5000 L, Microfiltration for Biomass concentartion, Cell immobilization by CaCl2 method, Enzyme substrate reaction, product recovery & purification and packaging (ISO, FDA and Hallal).
* Glucagel (Beta-glucan) extraction from Barley by thawing method. Enzymetic assay and thin layer chromatography for qualitative analysis.
1. **Organization:** Bharat Serums and Vaccines Ltd. **as** Trainee for **6** months**(During master project)**

**Job Profile**

* Purification of Antibody: full IgG, F(ab’)2. (HBS and Anti-Rabies vaccine)
* Purification of Protein: Usnig Ion Exchange Chromatography, Size exclusion Chromatography
* Purity of Protein: To check purity by SDS-PAGE and IEP
* Starch ethylation (Arificial blood plasma)

**Academic Affiliation**

* 2011-2012: **Junior Research Fellow,**(MOES-INCOIS) Project entitled “Potential Fishing Zone Validation and forecasting in the Cuddalore and Nagapattinam Districts of Tamilnadu”CAS in Marine Biology, Faculty of Marine Sciences, Annamalai University, Parangipettai, Tamilnadu.
* 2013-2014:**Junior Research Fellow**, (MOES-INCOIS) Project entitled “Influence of in-situ bio-optical properties in determining the phytoplankton community structure and their role in ocean colour algorithms along southeast coast of Indian and its application to fisheries” CAS in Marine Biology, Faculty of Marine Sciences, Annamalai University, Parangipettai, Tamilnadu

**Personal Skills**

Fermentation, Downstream processes, Microbial activities, antigen prpration, RT-PCR, Real time PCR, promoter induction, IMAC and acta purifier, western blot, sub cellular localization of proteins, Immuno-electrophoresis e.t.c.

**Technical Skills**

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| Operating systems | **:** | Linux, Windows XP, W7, W8 and W10 |
| Application Packages | **:** | MS Office, Glide (Schordinger), Gene runner etc. |
| Data base  | **:** | NCBI, nr, Uniport, Swisport, PDB, KEGG,GO etc.  |

**Handled experiments**

* Maintenance of freshwater and Marine water fish in lab condition
* Challenge experiment (Feed and Pathogen) in live fish
* Enzyme production (Fermentation), purification and product recovery (Downstream processes)
* Antigen preparation and antibody purification (Vaccine production)
* RNA isolation and purification
* Isolation of poly-A+ mRNA and synthesis of c-DNA
* Isolation and purification of plasmid, and genomic DNA
* Gene cloning
* Protein expression and Recombinant protein purification
* Restriction mapping of DNA
* Protein purification including affinity chromatography and gel filtration
* Radioimmunoassay and Western blotting
* Gel electrophoresis (SDS, Agrose and IEP)
* Gene expression in prokaryotes and eukaryotes (Up regulation and down regulation)
* Biostatics (SPSS) and Bioinformatics (GLIDE and others online tools) software’s handling

**Conferences / Workshop training**

* **Paper presented : 3**
* **Workshop : 7**
* Oral presentation at International conference on advances in fish health; April 4th -6th 2017 at University Putra Malaysia, Malaysia
* Poster presentation at 2nd International Symposium on Genomics in Aquaculture; January 28-302016-ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar, Odisha, India.
* Oral presentation at 26th all India of Zoology & International Symposium on Innovation in Animal Sciences for Food Security, Health Security and Livelihood; October 29-31, 2015-Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India.
* Participated in Summer school on Fish biotechnology at ICAR-CIFA, Bhubaneswar.
* Participated in workshop Bioinformatics tools for Fish genomics at ICAR-CIFA, Bhubaneswar held on 21st-22nd April 2015.
* 6th International symposium on recent trends in macromolecular structure and function (ISRTMSF- 2014) at Madras University.
* Participated in National conference on Aquatic animal helth and management (NCAAHM-2012) at CAS in Marine biology Faculty of Marine Sciences, Annamalai University.
* Instructional workshop on bioinformatics at Boston college for professional studies Gwalior- 2009

**Area of Research**

Molecular Biology, Biochemistry, Fermentation technology, Microbiology, Immunology, Cell Biology, Bioinformatics e.t.c

