

Last date extended upto 31<sup>st</sup> January, 2024

## Second Circular

### National Conference

on

# Novel Strategies for Mitigating Biotic and Abiotic Stresses for Agricultural and Environmental Sustainability

Date: 28-29 February, 2024



Jointly organized by

ICAR-National Institute of Biotic Stress Management, Raipur, Chhattisgarh

Amity University Chhattisgarh, Raipur, Chhattisgarh

Co-organized by

ICAR-National Institute of Abiotic Stress Management, Baramati, Maharashtra

For more information, log on to <https://nationalconference2024raipur.org>

## INVITATION

With immense pleasure, we cordially welcome you all to the conference on '*Novel Strategies for Mitigating Biotic and Abiotic Stresses for Agricultural and Environmental Sustainability*' scheduled to be held during 28-29 February, 2024 at ICAR-National Institute of Biotic Stress Management, Raipur, Chhattisgarh. This conference is being organized by National Institute of Biotic Stress Management (ICAR-NIBSM), Raipur in collaboration with Amity University Chhattisgarh (AUC), Raipur and National Institute of Abiotic Stress Management (ICAR-NIASM), Baramati. We are anticipating a successful event studded with keynote lectures, oral and poster presentations and discussion among the delegates spanning academia and industry in the field of biotic and abiotic stress management for agricultural and environmental sustainability. The field of mitigating stresses is growing very rapidly in response to the societal needs for safe technologies, drawing attention of researchers from a wide variety of research domains working together to bring benefits to the mankind. The goal of the conference is fostering knowledge and information sharing to evolve innovative strategies and cutting-edge technologies to promote agricultural and environmental sustainability and nutritional security towards achieving Sustainable Development Goals (SDGs).

## ABOUT THE CONFERENCE

In the recent years, the looming food scarcity problem has transformed agricultural sciences as an emerging discipline committed to devise new strategies for enhancing crop productivity to feed approximately 10 billion world's populations by the year 2050. The major factors causing food scarcity are biotic and abiotic stresses which substantially limit productivity and nutritional quality of crops world-wide. Changing climate further aggravates adverse effects of combined stresses and increase the losses. A global survey on the major food crops indicated that pathogens, insect pests and weeds cause average yield losses ranging from 17-30% in crops. Likewise, the major abiotic stresses such as temperature extremes, salinity, drought, as well as the deficiency and toxicity of plant nutrients cause up to 51-82% annual loss of crop yield in the world. Often, the exposure of plants to pests or pathogens increase the effects of an abiotic stress(es) such as water deficit and higher temperature, whereas long-term abiotic stress can weaken plant defense and cause enhanced pathogen susceptibility. Despite this, only few reports in the literature have focused on understanding the interactive effects of biotic and abiotic stresses both in laboratory as well as under field conditions. In this scenario, novel strategies need to be adopted to achieve maximum productivity and economic crop returns under such adversaries. Some of the major strategies include pathogen/pest management practices, novel gene discovery, breeding of new crop varieties, high-throughput phenotyping, rapid diagnosis, screening and selection of crop gene pools, genetically modified (GM) crops, exogenous use of osmoprotectants and plant hormones, application of microbiome-based consortium (SynCom) on crops, identification of stresses through remote sensing and spectral signatures, agronomic and soil reclamation practices, sustainable use of available water supplies, use of artificial intelligence (AI) encompassing bioacoustics with machine learning in agriculture, etc.

The above facts call for discovery, development and implementation of novel strategies involving all knowledge-linked climate smart tools to combat emerging challenges of biotic and abiotic stresses independently as well as together. Hence, the conference on "*Novel Strategies for Mitigating Biotic and Abiotic Stresses for Agricultural and Environmental Sustainability*" is proposed to identify major challenges of biotic and abiotic stresses, climate resilience challenges, developing diagnostics including use of artificial intelligence (AI), formulating strategies to address these issues to sustain future agriculture while ensuring nutritional security.

