PROFILE

Name: **Dr Bikash Ranjan Sahu.**
Designation: Assistant Professor
Qualification: Ph. D. (Zoology)
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ABOUT ME

Dr Bikash Ranjan Sahu holds Doctorate Degree in Zoology from Utkal University in 2008. During his PhD, Dr Sahu was working as research fellow at Regional Medical Research Centre, Bhubaneswar, Odisha. He availed a chance to do his post doctorate research at US Food and Drug Administration, Maryland, USA from 2009 to 2014. Dr Sahu, after returning to India, joined at School Of Biotechnology, KIIT University as a Research Scientist from 2015 to 2021. During this tenure, he received an extra-mural grant from Indian Council Of Medical Research with a tenure from 2018 to 2022. Dr Sahu joined as Assistant Professor, Department of Zoology, Centurion University Of Technology Management, Bhubaneswar campus on 8th June 2022. During his research career, he has a total of 27 publications including research and review articles of which eight are from CUTM. Dr Sahu also has a design patent from CUTM. In CUTM, he is engaged in teaching various subjects such as Animal Biotechnology, Immunology and Cancer Biology, Genetics and Epigenetics, Molecular Biology, and Water and Soil Quality Management in Aquaculture. In 2023, Dr Sahu was awarded with Provost Eminent Achiever for significant contribution in research. Currently, he is supervising two PhD scholars and has guided 6 MSc students for dissertation work on domain subject 'Animal Cell Culture'. During his academic and research period, he has actively conducted and participated in various workshops, seminars and conferences at various institutions.

RESEARCH FIELDS

- Cytotoxicity, genotoxicity and immunotoxicity in hosts due to pathogens.
- Rapid point-of-care rapid detection devices for early diagnosis of diseases.
- Pre-clinical efficacy evaluation of vaccines.

TEACHING

Assistant Professor – Theory and practical for BSc and MSc, Zoology students, at Department of Zoology, Centurion University Of Technology and Management, Bhubaneswar, Odisha since June 2022.

Subjects taught at CUTM, Bhubaneswar.

Core Subjects - Animal Biotechnology, Molecular biology, Water and Soil quality management in aquaculture, Immunology and Cancer Biology, Developmental Biology, Genetics and Epigenetics and Principles of Genetics.

Domain subjects **–** Animal cell culture and Its Application, Drug abuse and Stress management and Laboratory diagnosis of diseases.

- Guest lecturer at Centre for Biotechnology and Environment, Rasulgarah, Bhubaneswar during 2005-2006.
- Guest teaching faculty - Taught Immunology to second semester Master's students (Biotechnology) at School of Biotechnology, KIIT University from Jan' 2019 to Apr' 2019 (Total 13 classes, duration – 1 hour each class).
- Guest teaching faculty – Conducted practical classes on immunology (Total classes, 6 h duration each) for integrated MTech students (Semester VI) at School of Biotechnology, KIIT University from Jan' 20-Feb' 20.

ADMINISTRATIVE ROLE

- Laboratory In Charge for Department of Zoology, School of Applied Sciences, CUTM, Bhubaneswar, since Aug 2022.
- Career Coordinator for Department of Zoology, School of Applied Sciences, CUTM, Bhubaneswar, since Aug 2022.

EXPERTISE AND INTERESTS

Basic Expertise: Hands on experience in using state- of- art flow cytometers (FACS Calibur, FACS Canto II, LSRII and Guava) for multi-color analysis.

- Immunophenotyping - Multicolor flow cytometry to study expression profiles of cell surface proteins and intracellular proteins.

- Apoptosis assay - Detection of AnnexinV^{+} apoptotic cells, intracellular caspases and study of mitochondrial depolarization using flow cytometer.
- Cell proliferation assay - PHA/Con-A mediated proliferation of lymphocytes after CFSE labeling using flow cytometry.
- Cell cycle analysis.
- Studying embryogenesis, binding of lectins and antibodies to intrauterine stages of adult bovine filarial worms by flow cytometer.
- Well versed with use of FACS Diva, Cell quest pro and Flow jo software for analyzing flow cytometric data.

RESEARCH GUIDANCE (PhD)

Dr Sahu is currently supervising two PhD research scholars.

AWARDS AND HONOURS

- A Qualification Pack was approved by 40th National Skill Qualification Committee on 22nd October 2024. 'Pollinator Habitat Maker'. NSQF level – 3.5.
- Awarded for Eminent Achiever in Provost Research Conclave, Centurion University of Technology and Management, 2023.
- Awarded for best poster presentation award for paper entitled *"Host immune molecules and cells enter filarial nematodes by endocytosis"* in 34th Indian Immunology Conference held at National AIDS Research Institute, Pune, India from 16th-18th Dec2007.
- Qualified the National Eligibility Test (NET) conducted by Council of Scientific and Industrial Research (CSIR) and University Grants Commission (UGC), Government of India in 1998.
- Received National Scholarship in High School Certificate examination in 1988.

PROJECTS

- Received seed money research grant in November 2023, Centurion University Of Technology and Management, Odisha. Budget – 3.09 lakh.

- Received an extramural grant from Indian Council of Medical Research, India on a proposal *entitled* 'Rapid one step detection method for Streptococcus pneumoniae to diagnose pneumonia in children' August 2018-February 2022. Budget – 37.7 lakh.

OTHER INFORMATION (PATENTS/SELECTED PUBLICATIONS).

Patent.

Design patent on IOT ENABLED UV DISINFECTION DEVICE was accepted on 23.12.2024.

Five best publications.

1. **Sahu BR**, Mandal N, Babalghith AO, Abdel-razik AE, Abdullah, Aldairi [e], Farkad Bantun [f], Raju K. Mandal [g], Shafiul Haque [g h], Aditya K. Panda **(2024).** Internalization of macromolecules into filarial parasites – Possible operation of host's anti-fecundity immunity inside adult filarial nematodes. Journal of King Saud University-Science, 36 (1-7).

2. Manoswini M, Mohanty M, Majumdar AG, **Sahu BR** & Mohanty PS **(2024)**. Extraction and Characterizations of Viral Protein Particles: A Methodological Study. BioNanoScience. 14 (1520-1536).

3. Manoswini M, Majumdar AG, Pany B, **Sahu BR*** & Mohanty PS* **(2023)**. Rapid detections of food pathogens using metal, semiconducting nanoparticles, and their hybrids: a review. Emergent Materials.

4. Mandal D, **Sahu BR** and Parija P **(2023)**. Combination of tamoxifen and D-limonene enhances therapeutic efficacy in breast cancer cells. Mol. Onco. 40 (216).

5. Banerjee R, Khandelwal S, Kozakai Y, **Sahu B**, and Kumar S **(2015).** CD47 regulates the phagocytic clearance and replication of the *Plasmodium yoelii* malaria parasite. PNAS, 112 (3062-3067).