**Publications**

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| No. of Research Papers Published in Refereed Journals | : | 7 |
| No. of Abstract published | : | 3 |
| No. of Gene submission | : | 2 |
| No. of Bio project submission | : | 1. (SRA file, Whole transcriptome)
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1. **Amrendra Kumar**, Sudhanshu Shekhar and Saravanakumar A (2017). “Role of PmRab7 Regulation in WSSV Infection and Functional Validation of Small Molecule as PmRab7 GTPase Inhibitor”. *Journal of Aquaculture Research & Development*. 2017; 8: 511-517: DOI: 10.4172/2155-9546.1000511.
2. Kiran Dashrath Rasal, Vemlawada Chakrapani, **Amrendra Kumar** Pandey, Avinash Rambhau Rasal, Jitendra K. Sundaray, Arun Ninawe, Pallipuram Jayasankar. (2017). “Status and future perspectives of single nucleotide polymorphisms (SNPs) markers in farmed fishes: Way ahead using next generation sequencing”. *Gene Report*. 2017; 6: 81-86. DOI: <http://dx.doi.org/10.1016/j.genrep.2016.12.004>.
3. **Amrendra Kumar**, Vaishnavi Ramasubbu, Kiran D Rasal, Saravanankumar Ayyappan. (2016). “Revealing localization and regulation of GTPase PmRab7 in lymphoid cells of *Penaeus monodon* after WSSV infection”. *Journal of Coastal Life Medicine.*2016; 4(11): 846-851. <https://doi.org/10.12980/jclm.4.2016J6-218>.
4. Vaishnavi Ramasubbu, **Amrendra Kumar** and A Saravanakumar. (2016). Molecular cloning and computational characterization of thymidylate synthase in white spot syndrome virus (WSSV)” *International Journal of Fisheries and Aquatic Studies*. 2016; 4(5): 557-563
5. R. Vaishnavi, **Amrendra Kumar**, A. Saravanakumar. (2016). “Cloning, expression and comparative study of White Spot Syndrome Virus (WSSV) thymidine kinase gene during infection in *Penaeus monodon”*. *Int. J. Curr. Microbiol. App. Sci 5*(4): 405-412).<http://dx.doi.org/10.20546/ijcmas.2016.504.048>.
6. **Amrendra Kumar**, Vaishnavi Ramasubbu, Lakshminarayanan karthick, Saravanakumar Ayyapan. (2014). Cloning, system analysis and model structure information of PmRab7 protein**.***Int.J.curr.biotechnol*. 2(7): 1-6.
7. **Amrendra Kumar**, R. Vaishnavi,A.Saravanakumar, Awani Kumar Singh, Dr. S.K. Tank. (2014). Biotransformation of sucrose by using thermostable and alkaline fructosyltransferase enzyme isolated from marine *Aspergillus niger. Int. J. Sci. env.technol.* 3(2): 708 – 713.

**Abstracts**

1. **Amrendra Kumar**, R. Vaishnavi and A. Saravanakumar “Molecular pathways and inhibitory effect on PmRab7 gene regulation in *Penaeus monodon* after WSSV infection”. International conference on advances in fish health; April 4th -6th 2017 at University Putra Malaysia, Malaysia.
2. **Amrendra kumar**, R. Vaishnavi and A. Saravanakumar “Localization and Regulation of PmRab7 GTPase in Lymphoid Cells of *Penaeus monodon* after WSSV infection”. 26th all Idia of Zoology & International Symposium on Innovation in Animal Sciences for Food Security, Health Security and Livelihood- 2015 BBAU Lucknow, India page No. 159.
3. **Amrendra Kumar**, R Vaishnavi, Subrat Kumar Swain, Sannghmitra Pradhan, J. K. Sundaray and A. Saravanakumar. “Role of PmRab7 Regulation in WSSV infection and Functional Validation of Small molecule as PmRab7 GTPase Inhibitor”. 2nd International Symposium on Genomics in Aquaculture- 2016; page No. 156.

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| **PERSONAL PROFILE** | **PERSONAL TRAITS** |
| Name | **:** | Amrendra Kumar | Smart worker |
| Father’s Name | **:** | Lt. Shambhu Pandey | Adaptability to situations |
| Mother’s Name | **:** | Kamini Pandey | Eagerness to explore and learn |
| Marital status | **:** | Married | Eager to work with the best team |
| Passport No. | **:** | H0670866 | Ability to work any corner of world |
| Blood Group | **:** | ‘O’ +ve |  |

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| **PERMANENTADDRESS** | **COMMUNICATION ADDRESS** |
| Vill. Adwara | Theevanam Additives and Nutraceuts Pvt. Ltd. |
| P.O. Mahmmadpur Susta | 3rd Floor, IITM Bio-incubator, IITM Research |
| Dist: Muzaffarpur | Park, 32, Kanagam Road, Periyar Nagar |
| Bihar-843119, India | Taramani, Chennai-600113, India |

**References**

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| --- | --- |
| **Dr. A. Saravanakumar, Ph.D** | **Dr. Dilip Kumar** |
| Assistant Professor | Chairman DBT task force for Marine Biotechnology and Aquaculture |
| Faculty of Marine Sciences | Retd. Director/VC |
| Center of Advanced Study in Marine Biology | CIFE (ICAR) |
| Annamalai University, Parangipettai 608502, Tamilnadu, India | Mumbai |
| Email: sarvaan@yahoo.com | E-mail: dk.dilipkumar@gmail.com |
| Mob: +91-9443610371 | Mob: +91-9560455702 |

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| **Dr. T.S. Chandra** | **Dr. T. Thangaradjou** |
| Emeritus Prof. | Scientist-E |
| Department of Biotechnology | Science & Engineering Research Board |
| IITM Chennai | New Delhi |
| E-mail: chandrasainathan@gmail.com | Email: umardjou@gmail.com |
| Phone: +91-9884609107 | Mob:+91-9486388791 |

**Declaration**

I hereby declare that the above-mentioned information is correct to the best of my knowledge and I hold the responsibility for the correctness of the above particulars.

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| Date:05/09/2018 |  Place: Chennai |