



One Month Summer Internship 2025 on “Integrative Approaches In Plant Science And Phytopharmaceutical Research: From Field To Lab” Organised By Centre for Drug Design in association with School of Pharmacy and Life Sciences and Department of Botany

19th May to 13th June 2024

Day :01

Date :19.05.2025

Venue: Seminar hall, Centurion University of Technology and Management (CUTM)

Name of the event: Inaugural session

No of Participants:

DESCRIPTION: The Summer Internship (Phase-I) 2025 at the Centre for Drug Design commenced with a successful and vibrant inauguration ceremony on May 19, 2025. The program is being conducted in collaboration with the School of Pharmacy and Life Sciences (SoPLS) and the Department of Botany, under the aegis of the School of Applied Sciences (SoAS). This year, the internship is hosting 26 bright and enthusiastic interns from a range of prestigious institutions, including:

- Ramadevi Women's University
- Odisha University of Agriculture and Technology (OUAT)
- Kalinga Institute of Pharmaceutical Sciences
- Sri Jayadev College of Pharmaceutical Sciences
- Khalikote University
- S. B. Women's Autonomous College

The internship will span from **May 19 to June 13, 2025**, providing participants with hands-on training, research exposure, and interdisciplinary learning opportunities in drug design, pharmaceutical sciences, and botany.

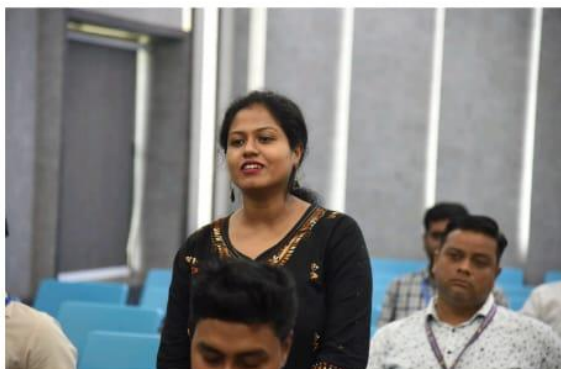
The inaugural session was graced by esteemed dignitaries:

- **Dr. Kunja Bihari Satpathy**, Senior Scientist and Advisor
- **Dr. Yashaswi Nayak**, Dean, School of Applied Sciences (SoAS)
- **Prof Gurudutta Pattnaik**, Dean, School of Pharmacy and Life Sciences (SoPLS)

Their insightful addresses inspired the interns and set the tone for a fruitful academic journey ahead. The event also witnessed the presence and support of faculty members from the hosting departments, whose commitment and mentorship will guide the interns throughout the program.



The Centre extends heartfelt thanks to all the dignitaries, faculty, and participating institutions for their support in making the inauguration a grand success. The team looks forward to an engaging and impactful internship phase that will empower students with knowledge, skills, and meaningful experiences in scientific research and innovation.





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DAY-WISE SUMMARY

Day :02

May 20, 2025 – Plant Identification & Nomenclature

Resource Person : Dr. Kunja Bihari Satapathy

The internship commenced with a session on plant identification and nomenclature, introducing students to the fundamentals of botanical classification, binomial nomenclature, and field identification techniques. Dr. Satapathy emphasised the significance of accurate plant taxonomy in pharmacognosy and biodiversity research.



Day:03

May 21, 2025 – Ethnobotany for Human Welfare

Resource Person : Dr. Kunja Bihari Satapathy & Dr. Gyanranjan Mahalik

This session explored the traditional uses of plants in tribal and rural communities. Both speakers shared valuable case studies demonstrating how indigenous knowledge contributes to sustainable development and drug discovery.





Day:04

May 22, 2025 – Strategies for Biodiversity Conservation

Resource Person : Dr. Kunja Bihari Satapathy

Participants learned about in-situ and ex-situ conservation strategies. Dr. Satapathy discussed global biodiversity hotspots, conservation policies, and the role of educational institutions in preserving flora and fauna.

Day:05

May 23, 2025 – Herbarium Technique

Resource Person : Dr. Kunja Bihari Satapathy

An engaging hands-on session where interns prepared and mounted herbarium specimens. Dr. Satapathy explained the scientific and archival importance of herbarium collections in research and taxonomy.



