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(Ph.D Biotechnology)

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ACADEMIC QUALIFICATION

Field of Study	: PhD. Biotechnology
Institute/University	: Biotechnology Research Institute, Universiti Malaysia Sabah
Graduation Year	: November 2019
Field of Study	: Master of Science. Biotechnology
Institute/University	: Biotechnology Research Institute, Universiti Malaysia Sabah
Graduation Year	: November 2015
Field of Study	: Bachelor of Science (Hons.) Biomedical Sciences
Institute/University	: Management and Science University (MSU)
Graduation Year	: January 2012
Field of Study	: Diploma in Medical Lab Technologist
Institute/University	: Advance Management and Technology Centre (PTPL)
Graduation Year	: February 2009

AREA OF EXPERTISE

- Molecular genetic
- Bioinformatic
- Animal Genetic
- Population Genetic
- Conservation Genetic
- Microbiology

PROFESSIONAL AFFLIATION

1. Malaysia Genetic Society - Since 2014- present

ONGOING PROJECTS

- Involved in implementing and replicating VGP pipeline on HPC for whole genome analysis
- Involved in implementing and replicating GreP Pipeline on HPC
- 16s Sequencing of Cancer patients Gut Microbiome
- Whole Genome Sequencing of Hybrid Cacao

EXPERT / TECHNICAL CONTRIBUTION

1. Appointed as Assistant Instructor for NGS Bioinformatics Malaysia Virtual Workshop (1st -5th February, 2021)

2. Appointed as Key Observer at the 5th Biotechnology Symposium: Biotechnology for Sustainable Development to Meet Global Challenges (15-16 November 2017)

3. Participated at the 12th Malaysian International Genetic Congress: Soaring Beyond Frontier of Genetics (25th - 27th September 2017, Bangi Putrajaya Hotel, Selangor)

4. Appointed as a member of the Secretariat committee for the 19th Biotechnology Postgraduate Seminar (13th- 17th January 2017)

5. Appointed as a member of the Emcee committee for the 18th Biotechnology Postgraduate Seminar (24th- 28th June 2016)

6. Organizing committee member Borneo Divers Celebration of Sea Turtles in Mabul (14th-17th November 2016)

7. Appointed as a member of the Abstract Book and Scientific committee for the 17th Biotechnology Postgraduate Seminar (8th- 12th January 2016)

8. Appointed as a Committee Leader of Registration for the 16th Biotechnology Postgraduate Seminar (16th- 18th June 2015)

9. Appointed as a Head of Finance for the 13th Biotechnology Postgraduate Seminar (7th-9th January 2014)

10. Participated at the 10th Malaysian Genetic Congress: Advances in Genetics, Biotechnology and Genomics (3rd- 5th December 2013, Palm Garden Hotel IOI Resort, Putrajaya)

11. Participated and completed Technical Training for Applied Biosystem Genetic Analyzer 3130/3130xl (26th - 28th June 2013)

12. Participated and completed Training for Field Staff for Global Adult Tobacco Survey (GATS) (16th – 21st July 2011) Institut Kesihatan Umum, Kementerian Kesihatan Malaysia

AWARDS AND RECOGNITION

1. First Place (Poster Presentation)- At the 12th Malaysia International Genetic Congress, 25th-27th September 2017, Bangi-Putrajaya Hotel, Selangor, Malaysia for the research "Use of PacBio Sequencer to Develop Novel Microsatellite Markers in Hawksbill Turtle".

2. Best Presenter and Outstanding Presentation (Oral Presentation)- At the 18th Postgraduate Seminar, 24th-28th June 2016, Biotechnology Research Institute, Universiti Malaysia Sabah.

3. Best Presenter (Oral Presentation)- At the 16th Postgraduate Seminar, 16th-18th June 2015, Biotechnology Research Institute, Universiti Malaysia Sabah.

4. Bronze Medal- At the 2013 UMS Research and Innovation Competition (PEREKA 2013) for the research "Mapping of Genes Related to Immunity and Identification of Retroviral Elements in the *Nasalis larvatus* Genome using Bioinformatic Approaches"

5. President's List- Diploma in Medical Lab Technology

PROCEEDINGS AND PUBLICATIONS

Loganathan, A.L., Palaniappan, P., & Kumar, S.V. (2021). Evidence of Chelonid Herpesvirus 5 (ChHV5) in Green Turtles (*Chelonia mydas*) from Sabah, Borneo.

Narges Mashkour, Karina Jones, Teresa Shamim Ahasan, Leigh Owens, Claire Saladin, Jose Luis Crespo Picazo, Brett Gardner, **Aswini Leela Loganathan** *et al*., (2020). Disease Risk Analysis in sea turtles: A baseline study to inform conservation efforts.

Loganathan, A.L., Palaniappan, P., & Kumar, S.V. (2018). First Reported Case of Fibropapillomatosis in Green Turtles in Sabah, Borneo. 38th International Sea Turtle Symposium (ISTS 38) Kobe, JAPAN. 18th-23rd February 2018.

Loganathan, A.L., Palaniappan, P., & Kumar, S.V. (2018). Use of PacBio Sequencer to Develop Novel Microsatellite Markers in Hawksbill Turtle. 12th Malaysia International Genetic Congress, 25th-27th September 2017, Bangi-Putrajaya Hotel, Selangor, MALAYSIA

Loganathan, A.L., Palaniappan, P., & Kumar, S.V. (2018). Use of PacBio Sequencer to Develop Novel Microsatellite Markers in Hawksbill Turtle. Transaction of Persatuan Genetik Malaysia.

