CURRICULUM VITAE

GISHA ROSE ANTONY
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Education:

Qualifying Degree	Academic Institution	Year of Completion	CGPA/ Percentage
BS-MS, Bachelors and Masters Dual Degree, Biological Sciences (5 Year Integrated)	Indian Institute of Science Education and Research-Kolkata (IISER-K), West Bengal, India	2016	7.70/10 (Absolute Grading)
Kerala Board of Public Examination (Conducted by state government for 12th grade students)	St. Thomas Higher Secondary School, Kerala, India	2011	Percentage-95%
Matriculation-Secondary School leaving Certificate (SSLC)	St. Mary's High School, Kerala, India	2009	Percentage-100%

Publications:

1) Soumya Kundu, **Gisha Rose Antony**, Vineeth A. Raveendran, Rahul Kumar, Debnath Pal, Jayasri Das Sarma.
   Interplay of stress response protein, DJ-1 and XBP1 in regulating microglial oxidative stress in neurotropic mouse hepatitis virus infection. *(Manuscript under review).*
2) Soumya Kundu, **Gisha Rose Antony**, Jayasri Das Sarma.
   Oxidative stress and DJ-1: possible role in Parkinson's Disease. *(Manuscript under review).*

Paper Presentation

1) **Gisha Rose Antony,** Paul Augustine, Preethi Sara George, Jayasree K and Lakshmi S.
   Knockdown of PD-L1 in Human Breast Cancer Cells Inhibits Tumor Progression and Metastasis.
   Annual conference of Indian Association for Cancer Research (IACR). February 2020.
2) **Gisha Rose Antony**, Naveen Babu Gorijavolu, Paul Augustine, Jayasree K and Lakshmi S.
   Expression of PD-L1 in Triple Negative Breast Cancer: A Potential Biomarker for Immunotherapy.
   31st Kerala Science Congress organized by Kerala State Council for Science, Technology and Environment (KSCSTE), Government of Kerala. February 2019.

Poster Presentation

1) **Gisha Rose Antony**, Paul Augustine, Preethi Sara George, Jayasree K and Lakshmi S. **Expression of PD-L1 in breast cancer promote tumor progression and epithelial mesenchymal transition.**
   8th International Translational Cancer Research Conference on Role of Inflammation and Immune

System for Cancer Prevention and Treatment, Department of Biochemistry, Banaras Hindu University. February 2020.

2) **Gisha Rose Antony**, Paul Augustine, Preethi Sara George, Jayasree K and Lakshmi S. **Role of PD-L1 in Regulation of Proliferation and Metastasis in Breast Cancer Cells**.
Indo-US Symposium on New Insights into the Inflammation, Immunity and Pathobiology of Diseases, Department of Biological Sciences, Indian Institute of Science Education and Research Kolkata, December 2019.

Research Interests:

- Cell Biology
- Cancer Biology
- Virology
- Molecular and Structural Biology

Fellowships and Awards:

1) Recipient of **Innovation in Science Pursuit for Inspired Research** (INSPIRE) scholarship for **higher education (SHE) awarded for secondary** students **among the top 1% of their respective boards for pursuing undergraduate** in India from Department of Science and Technology (DST), Government of India (July, 2011 – May, 2016).
2) **Awarded the INSPIRE fellowship (2018) to pursue PhD in India.**
3) Qualified national level Joint Graduate Entrance Examination for Biology and Interdisciplinary Life Sciences (JGEEBILS) 2016, India.

Research Experience:

1) **Exploring the key regulators of PD-1/PD-L1 pathway in breast cancer and its clinical relevance as therapeutic targets for immunotherapy.**
Laboratory of Molecular Medicine (LMMD), Regional Cancer Centre-Thiruvananthapuram
Principal Investigator: Dr. Lakshmi.S
Designation: Research Scholar (*February2018 onwards*)
2) **Mutation Analysis of EGFR, KRAS and BRAF genes in Non-small cell lung cancer (NSCLC) in Indian population.**
Laboratory of Molecular Medicine (LMMD), Regional Cancer Centre-Thiruvananthapuram
Principal Investigator: Dr. Lakshmi.S
Designation: Junior Research Fellow (February 2017-2018)
3) **Mouse olfactory behavioral training**
Laboratory of Neural Circuits and Behavior (LNCB), Indian Institute of Science Education& Research-Pune
Principal Investigator: Dr. Nixon M Abraham
Designation: Project trainee (July 2016- December 2016)

4) MS Dissertation (May 2016)- **Cell specific regulation of DJ-1 protein upon Mouse Hepatitis Virus (MHV) infection**
Department of Biological Sciences, Indian Institute of Science Education& Research-Kolkata
Principal Investigator: Prof. Jayasri Das Sarma

5) **A Green Chemistry Approach on the Synthesis and Characterization of Silver Nanoparticles from leaf extract of *Ziziphus Oenoplia* (L.) Mill**
School of Biosciences, Mahatma Gandhi University, Kerala, India
Designation: Summer Research Fellow (May-July 2014)
Principal Investigator: Prof. J G Ray

6) **Influence of attention on implicit learning**
Centre for neural and Cognitive Sciences, Hyderabad Central University, Hyderabad, India
Designation: Summer Research Fellow (May-July 2013)
Principal Investigator: Prof. Gautam Sengupta

Technical Skills

Techniques	Description
Mouse Model	Animal Breeding, Animal Handling, Tissue processing and fixation (both paraffin as well as cryofixation), Tissue sectioning (microtome and cryotome), Histopathology- Hematoxylin & Eosin Staining.
Animal Cell Culture	Cell thawing, Cell splitting, Cell treatment, MTT Assay, DCFDA Assay, Annexin V/ PI staining, Caspase assay, Calcein AM assay, Transfection (Si-RNA mediated transient transfection). Cells handled: HeLa, SHSY5Y, Neuro2A, N9, DBT, L2, MDA-MB-231, MCF7, SUM159 and A549.
Virology	Viral titre, Virus amplification, Virus infection.
Molecular Biology Techniques	Genomic DNA, RNA and protein isolation from tissues and cells (both fresh tissue and formalin fixed tissue), cDNA preparation, semi-quantitative and real time PCR, Agarose gel electrophoresis, Protein quantification (Bradford and BCA), SDS-PAGE, Flow-cytometry, Sanger sequencing.
Immunological Techniques	Western blot, ELISA, Immunohistochemistry, Immunocytochemistry, Immunofluorescence.
Bacterial Culture	Bacterial inoculation, Streak culture, Spread culture, Transformation, IPTG induction, Cell harvesting and lysate preparation.
Microscopy Techniques	Light microscopy, Fluorescent, Confocal, Scanning electron microscopy, Transmission electron microscopy and Atomic Force Microscopy.
Proteomics	Exposure in NMR, MALDI, Mass spectrometry and Circular dichroism spectroscopy.

Biological software and tools:

1) Image analysis: Image J
2) Sequence alignment: BLAST
3) SR- Experiment builder software
4) Origin
5) GraphPad Prism
6) Microsoft Office
7) Adobe Photoshop
8) Bioedit

Seminars and Workshops:

- Participated in the Indo-Swedish seminar on "Analytical Cell Biology and Machine Learning in Cancer Research", Division of Cancer Research, Regional Cancer Centre, Thiruvananthapuram, Kerala. May 2019.
- Participated and secured first prize in quiz competition in the pre-conference workshop on "Technological advances in Cancer Research and Diagnosis", Division of Cancer Research, Regional Cancer Centre, Thiruvananthapuram, Kerala. May 2019.

- Participated and secured first prize in quiz competition in the "National Science Day Celebration 2019" funded by KSCSTE, Division of Cancer Research, Regional Cancer Centre, Thiruvananthapuram, Kerala. February 2019.
- Hands-On Workshop on "Foldscope: The Origami-Based Microscope and its Effective Use in Cancer", Division of Cancer Research, Regional Cancer Centre, Thiruvananthapuram, Kerala. October 2018.
- "NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT)-2018" Conference SciGenom Research Foundation (SGRF), India. September 2018.
- "Open Source Tools for Research (OSTR)", Translational Research and Professional Leadership Centre (TPLC), Government Engineering College, Barton Hill-Kerala, India. June 2018.
- "Frontiers in Modern Biology (FIMB)-2015" National symposium, IISER– Kolkata. March 2015.

Teaching:

- Technical assistance for the dissertation program of M.Ch. (Master of Surgery) in Surgical Oncology for Dr. Naveen Babu at Regional Cancer Centre (RCC), Thiruvananthapuram.
- Mentored the dissertation program of Master of Science (MSc) in Biology students (9 Students) at Regional Cancer Centre (RCC), Thiruvananthapuram.
- Teaching Assistant, (Molecular Cloning Practical's) for 3rd year undergraduate students of IISER-Kolkata

Other Awards:

- Kerala State Spices Board Merit Award for outstanding performance in 10^{th} and 12^{th} level public examination.
- District Merit Scholarship for best performance in 10^{th} level public examination.
- Award for scoring being topper in the 10^{th} level public examination from School.

Co-curricular experience:

- Organized Junkyard Wars, a core event in Inquivesta 2013, Science Festival of IISER – Kolkata.
- Participated in School, Interschool Competitions (Seminars, Essay writing, speech and poetry).
- Student government senator at St. Mary's High School (Class 10^{th}).

References

i) Dr. Lakshmi S
Additional Professor
Division of Cancer Research
Regional Cancer Centre
Thiruvananthapuram, Kerala
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ii) Dr. Jayasri Das Sarma
Professor
Department of Biological Science
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