

Ekanayake Mudiyanseelage Mudith Madushan Bandara Ekanayake

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PERSONAL STATEMENT

I'm a fresh graduate who followed Special Degree in Bioinformatics (Hons) from University of Colombo, Sri Lanka and graduated in 2018. Now I'm looking forward to contribute to the field of science applying knowledge and experience that I gained during my undergraduate years.

EDUCATION

02/2014 – 01/2018

University of Colombo | Sri Lanka (<http://www.cmb.ac.lk/>)
Bachelor of Science (4 year degree)

B.Sc. Special Degree in Bioinformatics
Second Class Hons Upper Division (GPA 3.27/4.00)

Undergraduate Course Content:

Genetics and Cell biology, Plant Biochemistry and Physiology, Molecular Biology and Recombinant DNA Technology, Molecular Biological and Immunological Applications, Phylogenetic Analysis, Statistical Methods in Bioinformatics, Techniques in Molecular Biology, Biostatistics, Data Analytics, Computational Biology, Logic Programming, Advanced Database Management, Molecular Evolution, Modeling and Computer Based Drug Design, Experimental Design and Data Analysis, Machine Learning and Neural Computing.

Undergraduate research dissertation: "Investigation of the Molecular Basis of Multiple Myeloma using Bioinformatics Tools" (Obtained A+ grade)

RESEARCH EXPERIENCE

2017 - 2018

"Investigation of the Molecular Basis of Multiple Myeloma using Bioinformatics Tools"

Multiple Myeloma, which is the second most prominent blood cancer in the world is a alteration of plasma cells, characterized by the proliferation of clonal plasma cells and a subsequent over abundance of monoclonal paraproteins. Previous research had led to the understanding that several proteins were associated with the disease and however most of the proteins were yet uncharacterized at the time.

The main objective of the research was to investigate the molecular basis of Multiple Myeloma using bioinformatics tools and to annotate and find the function of Uncharacterized protein FLJ37218 which was discovered by the previous research. The main objective was aimed to achieve through;

- investigation of the putative uncharacterized protein FLJ37218,
- analysis of its sequence at the nucleic acid sequence level,
- analysis of putative uncharacterized protein FLJ37218 at protein sequence level and protein structure level and annotation of the putative uncharacterized protein FLJ37218.

Protein annotation tools such as InterProScan, ProtParam, ProtScale, SignalP, TargetP and some protein structure prediction and structure alignment tools such as I-TASSER, FATCAT and Multiple Myeloma Genomics Portal which is a database corresponding to Multiple Myeloma were used throughout the research.

SKILLS AND TECHNIQUES

Laboratory Skills

- Molecular Biology Techniques - DNA and RNA extraction from cells/tissues, plasmid extraction, gel electrophoresis, SDS-PAGE and PCR
- Microbiology Techniques - cultivation, isolation, identification
- Basic knowledge on Advanced Molecular Biology involving gene cloning, regulation of gene expression in eukaryotes and prokaryotes.

Data Analysis Skills

- Experimental Design and Statistical Data Analysis using R, SPSS and MINITAB.

Programming Skills

- Python, R, MATLAB, Java, Prolog

NGS Data Analysis tools

- fastQC, Bowtie2, Samtools

Phylogenetic Analysis tools

- phylip, MEGAX, ClustalO, DnaSP, FigTree

Protein annotation tools

- InterProScan, ProtParam, ProtScale, SignalP, TargetP

Protein Structure Prediction and Structure Alignment tools

- I-TASSER, FATCAT

Operating Systems

- Linux/Ubuntu

RESEARCH INTERESTS

Genetics and Genomics, Proteomics, Computational Cancer Biology, Phylogenetic Analysis

COLLEGIATE PRESENTATIONS

- Oral presentation on **"Investigation of the Molecular Basis of Multiple Myeloma using Bioinformatics Tools"** In partial fulfillment of the requirements for the undergraduate course "BT 4030: Literature Review and Seminar I"
- Oral presentation on **"Investigation of the Molecular Basis of Multiple Myeloma using Bioinformatics Tools"** In partial fulfillment of the requirements for the undergraduate course "BT 4032: Seminar II and Viva-voce"

WORKSHOPS ATTENDED

2018

- Three-day workshop in Bioinformatics, Next Generation and Whole Genome Sequencing conducted by Dr. Prashanth N. Suravajhala – Birla Institute of Scientific Research, India.
- Pre-conference workshop on Galaxy Platform for Computational Biology conducted by Dr. Nuwan Goonasekera – Melbourne Bioinformatics, The University of Melbourne.

OTHER EDUCATIONAL QUALIFICATIONS

1997 – 2008

Ku/Maliyadeva Model School, Kurunegala, Sri Lanka

2008 – 2011

Maliyadeva College, Kurunegala, Sri Lanka

2012

G.C.E. Advanced Level Examination

Chemistry (A) | Physics (A) | Biology (C) | General English (B)

2007

G.C.E. Ordinary Level Examination

10 A passes for the ten compulsory subjects including Science, Mathematics and English

ENGLISH LANGUAGE PROFICIENCY

GRE (General)

Overall Score - 303

Verbal Reasoning – 144 Quantitative Reasoning – 159

Analytical Writing – 3.0

IELTS (Academic)

Overall Band Score – 7.0

Listening – 7.0 Reading – 7.5 Writing – 6.5 Speaking – 6.0

CEFR Level – C1

EMPLOYMENT HISTORY

02/2018 – Present

Teaching Assistant | Department of Plant Sciences, Faculty of Science, University of Colombo, Sri Lanka

Key Responsibilities

- Responsible for designing and conducting of the practical components of Phylogenetic Analysis level III course modules and performance assessment of the weekly report submissions as the Teaching Assistant in Charge.
- Conducting weekly practical sessions in Genetics and Cell Biology, Principles of Microbiology, Biostatistics, Introduction to Bioinformatics, Introductory Molecular Biology and Recombinant DNA Technology as a Teaching Assistant.
- Exam Invigilation, following correct guidelines and procedures.

SELECTED EXTRA CURRICULAR ACTIVITIES

- Producer of the live video of "Ravana" Ballet Opera performed by university students at Nelum Pokuna Theatre, Sri Lanka (2018)
- Coloursman of University of Colombo (2017)
- Member of the Baseball Team, University of Colombo (2014-2017)
- Member of the Runner-up Baseball Team at the Inter University Championship (2017)
- Member of the Semi-finalist Baseball Team at the Mahesh Fernando Memorial Baseball Championship (2017)
- President of the Botanical Society, University of Colombo (2017/2018)
- Chief Editor and Special Reporter of FOS Media, official media unit of University of Colombo (2014-2018)
- Program Director and founding member of UOC Rhythm, official online radio channel of University of Colombo (2016/2017)
- Active blogger at the official Faculty of Science blog (<https://fos.cmb.ac.lk/blog>)
- Assistant Secretary of Photography Club, Maliyadeva College, 1st place in All Island Inter School Photography Competition – Color Section (2010)

REFERENCES

Prof. T. L. Shamala Tirimanne (Senior Professor)
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