CURRICULUM VITAE

AISHWARYA RAJ

D.O.B – 08th August, 1993; Nationality – Indian

Permanent Address -

"Gokulam"

(P.O.) Kanhirapoil

(Via) Anandashramam

(Dist.) Kasaragod

Kerala, India

PIN - 671531

Email - aishwaryaraj93@gmail.com

Contact no. – +919922858144
+919481346812

PhD Student

Department of Biophysics

National Institute of Mental Health and Neuro Sciences

Bangalore, Karnataka

PIN - 560029

PERSONAL PROFILE

Research oriented, innovative, hard working, sincere, good communication and presentation skills, confident, committed, team and goal oriented person.

CARRIER GOALS

Committed to remain in the research field and mainly focus on such a work that would directly or indirectly help the mankind in the subject area of neurosciences.

CURRENT POSITION

3rd year PhD student in Dept. of Biophysics at NIMHANS, Bangalore, Karnataka (July 02, 2018 onwards).

SCHOLARSHIPS ACHIEVED

- **DST-INSPIRE Fellowship** for PhD for 5 years starting from 17 July 2018.
- **GATE (Life Sciences) - 2017** cleared with All India Rank – 20 and GATE score – 814.

WORK EXPERIENCE

Research Assistant in the Department of Microbiology at Kasturba Medical College, Mangaluru, Karnataka (February 15, 2017 – June 29, 2018).

ACADEMIC QUALIFICATIONS

- Master of Science (M. Sc.), 2016 – Medical Biotechnology – CGPA-9.5. Rajiv Gandhi Institute of IT and Biotechnology, Bharati Vidyapeeth Deemed University, Katraj, Pune, Maharashtra [University 1st rank].
- Bachelor of Science (B. Sc.), 2014 – Biotechnology – 89% (Affiliated under Mangalore University) Alva's Degree College, Moodbidri, Karnataka.
- 12th Std. – 82% (Karnataka Board of Pre-University Education), 2011 – Sharada Pre-University College, Mangalore, Karnataka.
- 10th Std. – 93% (Central Board of Secondary Education), 2009 – Sharada Vidyalaya, Mangalore, Karnataka.

CURRENT PROJECT

PhD Project:

Title: Assessing the effect of alpha-synuclein on midbrain astrocytes in the context of the pathophysiology of Parkinson's disease

Brief Objectives: To evaluate the effect of wild type and A30P/A53T mutated α-synuclein engulfment on astroglial survival, oxidative stress and astroglial biology; and to evaluate the effect of synucleated astrocytes on the glial cell communication and neuron-glia cross talk, in turn its influence on DA neuronal survival during 6-OHDA stress.

PROJECT EXPERIENCE

1. **Project at KMC:**

   Title: Evaluation of Fluorescent In Situ Hybridization (FISH) as a diagnostic tool for the rapid detection of *Mycobacterium Tuberculosis.*

   Brief Objectives: To carry out the evaluation of Fluorescent In Situ Hybridization (FISH) as a diagnostic tool for rapid detection of Pulmonary and Extra pulmonary Tuberculosis (TB) with special emphasis on speciation of culture positive *Mycobacterium*

species and also to know the proportion of *Mycobacterium avium intracellulare* complex in suspected TB culture isolates.

2. **M.Sc. Project:**

   Title: Effect of Lactic Acid Bacteria on biofilm formation by *Streptococcus mutans* an *in vitro* study.

   Brief Objectives: To evaluate the inhibitory effect of certain selected probiotic *Lactobacillus* species (*L. acidophilus*, *L. plantarum* and *L. rhamnosus*), on the caries causing organism, *Streptococcus. mutans*, and thus identify a potential biofilm formation inhibitor and also an inhibitor of the Glucosyltransferase (Insoluble) enzyme activity.