Day:06

May 24, 2025 – Preparation of Media

Resource Person : Dr. Srimay Pradhan & Dr. Bhagyewari Behera

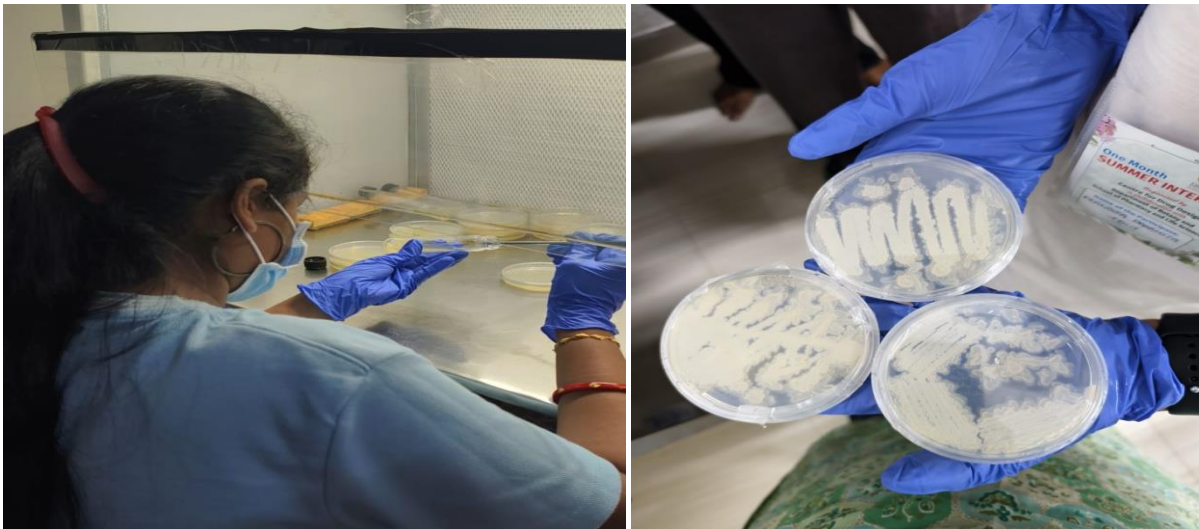
This lab-focused day introduced students to different types of culture media, preparation techniques, and sterilization methods essential for microbiological and biochemical experiments.



Day:07

May 26, 2025 – Bacterial/Fungal Culture Preparation

Resource Person : Dr. Sunita Satapathy & Dr. Bhagyawati Behera
Interns practiced culturing techniques for bacteria and fungi under sterile conditions. Safety protocols and observation of morphological features under microscopes were also discussed.



Day:08

May 27, 2025 – Culture Plate Preparation (Streaking Techniques)

Resource Person : Dr. Srimay Pradhan & Dr. Bhagyawati Behera

The interns performed streaking methods for microbial isolation. The session emphasized colony morphology, aseptic techniques, and contamination control.



Day:09

May 28, 2025 – Biofertilizer Technology

Resource Person:Dr. Kunja Bihari Satapathy

An insightful session on the use of biofertilizers like Rhizobium and Azotobacter in sustainable agriculture. The practical benefits and production of biofertilizers were thoroughly covered.

Day:10

May 29, 2025 – Organic Farming

Resource Person: Dr. Sunita Satapathy

Students explored natural farming practices, soil health management, and pest control methods. The ecological and economic benefits of organic farming were discussed.



Day:11

May 30, 2025 – Vermicomposting

Resource Person: Dr. Sunita Satapathy

Interns got hands-on experience with composting using earthworms. The importance of vermicompost in improving soil fertility and sustainable waste management was highlighted.



Day:12

May 31, 2025 – Plant Tissue Culture

Resource Person: Dr. Bhagyeshwari Behera

This session covered the technique used to propagate plants in a laboratory setting under sterile conditions. It involves growing plant cells, tissues, or organs on a nutrient medium, allowing for the rapid and large-scale multiplication of plants, including those that are difficult to propagate conventionally.



Day:13

June 2, 2025 – Phytoextraction Technique & Antimicrobial Assay (Media Preparation)

Resource Person : Dr. Gyanranjan Mahalik & Ms. Rasmita Jena
A dual-session day where Dr. Mahalik explained phytoremediation through phytoextraction, and Ms. Jena guided students in preparing media for antimicrobial screening.



Day : 14

June 3, 2025 – Phytochemical Analysis & Antimicrobial Screening (Media Preparation)

Resource Person : Dr. Gyanranjan Mahalik, Dr. Sagarika Parida & Ms. Rasmita Jena
The session included qualitative and quantitative testing of plant extracts for secondary metabolites. Students also continued preparation for antimicrobial screening under guidance.





Day :15

June 4, 2025 – Chromatographic Technique

Resource Person: Dr. Kirtimaya Mishra

Interns were introduced to chromatography techniques such as TLC and column chromatography, with a focus on compound separation, solvent selection, and visualization techniques.



Day :16

June 5, 2025 – Antioxidant Studies

Resource Person: Dr. Sagarika Parida & Ms. Sucharita Babu

Participants explored the principles and assays used to measure antioxidant activity in plant extracts, including DPPH and FRAP methods.