Loganathan, A.L., Kumar, S.V., Voo, C.L.Y., & Rodrigues, K.F. (2017). Mapping of Genes and Identification of Retroviral Element in the *Nasalis larvatus* Genome using Bioinformatic Approaches. Short Communication in Biotechnology, 4:11-17.

Loganathan, A.L., Kumar, S.V., Voo, C.L.Y., & Rodrigues, K.F. (2017). Comparison of Mitochondrial DNA Sequences of *Nasalis Larvatus* From Sabah And Sarawak. (2017) Borneo International Journal of Biology.

RESEARCH EXPERIENCE

❖ **Genetic Diversity of the Green *(Chelonia mydas)* and Hawksbill *(Eretmochelys imbricata)* Turtles and the Prevalence of Chelonid Fibropapilloma-Associated Herpesvirus (CFPHV) in Mabul Island, Sabah, Malaysia**

- Molecular markers isolation and characterization and in evaluating genetic diversity and gene flow in given organism or animal.
- Next gen sequencing such as Pacific Biosciences single molecule real time sequencer.
- QIAxcel DNA high-resolution fragment analysis.
- Characterization of mitochondrial (mtDNA) markers for analysing migration pattern, natal origin and population structure of sea turtles.
- Identification and characterization of viruses such as Herpesvirus using molecular techniques as well as Histopathology examination
- Transmission Electron microscopy (TEM)
- Evaluated the levels of genetic diversity and gene flow in foraging turtles from Mabul Island using microsatellite markers.
- Estimated Hardy-Weinberg Equilibrium (HWE), Genetic Drift, Genetic distance, Gene diversity, Natural Selection, Multiple Loci Inheritance, Inbreeding and Multiple Allele Inheritance, expected heterozygosity and observed heterozygosity, F-Statistic and Geneflow.
- Analysed the migration pattern and origin of the sea turtles in Mabul Island using Mitochondrial (mtDNA) markers. This facilitated to investigate the population structure and determine the natal origin of sea turtle populations from Mabul Island.
- Identified and esstimation of Haplotypes and its frequency, Bayesian Sky Plot-using HKY mutation model and MCMC selection.
- Determined the occurrence of Fibropapillomatosis (FP) in sea turtle by using validated PCR assay that targets 4 conserved CFPHV genes. Carried out Histopathology staining and examination. Identified the viral particle using Transmission Electron microscopy (TEM).

❖ **Molecular Biology in Conservation (SB30303) (LAB TUTOR)**

- Isolation of DNA from Plant Samples
- Random Amplified Polymorphic DNA-Polymerase Chain Reaction (RAPD-PCR) and PCR Amplification of Microsatellite Loci
- Agarose and Polyacrylamide Gel Electrophoresis of PCR Poducts
- Cloning and Restriction Fragment Analysis of Plasmid DNA
- Data Analysis and Bioinformatics: Analysis of RAPD data using RAPDistance Program and NT-SYS program and Analysis of Microsatellite Data using Popgene and PHYLIP programme.

❖ **Phylogenetic and Bioinformatic Analysis of gene Related to Immunity and Retroviral Elements in *Nasalis larvatus* Genome**

- Characterization of genes linked to immunity and host defense such as the Major histocompatibility complex (MHC), Defensins and Retroviral elements. These genes are known to behold some unique role apart from playing an essential role in host defense.

- Identification theta defensin, a gene that plays an important factor that makes the Proboscis monkey immune to Malaria and HIV. When compared to human, results indicated that the gene is also present in human but not fully expressed.
- Identified the Major histocompatibility complex (MHC) gene are closely linked to the olfactory sensory.
- Sequenced the Mitochondrial DNA (mtDNA) of the *N. larvatus*. and deciphered the phylogenetic order within the Kingdom Animalia which served as a benchmark for validating previous data.

❖ **Research Assistant (Public Health Institute)**

- Worked in a team environment for a few research projects- Global Adult Tobacco Survey (GATS), National Health and Morbidity Survey (NHMS) and Malaysian Adult Nutrition Survey (MANS).
- Experienced in conducting survey, pilot test, data collection, data clearing and data punching. Extensive experience working with cross-functional scientific and research teams.

❖ **Comparison of Ethyl Acetate and Hexane as Solvent in Extracting Secondary Metabolite from Endophytic Streptomyces and their Antimicrobial Activity.**

- Experienced in isolating the bioactivity of Endophytic *Streptomyces SUK* 10 from *Shovea ovalis* plant (trunk) and *SUK* 28 from *Sarcandra glabra* plant (stem) from the *Actinomycetes* family which are a novel source of potentially useful medicinal compounds.

❖ **Internship (KPJ Putri, Johor)**

- Experience in Phlebotomy-venepuncture, Blood banking, Microbiology lab, Pathology lab and Biochemical lab.
- Organized health science week where health screening was performed for 1500 people and successfully organized a Blood donating campaign.
- Have in depth knowledge in handling laboratory equipment such as Integra 2000, Bactec and Advia.
- Collect diagnostic samples for clinical assessment and quality assurance from patient.
- Process biological/bacterial cultures, blood and semen samples and maintain controlled substances records.
- Culture and sensitivity test for Aspirate, Blood, Urine, Ear, Eye, Nasal swab Throat swab, Stool and Sputum analysis, Routine Urine and Blood Examination
- Verify instrument functioning by checking and calibrating specific lab instruments and verify test procedures are performed in accordance with standard operating procedures. Reviewed test runs, maintenance, quality control, calibrations and proficiency testing.
- Ensured implementation of autoclaving and waste disposal policy by proper disposal of wastes such as sharps, biohazards in separate containers.