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Research Interests: Cancer Biology, Neuroscience, Endocrinology, Immunology, Cell and Molecular Biology, Stress Physiology.

EDUCATION

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| 2021 - 2023 | M.S. in Biological Sciences. GPA: 3.98/4
Purdue University, Fort Wayne, USA.
Relevant Courses: <i>Molecular Biology and Applications, Immunology, Biomedicine, Biometry (Programming in R), Professional Development.</i> |
| 2018 - 2021 | M.Sc. in Zoological Sciences. GPA: 3.74/4
Tribhuvan University, Central Department of Zoology, Kirtipur, Nepal.
Relevant Courses: <i>Cell and Developmental Biology, Neuronal and Behavioral Biology, Fish Genetics and Biotechnology, Molecular Biology and Genetics.</i> |

PUBLICATIONS

- Parajuli K., Fahim N., Mumu S., Palu R., Mustafa A. Antibacterial potential of *Luidia clathrata* (sea star) tissue extracts against selected pathogenic bacteria. **PLOS One 2023.**
- Mumu S.K., Fahim N., Win E.H.A., Parajuli K., Mason S., Wendel I., Mustafa A. Potentials of *Gynura procumbens* to modulate chronic stress and immunological responses in *Oreochromis niloticus*. **PLOS One 2023.**
- Win E.H.A., Mumu S.K., Fahim N., Parajuli K., Blumenthal E., Palu R., Mustafa A. Comparative physiological study of sea cucumbers from eastern waters of the United States. **PLOS One 2023.**
- Fahim N., Parajuli K., Mumu S.K., Palu R., Mustafa A. Antibacterial activity of Sea Urchins (*Arbacia punctulata* and *Lytechinus variegatus*) extracts against selected gram-positive and gram-negative pathogenic bacteria (in vitro). **Submitted 2024.**

- Kunwar P.S., Sapkota B., Badu S., Parajuli K., Sinha A.K., Boeck G.D., Sapkota K. Chlorpyrifos and dichlorvos in combined exposure reveals antagonistic interaction to the freshwater fish Mrigal, *Cirrhinus mrigala*. **Ecotoxicology** 2022.
- Kunwar P.S., Parajuli K., Badu S., Sapkota B. , Sinha A.K., Boeck G.D., Sapkota K. Mixed toxicity of chlorpyrifos and dichlorvos show antagonistic effects in the endangered fish species golden mahseer (*Tor putitora*). **CBPP** 2021.
- Chitrakar P., Parajuli K. Length and weight relationship studies of alimentary canal compared to the total body weight of grass carp *Ctenopharyngodon idella* (Valenciennes, 1844) at Balkhu live fish market of Kathmandu, Nepal. **IJFAS** 2017.

ACADEMIC RESEARCH EXPERIENCE

Research Technician III, Department of Internal Medicine

University of Arizona, Phoenix, AZ, USA

2024 MAY - Present

- Conducted research to investigate the complex mechanisms through which the phosphorylation of thyroid hormone receptors influences hypothalamic functions.
- Routinely performed surgeries and transcardiac perfusion on genetically modified mice and maintained the colonies.
- Actively involved in the refinement, adaptation, and development of experimental procedures and recommended protocols improvements as needed.
- Actively participated in laboratory inventory logistics, including supply management, record keeping, and troubleshooting issues.
- Actively contributed to data analysis for publications and prepared technical reports, summaries, protocols, and quantitative results.

Research Student, Stress Physiology, Molecular Biology, Microbiology

Purdue University Fort Wayne, IN, USA

2021 AUG - 2023 MAY

- Analyzed effects of various stressors (thermal, chemical, and anthropological) on physiological and immunological response on aquatic invertebrates.
- Conducted research on identification and expression analysis of Heat shock protein gene in Sea Star Stressed by Elevated Oceanic temperature.
- Actively involved in research focused on extraction and Isolation of the bioactive compounds from the various tissues extracts of Echinoderms.
- Contributed to research projects on stress modulation using nutraceuticals as dietary supplements, Fish as a model organism.

TEACHING EXPERIENCE

Graduate Teaching Assistant, Department of Biological Sciences

Purdue University Fort Wayne, IN, USA

2021 AUG - 2023 MAY

- Taught multiple graduate and undergraduate lab courses such as Human Anatomy and Physiology, Microbiology for Health Professionals, and Immunology.
- Handled experimentation associated with those courses and was involved in lab management.
- Assisted faculty members with course planning, assessment and record keeping.
- Prepared class presentations, assigned class projects for students, and graded lab reports.

INDUSTRIAL RESEARCH EXPERIENCE

Research Associate, Microbiology, Molecular Biology

Genista Biosciences, CA, USA

2023 JUN - 2024 MAR

- Conducted DNA/RNA extraction, and purification followed by qPCR to facilitate pathogen identification in food and environmental samples.
- Conducted industry-specific Microbial (Sporeformers, Alicyclobacillus, Howard Mold Count), Chemical (Allergens and mycotoxins), and Molecular (GMO) testing.
- Handled the preparation of reagents and media, while meticulously managing inventory records.
- Actively participated in group discussions aimed at refining methodologies and enhancing overall team efficiency.

ACADEMIC AWARDS/NOMINATIONS

- **PFW M.S. Merit Scholarship. (2021 -2023).** Financial support for M.S. at Purdue University Fort Wayne, IN, USA.
- **PFW Top 50 Award (2023).** Awarded with PFW Top-50 student award for excellent academic and research accomplishment, Fort Wayne, IN, USA.
- **Best Graduate Teaching Assistant (2023).** Nominated from the Department of Biological Science, Purdue University for outstanding teaching performance, Fort Wayne, IN, USA.
- **PFW Travel Award (2022).** Financial support to travel and attend Aquaculture America, New Orleans, LA, USA.

- **WAS Travel Award (2021).** Financial support to travel and attend the World Aquaculture Society (WAS) Conference at San Diego, CA, USA.

TRAINING AND CERTIFICATIONS

CITI (Collaborative Institutional Training Initiative) Certificate

University of Arizona, College of Medicine, Phoenix, USA

2024

- Responsible Conduct of Research (RCR)
- Laboratory Animal Welfare for Investigators, Staff, and Students.
- Biosafety for Principal Investigators, Lab Personnel, and IBC Members.
- Working with Animals in a Research Setting
- Training in Sharps and Infectious Waste Handling Disposal Guidelines.
- Training in Hazardous Waste Disposal Guidelines.
- Training in Animal Exposure Occupational Health Program

TECHNICAL EXPERTISE

- **Extraction and Purification:** Nucleic acids (RNA, DNA) and proteins.
- **Molecular Techniques:** Agarose gel electrophoresis, qPCR, Western blotting, ELISA.
- **Histological Techniques:** Sectioning (Cryostat and microtome), immunohistochemistry, light and fluorescent microscopy, spectrophotometry.
- **Cellular and Microbial Techniques:** PBMC isolation, media and solution preparation, aseptic techniques, bacterial culture.
- **Diagnostic Tests:** Biochemical, physiological, and behavioural assessments.
- **Cell Culture Techniques**
- **Animal Husbandry (Mouse):** Breeding colony management, genotyping, administering treatments (e.g., intraperitoneal, subcutaneous), and performing survival and non-survival surgeries.

COMPUTER SKILLS

- **Languages/Programming:** SPSS, SigmaPlot, Latex, R, Python.
- **Misc:** MS Word, MS Excel, Outlook.