



FROM BASICS TO BREAKTHROUGHS

Next-Gen Industrial Heating

A Global Workshop on Microwave, High-Frequency & Plasma Engineering

 Saturday,
October 4, 2025

 10:00 AM –
6:40 PM (IST)

 Online
Workshop (Free)



Inaugural Session (10:00 AM – 10:15 AM)

Official launch of AIMHHA with welcome addresses from our esteemed guests:

- **Prof. Georgios Dimitrakis**, President, Association for Microwave Power in Europe for Research and Education, Nottingham University, UK
- **Mr. John F. Gerling**, Past President, International Microwave Power Institute, Gerling Consulting, Inc., USA
- **Prof. Arun S. Mujumdar**, McGill University, Canada
- **Prof. Vijaya Raghavan**, McGill University, Canada

Session 1: Fundamentals of Microwave & HF Energy

10:15 AM – 11:00 AM

Microwave and Food Systems

Prof. Vijaya Raghavan, McGill University, Canada

11:00 AM – 11:45 AM

Fundamentals of Microwave Heating and Application Development in Material Heating, Drying and Sterilisation

Prof. Parag Prakash Sutar, National Institute of Technology Rourkela, India

Session 2: System Design, Equipment, and Components

11:45 AM – 12:30 PM

Microwave Generators and Components, and Scaling Up Microwave Heating and Microwave Plasma Applications

Dr. Marilena Radoiu, Microwave Technologies Consulting, France

12:30 PM – 1:15 PM

Performance of Reactive Chokes for Conveyorized Processing Systems

Mr. John F. Gerling, Gerling Consulting, Inc., USA

Lunch Break (1:15 PM – 2:00 PM)

Session 3: Core Applications & Process Development

2:00 PM – 2:45 PM

Fundamental and Applications of Microwave Processes from Catalysis to Food Engineering

Prof. Shuntaro Tsubaki, Kyushu University, Japan

2:45 PM – 3:15 PM

Microwave Applications in Biomass and Chemical Processing

Prof. P. Balasubramanian, National Institute of Technology Rourkela, India

3:15 PM – 3:45 PM

Hybrid Microwave Heating Systems for Multiple Applications

Prof. Brijesh Srivastava, Tezpur University, India

Session 4: Emerging Trends and Future Technologies

3:45 PM – 4:30 PM

Plasma Agriculture: A Look Into the Future

Prof. Ivan Shorstkii, Kuban State Technological University, Russia

4:30 PM – 5:00 PM

The Use of Dielectric Spectroscopy for Process Monitoring and Optimization

Prof. Georgios Dimitrakis, Nottingham University, UK

5:00 PM – 5:15 PM

Microwave Heating Process Control through AI-Based Prediction Systems

Prof. Abir Chakravorty, Indian Institute of Technology Kharagpur, India

Innovation Showcase: Case Studies in Indigenous Indian Applications (5:15 PM – 6:30 PM)

Hybrid Heating Systems: Combining Microwaves with Conventional Methods

Dr. Shivanand S. Shirkole, D. Y. Patil Agriculture and Technical University, India

Microwave Refractance Window Drying

Durgawati, National Institute of Technology Rourkela, India

Pulsed Steam Microwave Vacuum Applications in Food Processing

Piyush Sharma, National Institute of Technology Rourkela, India

A Combined Microwave Peeling, Decontamination and Drying Application

Sudarshanna Kar, Odisha University of Agriculture & Technology, India

In-Pack Microbial Decontamination of Food Products using Microwave Energy

Chinglen L, National Institute of Technology Rourkela, India

Microwave Puffing and Popping of Rice

Prof. I L Pardeshi, Konkan Krishi Vidyapeeth Dapoli, India

Microwave Assisted Starch Gelatinisation

Dr. Gitanjali Behera, Gandhi Institute of Technology, Vishakhapatnam, India

Generation of Cold Plasma and Its Applications

Prof. Arun Prasath, National Institute of Technology Rourkela, India

Concluding Session (6:30 PM – 6:40 PM)

Closing remarks, panel discussion, and a look ahead to the future of AIMHHA.