## THEMES AND SUB-THEMES OF THE CONFERENCE

Themes	Sub-themes
Theme 1: Prominent and emerging biotic and abiotic stresses under changing climate	<ol style="list-style-type: none"><li>1. Advances in meteorological research and forewarning models</li><li>2. Changing stress scenario and future projections</li><li>3. Biosecurity and transboundary threats</li><li>4. Weed threats for crops</li></ol>
Theme 2: Recent approaches in climate resilient agriculture and environment sustainability	<ol style="list-style-type: none"><li>1. Novel approaches in stress diagnostic and evaluation methodologies</li><li>2. Assessment of chemicals pollutants</li><li>3. Use of artificial intelligence for sustainable climate solution and data integration</li><li>4. Climate resilient strategies for sustainability</li></ol>
Theme 3: Recent trends in abiotic stress management strategies	<ol style="list-style-type: none"><li>1. Physiological, genetic and molecular strategies</li><li>2. Basic and applied research for climate resilience and abiotic stress management</li><li>3. Novel methodologies for abiotic stress mitigation</li></ol>
Theme 4: Recent trends in biotic stress management strategies	<ol style="list-style-type: none"><li>1. Physiological, genetic and molecular strategies</li><li>2. Basic and applied research under climate change situations</li><li>3. One Health under climate change scenario</li><li>4. Novel methodologies for biotic stress mitigation</li></ol>
Theme 5: Novel approaches to understand and mitigate combined effects of abiotic and biotic stresses	<ol style="list-style-type: none"><li>1. Causes, consequences and mechanisms to study combined interactions</li><li>2. Model crop systems: genetics, physiological and molecular basis</li><li>3. Utilizing PGR and novel genes discovery for stress tolerance</li></ol>
Theme 6: Capacity building and policy issues in stress management	<ol style="list-style-type: none"><li>1. Changing pesticides and bio pesticides scenario and pest risk analysis</li><li>2. Application of ICT and digital platforms for stress management</li><li>3. Regulatory mechanisms (and gaps) related to biotic stress management and current debatable issues</li></ol>

## TARGET AUDIENCE

The target audiences are researchers, academicians, students, industrialists and policy makers contributing in research and development.

## PRESENTATION

1. **Special lectures, plenary lectures, keynote lectures and lead lectures:** These lectures will be delivered by eminent scientists who are expert in the biotic and abiotic stress management.
2. **Oral presentations:** In each session, 3-4 speakers will be selected for oral presentation relating to respective theme and content. Each speaker will be given 10 minutes time for oral presentation. The best oral presenter(s) in each scientific session will be awarded during concluding session of the Conference.

## CALL FOR ABSTRACT AND GUIDELINES FOR SUBMISSION

Abstract pertinent to the conference themes are invited from all the stakeholders namely students, research scholars, faculties and industrialists.

### Guidelines for Abstract preparation and submission

- Abstract must be written in English language with the theme areas of the Conference.
- The Abstract must be up to 250-300 words in Times New Roman with font size 12 and line to line spacing 1.5. Title of Abstract should be in running and bold.
- Title of Abstract followed by authors name and affiliation with full address. The name of presenting author should be underlined.
- Some Abstracts will be selected for oral presentation whereas remaining will be considered as posters.

For more information, log on to <https://nationalconference2024raipur.org>

## Online Abstract submission and registration form link

Please visit website: [nationalconference2024raipur.org](http://nationalconference2024raipur.org) then go to "Guidelines for submission of Abstract & Registration" & next click Registration link.

## POSTER SESSION

Key dates to remember There will be separate poster sessions covering all themes of the Conference. The best posters in each scientific session will be awarded.

## REGISTRATION FEE AND IMPORTANT DATES

### Key dates to remember

Closing date of Abstract submission: 31<sup>st</sup> January, 2024

Communication of accepted Abstract by 5<sup>th</sup> February, 2024

### Early bird registration on or before 31<sup>st</sup> January, 2024

Faculty/Scientist : Rs. 5000

Student/Research fellow : Rs. 2000

Industry/Corporate : Rs. 10000

### Spot registration on 28<sup>th</sup> February, 2024

Faculty/Scientist : Rs. 6000

Student/Research fellow : Rs. 2500

Industry/Corporate : Rs. 12000

Registration fee will include registration kits, lunch, high tea and dinner for 28<sup>th</sup> February 2024; & lunch and high tea for 29<sup>th</sup> February 2024.

## SPONSORSHIP CATEGORIES

Level of Sponsorship	Amount (Rs.)	Offers/benefits	Complementary registration for person(s)
Special programme sponsor (co-sponsor)	5.0 lakh	01 Stall, Logo, One-page advertisement and 10 minutes presentation slot	03
Platinum	3.0 lakh	01 Stall, Logo, One-page advertisement and 5 minutes presentation slot	02
Gold	2.0 lakh	01 Stall, Logo, half page advertisement and 5 minutes presentation slot	01
Silver	1.0 lakh	01 Stall, Logo and 1/4 <sup>th</sup> page advertisement	01
Bronze (exhibition/stall)	0.5 lakh	01 Stall and Logo	01

## MODE OF PAYMENT OF REGISTRATION FEE

Payment can be remitted through Google pay/ Phone Pay/ PAYTM/ Phone UPI ID/Internet Banking

### BANK DETAILS

Name of the account holder: National Conference ICAR NIBSM

Name of the Bank: Bank of Baroda

Account number: 86850100024497

IFSC code: BARB0DBKHAU

Account type: Saving

Branch: Khauna

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Address of Bank: Village - Khauna, Block - Tilda Khauna, Raipur, Chhattisgarh - 493225



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## INVITED SPEAKERS OF THE CONFERENCE

### Special/Plenary Lectures

Dr. Himanshu Pathak, Secretary DARE & DG, Indian Council of Agriculture Research, New Delhi  
Dr. A.N. Mukhopadhyay, Former Vice Chancellor, Assam Agricultural University, Jorhat  
Prof. Rattan Lal, Distinguished University Professor of Soil Science, The Ohio State University, Columbus, USA  
Prof. (Dr.) Deepak Pental, Former Vice Chancellor, University of Delhi, Delhi  
Dr. T.R. Sharma, DDG (Crop Science), Indian Council of Agriculture Research, New Delhi

### Keynote Lectures

Dr. T.K. Aadhya, Former Director, ICAR-NRRI, Cuttack  
Prof. (Dr.) Ashwani Pareek, Executive Director, NABI, Mohali  
Dr. Swapan Datta, Former DDG (Crop Science), ICAR, New Delhi  
Dr. N.K. Krishna Kumar, Former DDG (Horticulture), ICAR, New Delhi  
Dr. P.K. Birthal, Director, ICAR-NIAP, New Delhi  
Dr. Nitin Labhasetwar, CSIR-NEERI, Nagpur, Maharashtra

### Lead Lectures

Dr. S. C. Dubey, ADG (PP&B), ICAR, New Delhi  
Dr. Sunil Kumar, Director, ICAR-IIFSR, Modipuram, Meerut  
Dr. C. Viswanathan, JD (Research), ICAR-IARI, New Delhi  
Dr. S. N. Sushil, Director, ICAR-NBAIR, Bengaluru  
Dr. J. S. Mishra, Director, ICAR-DWR, Jabalpur  
Dr. J. Rane, Director, ICAR-Central Institute for Arid Horticulture Beechwal, Bikaner  
Dr. Biswapati Mandal, Former Professor & Pro-Vice Chancellor, Bidhan Chandra Krishi Viswavidyalaya, Kalyani  
Dr. K. Sammi Reddy, Director, ICAR-NIASM, Baramati  
Dr. Sujay Rakshit, Director, ICAR-IIAB, Ranchi  
Dr. A. K. Basandrai, Former Dean, College of Agriculture and College of Basic Sciences, CSKHPKV, Palampur  
Dr. Supriya Chakraborty, Professor, Jawaharlal Nehru University, Delhi  
Dr. Anil Saxena, Former Director, ICAR-NBAIM, Mau  
Dr. Senthil Kumar, Scientist-V, National Institute of Plant Genome Research, New Delhi  
Dr. Rakesh Srivastava, Principal Scientist, Molecular Breeding, ICRISAT, Hyderabad  
Dr. Kaushik Banerjee, Director, ICAR-NRC for Grapes, Pune  
Dr. R. N. Sahoo, Principal Scientist, Division of Agricultural Physics, ICAR-IARI, New Delhi  
Dr. Amit Hazra, Professor of Rural Management, Visva-Bharati University, West Bengal  
Dr. S. B. Barbuddhe, Director, ICAR-NRC on Meat, Hyderabad

## ACCOMMODATION

Accommodation requested (to be paid by the participant at Hostel/Hotel)

### NIBSM Student Hostel (for students and scholars only)

Hostels may be allotted to students on first come first serve basis on subsidized rates

Hotel tariffs in Raipur ranges from 2000-6000 INR per day. Request for hotel accommodation on suggested range may be mentioned in the Registration form.