Day : 17

June 6, 2025 – Tablet Compression Technique & In-Vitro Characterization

Resource Person: Dr. Chandan Brahma, Dr. Himansu Bhusan Samal & Dr. Yashwant Giri

A comprehensive workshop on tablet formulation and evaluation. Dr. Giri covered pre-formulation studies and characterization techniques for conventional and novel dosage forms.



Day :18

June 7, 2025 – Computational Drug Design

Resource Person: Dr. Kalpita Bhatta & Mrs. Monalisa Mahapatra

The session introduced molecular docking, structure-based drug design, and use of software tools in virtual screening for new therapeutic compounds.



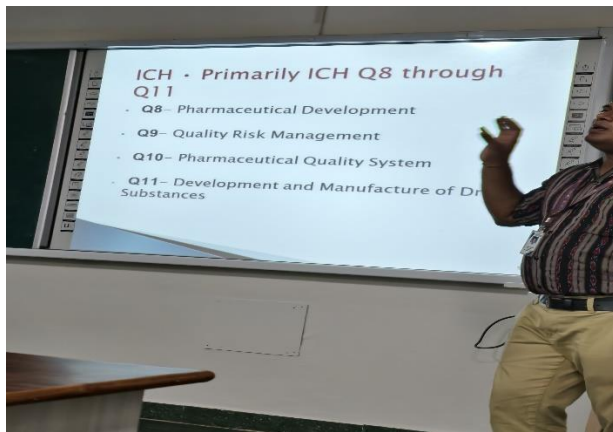


Day:19

June 9, 2025 – Optimisation Techniques using QBD DOE & Herbal Cosmetics Formulation

Resource Person: Dr. Bikash Kumar Jena, Dr. Himansu Bhusan Samal & Dr. Yashwant Giri

Students were trained in the principles of Design of Experiments (DoE) and Quality by Design (QbD). In the second half, they formulated and evaluated herbal cosmetic products.



Day : 20

June 10, 2025 – Animal Handling with Preclinical Studies

Resource Person: Dr. Ashirbad Nanda & Dr. Jyoshna Rani Dash

This session focused on ethical guidelines, basic handling of laboratory animals, and an overview of preclinical pharmacological testing procedures.



Day:21

June 11, 2025 – Hands-on Training on UV, HPLC & FTIR

Resource Person: Mr. Dipak Kumar Sahoo & Ms. Lipanjali Badhei

Interns received practical exposure to analytical instruments such as UV-Visible spectrophotometers, High-Performance Liquid Chromatography (HPLC), and Fourier Transform Infrared (FTIR) spectroscopy.



Day :22

June 12, 2025 – Scientific Writing

Resource Person: Dr. Biswamohan Sahoo

The program concluded with a session on scientific documentation, manuscript preparation, referencing styles, and the ethics of research publication.





Day:23

Date:13.06.2025

Name of the event: Valedictory Ceremony

Description: Upon successful completion of the Summer Internship Program 2025, which concluded with a vibrant valedictory ceremony. This one-month internship was designed to provide budding researchers and students with interdisciplinary insights and practical exposure in the fields of plant sciences and phytopharmaceutical research.

Program Highlights:

- **Total Participants:** 26 interns, including:
 - **22 external students** from reputed institutions across Odisha and beyond.
 - **4 internal students** from various departments of Centurion University.
- Notably, **one faculty member** from **Sailaabala Women's College, Cuttack**, and **one Ph.D. scholar** from **Ouat, Bhubaneswar**, also participated, adding depth to the academic interaction.
- **Hands-on training** in:
 - Analytical instrumentation (UV, HPLC, FTIR)
 - Herbarium preparation
 - Microbial culturing techniques
 - Phytochemical analysis
 - Tablet formulation and computational drug design
- **Field-to-lab exposure**, bridging traditional knowledge systems with modern scientific approaches.
- Emphasis on **collaborative learning, skill enhancement, and innovation.**

The program culminated in a heartwarming valedictory event attended by our **esteemed Madam Vice-Chancellor Prof Dr Supriya Pattnaik**, who was **deeply inspired by the presence and words of encouragement** from all participants. The event celebrated the journey, growth, and collaborative spirit that had been fostered throughout the internship. This internship was not just a training program but a shared journey of exploration and learning. It showcased the **power of interdisciplinary collaboration** and the impact of **knowledge exchange** in nurturing future researchers. This will affirm our commitment to building platforms that foster **academic excellence, scientific curiosity, and real-world innovation** in the fields of plant sciences and phytopharmaceutical research.

Photographs of the event:

