HOST FACULTY

Prof. Sanjib Kumar Panda
Professor
Department of Biochemistry
Central University of Rajasthan
Ajmer

He works in the area of plant molecular biology & functional genomics to understand the mechanisms of stress resilience and the development of climate smart crops.

He uses functional genomics approaches along with transgenic and gene editing technology to decipher stress responses in crop and model plant systems. Prof. Panda's group is supported by various National and International funding agencies.

GIAN 2025

24th- 28th, November

About CURAJ

The Central University of Rajasthan (CURaj) was established in the year 2009 by an Act of Parliament (Act No. 25 of 2009). This University was established with the aspiration to be one of India's most dynamic and vibrant universities in order to impart cutting-edge education to all learner communities. The University is fullyfunded by the Government of India that provides quality education to all, especially those coming from humble socio- economic background and seeking quality education.

GLOBAL INITIATIVE OF ACADEMIC NETWORKS

Government of India
Ministry of Human Resource Development

MHRD Scheme on Global Initiative of Academic Networks Courses on "***The good and the ugly - Transport and accumulation pathways of essential trace minerals and major food contaminants in plants***".

GUEST FACULTY

Prof. Stephan Clemens
Chair of Plant Physiology
University of Bayreuth
Germany

He was in the late 1990s among the pioneers initiating the investigation of plant metal homeostasis. He discovered the first plant Cd2+ transporter and cloned the major plant metal tolerance gene.
Since then he has been working on various aspects of mineral transport and accumulation, studying both essential micronutrients such as zinc (Zn) anf iron (Fe) as well as non-essential, highly toxic food contaminants such as cadmium (Cd), arsenic (As) and lead (Pb). A focus of current research is the transport, metabolism and accumulation of newly discovered thiolated As species occuring in rice paddy soils. Three times he was awarded the "Golden chalk" award for best Biology teaching by the students of the University of Bayreuth.

Know Us More

Our lab is currently working on plant functional genomics, molecular biology, gene editing & genetic engineering in various legumes, rice, and pearlmillet.

Course Outline

For humans, crop plants represent the main source for intake of mineral nutrients such as the trace elements zinc (Zn) and iron (Fe). Plant -derived food is also the most important source of exposure to potentially highly toxic elements like Arsenic, Cadmium and Lead. Insufficient intake of Fe and Zn as well as the consumption of toxic elements are major health threats globally. This has been driving research on plant metal homeostasis and the lectures are planned precisely.

Course details

Day-1
Lecture-1 (10:30 a.m-11:30 a.m)
Lecture-2 (11:45 a.m-12:45 p.m)
The elements of life – biological functions of microelements
Lecture-3 (2:00 p.m- 3:00 p.m)
Tutorial-1 (3:30 p.m- 5:30 p.m)
Day-2
Environmental sources and biological effects of cadmium,arsenic and lead
Lecture-4 (10:00 a.m- 11:00 a.m)
Lecture-5 (11:00 a.m-12:00 p.m)
Phytoavailability and plant metal transporters
Lecture-6 (12:15 p.m- 1:15 p.m)
Low molecular weight metal ligands in plants
Lecture-7 (2:15 p.m-3:15 p.m)
Tutorial-2 (3:45 p.m- 5:45 p.m)
Day-3
Intra- and intercellular metal trafficking
Lecture-8 (10:00 a.m- 11:00 a.m)
Lecture-9 (11:00 a.m-12:00 p.m)
Long-distance transport and seed loading
Lecture-10 (12:15 p.m- 1:15 p.m)
Tutorial-3 (2:15 p.m- 4:15 p.m)
Day-4
Lecture-11 (10:00 a.m- 11:00 a.m)
Learning from extremes: Metal hyperaccumulation I - Ecophysiology
Lecture-12 (11:00 a.m-12:00 p.m)
Lecture-13 (12:15 p.m- 1:15 p.m)
Learning from extremes: Metal hyperaccumulation II – Evolution
Tutorial-4 (2:15 p.m- 4:15 p.m)
Day-5
Lecture-14 (10:30 a.m-11:30 a.m)
Regulation of plant metal homeostasis
Lecture-15 (11:45 a.m -12:45 p.m)
Engineering approaches to optimize seed ionomes
Examination for students (2:00 p.m- 4:00 p.m)

Venue

Department of Biochemistry,
First Floor,
School of Life Sciences, 4A3 Building,
Central University of Rajasthan,
NH-8, Bandarisindri, Ajmer, Rajasthan-305817

Registration link:
https://forms.gle/syq8NoZnkacfmFdT7

Fee:
Participants from abroad :
US $500 + 18% GST
Industry/ Research Organizations:
INR 5,000 + 18% GST
Academic Institutions:
INR 2,000 + 18% GST
Students:
INR 1000 + 18% GST

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Contact Us

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