

Gobikrishnan Subramaniam

Flat 1, 18 Rosemount Gardens, Belfast, BT15 5AG.

Phone: 07436994977 | email: g.subramaniam@qub.ac.uk | [LinkedIn](#) | [GitHub](#)

Graduate in Molecular biology and Biotechnology with a robust background in systems biology, and a passion for cancer research, looking to establish a career in precision medicine to treat complex diseases better.

Education

M.Sc., Molecular Biology and Biotechnology, Queen's University Belfast, UK 2022 - 2023

- Achieved 2:1 degree with commendation.
- **Relevant modules:** Advanced Molecular biology, Protein structure and function, Biotechnology, Foundation for research, and Bioinformatics and System Biology.
- **Dissertation:** *Network Biology of Renal Cell Carcinoma Drug Resistance and Response*.
- Member of Queen's homework club programme provided homework support to middle school students from disadvantaged backgrounds 2022 - 2023.

B.Sc., Biotechnology, PSG College of Arts & Science, Coimbatore-14, India 2019 - 2022

- CGPA: 7.62/10.00 (Equivalent to a UK 1st).
- **Relevant modules:** Biochemistry, Cell biology, Diagnostic biotechnology, Microbiology, Genetics, Molecular biology, Immunology, rDNA technology, Genomics and proteomics, Bioinformatics, animal biotechnology.
- Followed standard protocols for various molecular biology techniques including DNA/RNA extraction, agarose gel electrophoresis, PCR, UV spectrophotometry, Western blot, ELISA, and mammalian/microbial cell culture during weekly lab sessions.
- Served as a voice of my peers during my role as a class representative in the academic year 2020-2021.

Research Experience

Visiting scholar, Overton lab, Queen's University Belfast, Belfast, UK Dec 2023 – Present

- Analysed RNA-seq datasets from TCGA to further verify the potency of the novel the biomarkers and therapeutic targets from the previous analysis.
- Performed a comprehensive literature search to validate and complement the findings from the analysis.
- Provided technical assistance to the group but not limited to managing users, system updates and handling queries regarding HPC usage.
- Optimized the Network Neighbourhood Clustering ([NetNC](#)) algorithm for enhanced portability and benchmarked it using 100,000 simulated samples from [HumanNet](#) to evaluate potential biases in the networks.

Research intern, Overton lab, Queen's University Belfast, Belfast, UK May 2023 – Sep 2023

- Analysed single-channel microarray dataset from two different studies (SuMR clinical trial & SCOTRRCC study).

- Performed differential expression analysis, to reveal the functional outcomes of the tumours.
- Constructed a network based on the gene list and performed functional annotation of the gene networks involved in tumour progression.
- Utilized in-house HPC ([Kelvin2](#)) for rapid analysis and storage of the datasets.
- Presented my findings to the group, effectively defending my outcomes.

Research Projects

BioHackathon Europe 2024 (Perturb-bench)

November 2024

- Analysed a processed 10x human cerebellum dataset with 6000 cells and performed digital KO on the highly variable genes to interpret the functional efficacy of the perturbation model.
- Integrated *GenKI*, a single cell toolkit into nextflow workflow for benchmarking with similar perturbation models.
- Compared the resulting ranked gene list against a CRISPR-database to verify the biological significance of the results; ultimately bench-marked with the help of other teammates.

The Sixth Annual Structural Variant and Pangenomics Hackathon at BCM

August 2024

- Developed *MoVana*, a pipeline to predict functional outcomes of various mosaic variants in tumour samples from a simulated dataset.
- Enhanced pipeline accuracy by integrating oncoDB/ClinVar and dbVar databases, improving variant interpretation and clinical relevance.
- Collaborated with a team of diverse individuals ranging from industrial experts to enthusiasts and operated as a tech lead of the group.
- Presented project outcomes to other teams culminating in collaborative research publication highlighting the potential changes for next year.

Conferences and hackathons attended

- 19 June 2024 BioFAIR Roadshow Queen's University Belfast
- 26 Feb 2024 - 1 Mar 2024 Building Transparent ML/AI Solutions to Advance Biological Research Codeathon

Volunteering and Extracurricular Experience

Volunteer, Cancer Research UK, Botanic Avenue, Belfast

Apr 2023 – Aug 2023

- Gained valuable skills in customer service, and teamwork while assisting in charity shops.
- Actively participated in fundraising activities, contributing to raising awareness and funds for cancer research.
- Managed the shop floor and aided the manager in managing the stocks.

REALpreneur event of i-Week 2022, PSG College of Arts & Science
National Bio Entrepreneurship Competition (NEBC-2021)

May 2022
 Nov 2021

Interests

- Star gazer, and a tinkerer who loves nature and technology.
- Associate member of the Royal Society of Biology,

- Member of NC3Rs Oncology network, attended regular talks on reducing the use of animal models in cancer research.
- Member of the Open Bioinformatics Foundation (OBF).

References

Available upon request.