PUBLICATIONS

1. Aishwarya Raj, Alka Kaushal, Indrani Datta. Impact of monomeric and aggregated wild type and A30P/A53T double mutant α-synuclein on anti-oxidant mechanism and glutamate metabolic profile of cultured astrocytes. Journal of Neuroscience Research (under revision)
2. Aishwarya R, Shrikala B, Suchitra S, Dhanashree B, Prasanna Mithra P. Validating CB-NAAT assay in diagnosing tuberculosis in comparison to culture: A study from an urban area of South India. Journal of Clinical Tuberculosis and Other Mycobacterial Diseases. 2020; 21:1-4. https://doi.org/10.1016/j.jctube.2020.100198.
3. Aishwarya R, Preeti B, Rama B. Effect of Lactic Acid Bacteria on biofilm formation by *Streptococcus mutans* – an *in vitro* study. Int J Pharma Sci Res. 2017 June 1; 8(6):1000-6.

TECHNICAL KNOWLEDGE

- Wet lab –
  - Mammalian Cell Culture – Sterile Handling, Culturing, Analyzing both primary (isolation and maintenance) and secondary cell culture.
  - Molecular Biology & Biophysics – Flow Cytometry, PCR, DNA sequencing, Agarose gel electrophoresis, Ultracentrifuge, Spectrophotometry, Spectrofluorimetry, SDS-PAGE, Western Blotting, FISH
  - Biochemistry – ELISA, Chromatography.
  - Microbiology – Sterile Handling, Sterilization techniques, Staining techniques
- Dry lab –

- R-programming
- Graph Pad Prism
- Image J
- Sigma Plot
- NGS using Illumina Platform
- Molecular Modeling using Modeller9.10

SUBJECTS EXPOSED TO

- Molecular Biology
- Animal Tissue Culture
- Medical Biochemistry
- Human Physiology
- Immunology
- Genomics and Proteomics
- Biostatistics
- Medical Microbiology

AREA OF INTERESTS

Neurosciences through mammalian cell culture, molecular biological and biochemical techniques.

RECENT CONFERENCES ATTENDED, PAPER PRESENTED AND ACHIEVEMENTS

1. 3rd Symposium on Physiology and Pathology of Neuroglia, 24th – 25th November, 2020, organized by Institute of Neurobiology, National Autonomous University of Mexico (Online). Abstract titled, **"Deleterious effect of extracellular α–synuclein on astrocytic function"**, selected for **Oral presentation**.
2. Biotech Online Poster Presentation Competition, 4th September, 2020, organized by jointly by KITS, ABLE, IISc. Poster presented, titled, **"Are astrocytes responsible for the neurodegeneration in Parkinson's disease?"** Poster shortlisted as one among the best 100 in over 600 posters.
3. XXXVII Annual Meeting of Indian Academy of Neurosciences (IAN), 19th – 21st November, 2019, organized by the Indian Academy of Neurosciences. Poster presented,

titled, **"Adverse effects of alpha-synuclein on astrocytes – Lewy body formation"**. Poster abstract **selected for travel grant** – IAN Travel Fellowship.

4. International Conference on Neurological Disorders & Therapeutics (ICNDT), 24th – 26th October, 2019, organized by National Institute of Pharmaceutical Education and Research (NIPER) – Ahmedabad. Poster presented, titled, **"Adverse ramifications of alpha-synuclein on astrocytes"**. Poster abstract **selected for publishing** in the journal "Brain and Behavior", as a part of the conference proceedings.

RECENT WORKSHOPS ATTENDED

1. Workshop on Flow Cytometry Applications, 5th and 6th December, 2019, organized by the Advanced Flow Cytometry Lab, National Institute of Mental Health and Neuro Sciences (NIMHANS) – Bangalore.

REFERENCES

- **Dr. Indrani Datta**
  Associate Professor
  Department of Biophysics
  National Institute of Mental Health and Neuro Sciences
  Institute of National Importance
  Hosur Road
  Bangalore - 29
  Email – indrani.datta@gmail.com
  Contact no. – +919845461926

- **Dr. Phalguni Anand Alladi**
  Senior Scientific Officer – Scientist 'F'
  Department of Clinical Pharmacology and Toxicology
  National Institute of Mental Health and Neuro Sciences
  Institute of National Importance
  Hosur Road
  Bangalore - 29
  Email – alladiphalguni@gmail.com
  Contact no. – +919448803328