## ABOUT RAIPUR CITY

Chhattisgarh state, popularly known as '*Rice Bowl of Central India*', came into existence on November, 2000 as 26<sup>th</sup> states of India upon division of Madhya Pradesh. The state, with 33 districts, is surrounded by Jharkhand state on northwest, Odisha on the east, Andhra Pradesh on the south, and Maharashtra on the southwest. The state is divided into three Agro-climatic zones viz., Chhattisgarh plains, Bastar plateau and Northern hills region.

Raipur has been in existence since the 9<sup>th</sup> century, the old site and ruins of the fort can be seen in the southern part of the city. This district was once part of the Dakshina Kosala Kingdom and later a part of the Mauryan Empire. Raipur had been the capital of the Haihaya Dynasty Kalchuri kings, controlling the forts of Chhattisgarh for a considerable period. Satavahana kings ruled this part until the 2<sup>nd</sup>-3<sup>rd</sup> century.

Raipur is the capital and also the largest city in Chhattisgarh. Newly established Nava Raipur is the India's fourth planned city after Chandigarh, Ahmedabad, and Bhubaneswar and has been constructed in phases incorporating world class architecture and design. Nava Raipur is also planned as the business, cultural and educational hub of the Indian state Chhattisgarh. Nava Raipur is an urban agglomeration comprising the city of Raipur along with the new city of Nava Raipur and the industrial city of Bhilai-Durg. Raipur district is bordered by Bilaspur in North, Bastar & Odisha in South, Raigarh & Odisha by the East and Durg to the West.



## TOURIST SPOTS NEAR RAIPUR

**Mahant Ghasidas Museum** was established in 1875 by Raja Mahant Ghasidas. It is listed amongst the leading museums in central India located near D.K.S. Hospital in Raipur, Chhattisgarh.



**Vivekananda Sarovar** is a very old lake which is as old as the city. A 37 ft high statue of Swami Vivekananda has been built in the lake. This statue has been added in Limca Book of Records for being the "largest model for a statue". The lake has color-light fountains.

**Nandanvan zoo and safari (Jungle safari)** is a mini zoo covers an area of 10 hectares of land. It is located about 15 km away from Raipur city. The main objective to establish such a nature park is to provide shelter to stray wild animals. This zoo also acts as a biological park and maintains some common forestry plants.



**Doodhadhari monastery** is located to the south of Raipur on the banks of Maharajbandh River. There have also an ancient temple which is dedicate to Lord Rama, built in 17th century by King Jaitsingh.

Bramhdeo Rai.

**Mahadev Ghat Temple** is located about 5.1 km away from Raipur City Center on the banks of river Kharun. The temple was built in 1402, by Hajiraj Naik during the rule of



Some other tourist spots in and near Raipur include Mahamaya Temple, Sirpur, Urja Park, Mahavir Park, 5D shows, Shaheed Smarak Bhavan, Nagar Ghadi, Gaurav Path, Guru Tegh Bahadur Museum, Sushilpikangan Art Gallery, Shabari Handicrafts Emporium, Chhattisgarh Haat, Mahakoshal Kala Parishad, Purkhauti Mukhtangan Museum, etc.

## HOW TO REACH AT RAIPUR

**Railways :** The city is well connected with almost all the major cities such as Delhi, Mumbai, Bhopal, Jabalpur, Kolkata, Chennai, Hyderabad, Bangalore, Kota, Ahmedabad, Jaipur, Varanasi etc. Raipur junction is the main railway station situated at the heart of the city.

**Roadways :** There are several National Highways (NH) run over the Raipur city which connect the states like Telangana, Odisha, West Bengal and Madhya Pradesh.

**Airways :** **Swami Vivekananda Airport** is located just 14 km away from the Raipur City center and around 40 km from the institute. It operates several flights connecting major cities of India.

## NATIONAL CONFERENCE COMMITTEES

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Dr. Sushant Singh, Deputy Director - Research & Development (AUC), Associate Professor - Amity Institute of Biotechnology, Amity University Chhattisgarh, Raipur  
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### **CONTACTS**

#### **Websites**

**Conference Website:** <https://nationalconference2024raipur.org>

ICAR-NIBSM Raipur: <https://nibsm.icar.gov.in/>

Amity University Chhattisgarh, Raipur: <https://www.amity.edu/raipur/>

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