

## Statement of Research Achievements

**Major Project Sanctioned** AMR/Adhoc/301 /2022-ECD-II **ICMR, New Delhi Extramural Adhoc-Research Grant (2022)** “Antimicrobial assessment of newly designed Phyto-quinolone antibiotic hybrids against MDR pathogens” as **Principle Investigator** with worth of 31,37,000/-

Received the **Best Oral Presentation Award 2023** in National Seminar conducted by Department of Pharmaceutical Technology, Jadavpur University, collaborated with Society of Ethno-Pharmacological, Kolkata on 30<sup>th</sup>-June- 1st -July-2023

We received the Award "**Gandhian Young Technological Innovation-2019**" of his contribution to Biotechnological/Medical Health innovation with the Title "Production of effective and low cost Dapsone-phytochemical hybrid candidate for use in Multidrug therapy against *Mycobacterium leprae*" received from Vice president of India at Rastrapati Bhawan, New Delhi, India.

Leprosy remains a grave public health risk with constant prevalence rates, high rates of disability and morbidity, and treatment with dapsone (DDS) as part of multidrug therapy (MDT). Because the disease is resistant to DDS, it spreads like wildfire throughout several nations. In this study, Dapsone (DDS) was chemically hybridised with a number of monophenolic phytochemicals; following a thorough bioinformatics analysis before synthesis, the "dapsone-thymol hybrid" molecule demonstrated efficacy. After that, the hybrid candidates that made the shortlist were successfully synthesized and interpreted. Next, they were tested for host toxicity in cultured human lymphocytes and their antileprosy activity using the mouse-foot-pad propagation method. Obtained findings, the desired antileprosy medication was the dapsone-thymol congener.

**Received Best Reserach Paper Award in Journal' Indian Drugs' 2016** Title "Biological evaluation of novel a heteroaryl/arylazo 2-naphthol analogues and the transitional metal complexes derived from 4-((2-hydroxynaphthalen-1-yl)diazenyl)-1,5-dimethyl- 2-phenyl- 1*H*-pyrazol-3(2*H*)-one" *Indian Drugs*, 53(6), **2016** & 15-24.

### **Under my Supervision PhD Scholars Awarded**

- Jyotirmaya Sahoo, PhD (Pharmacy) 2016; Awarded Thesis Title "Study on the medicinal interest of synthesized azo-based heterocyclic compounds" Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India
- Alok Singh Thakur, PhD (Pharmacy) 2017; Awarded Thesis Title “Synthesis and pharmacological evaluation of Hetrocyclic rings containing *N*-substituted sulfonylurea

as Pharmacophore” Siksha ‘O’ Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India

- Priyambada Kshiroda Nandini Sarangi, PhD (Pharmacy) 2018; Awarded Thesis Title “Synthesis and biological evaluation of nitrogen bearing hetrocyclic molecules” Annamalai University, TN
- Shasank Sekar Swain, PhD (Biotechnology) 2019; Awarded Thesis Title “Computational and experimental evaluation of newly designed sulfonamide-phytochemical conjugates as Prospective antibacterial drugs” Siksha ‘O’ Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India
- Chitaranjan Sahoo, PhD (Biotechnology), 2021, Awarded Thesis Title “ A comparative study on Phyco and phyto compound derivatives against UTI-bacteria and breast cancer” Siksha ‘O’ Anusandhan (Deemed to be University).
- Ajit Kumar Bishoyi, PhD (Biotechnology), 2023, Awarded Thesis Title “ Biosynthesis, characterization, and biological activities of silver Nanoparticles with the Cyanobacterium Oscillatoria sp.” Siksha ‘O’ Anusandhan (Deemed to be University).

#### **Achievements of Phd scholars under my Supervision**

- Shasank Sekhar Swain (PhD Scholar): **Sun Pharma Science Foundation’s Science Scholar Award** for the year 12th Feb. 2018 in the field of Pharmaceutical Sciences
- Shasank Sekhar Swain (PhD Scholar): Received Grant for **Young Scientist scheme project from Department of Health Research (DHR)**, Govt. of India, New Delhi (1st Feb. 2018 to 31st Apr. 2020), “Antimycobacterial evaluation .....TB drugs” **R.12014/14/2017**
- Chitaranjan Sahoo (PhD Scholar) : Received award of **Senior Research Fellowship (SRF)** from ICMR on 5-1-2021 entitled as “Newly synthesized norharmane-phyco (algae) chemical conjugate as prospective Breast cancer (45/3/2020-DDI/BMS).
- Monalisa Mahapatra (PhD Scholar): Received the award of **Senior Research Fellowship (ICMR-SRF)** from ICMR on 29-3-2022 entitled as : Antimicrobial and anticancer assessment of Fluoroquinolone- phytochemical conjugates as a prospective broad-spectrum antibiotic.