Register Today (Free)

Join us for this landmark global event. Visit our website to register and be a part of the future of microwave technology in India.

www.aimhha.org

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MEET OUR ESTEEMED SPEAKERS

LEADING VOICES IN MICROWAVE HEATING & PLASMA ENGINEERING

We are honored to present a lineup of distinguished global experts who are pioneering the future of industrial heating technologies.



Prof. Georgios Dimitrakis
University of Nottingham, UK

President, Association for Microwave Power in Europe for Research and Education

A leading researcher in microwave heating processes and President of AMPERE, Prof. Dimitrakis focuses on developing microwave sensors for real-time process monitoring and designing novel microwave reactors for materials synthesis, with applications spanning from clean energy to pharmaceuticals.



Dr. Marilena Radoiu
Microwave Technologies Consulting, France

An expert in microwave and RF technology, Dr. Radoiu is the founder of Microwave Technologies Consulting (MTC). She has extensive experience in developing innovative industrial products, including microwave plasma reactors for environmental applications and systems for microwave-assisted chemical synthesis and biomass extraction.



Mr. John F. Gerling
Gerling Consulting, Inc., USA

Past President, International Microwave Power Institute

With over 40 years of experience, Mr. Gerling is a leading authority in engineering products for consumer, industrial, and scientific microwave heating. He is an inventor on several patents and founded Gerling Applied Engineering, a leading manufacturer of industrial microwave equipment.



Prof. Arun S. Mujumdar
McGill University, Canada

A prominent global figure in drying technology, Prof. Mujumdar's extensive research has shaped the field of microwave-assisted drying. His work on hybrid drying systems and microwave-assisted freeze-drying has significantly improved the efficiency and quality of industrial drying processes worldwide.



Prof. Vijaya Raghavan
McGill University, Canada

A distinguished James McGill Professor, Prof. Raghavan is a pioneer in applying microwave, RF, and other electro-technologies to food processing and post-harvest drying. His celebrated research focuses on enhancing food security and sustainability through innovative agri-food technologies.



Prof. Shuntaro Tsubaki
Kyushu University, Japan

An expert in biomass conversion and heterogeneous catalysis, Prof. Tsubaki's research explores food processing and catalytic conversion under precisely controlled microwave irradiation. He focuses on elucidating the mechanisms of microwave-induced reactions to develop novel chemical processes.



Prof. Ivan Shorstkii
Kuban State Technological University, Russia

As Head of the Advanced Technologies and New Materials laboratory, Prof. Shorstkii's research centers on emerging non-thermal technologies. His work on cold plasma treatment and pulsed electric field (PEF) for food processing is breaking new ground in extraction efficiency and food safety.



Prof. Brijesh Srivastava
Tezpur University, India

A Professor in Food Engineering and Technology, Prof. Srivastava focuses on innovative food processing and preservation. His research explores both thermal and non-thermal methods like Ohmic Heating (OH) and cold plasma technology to ensure food safety and enhance product quality. He has developed multimode application using microwave cavity.



Prof. P. Balasubramanian
National Institute of Technology Rourkela, India

An Associate Professor in Biotechnology and Medical Engineering, Dr. Balasubramanian's research utilizes microwave pyrolysis for biomass conversion and energy recovery. His work focuses on optimizing this process to produce biochar and enhance sustainable energy solutions.



Prof. Parag Prakash Sutar
National Institute of Technology Rourkela, India

A distinguished researcher in Food Process Engineering, Dr. Sutar is recognized for his work in applying microwave technology for thermal processing and dehydration. He has developed advanced hybrid techniques, including microwave vacuum drying and steam-impinged microwave blanching. He developed alternative food engineering applications using microwaves.



Prof. Abir Chakravorty
Indian Institute of Technology Kharagpur, India

An expert in AI and process engineering, Prof. Chakravorty's work focuses on intelligent process control. His research on AI-based prediction systems is critical for optimizing and automating complex processes like microwave heating, ensuring efficiency and consistency.



Dr. Arun Prasath Venugopal
National Institute of Technology Rourkela, India

Dr. Arun Prasath Venugopal is an Assistant Professor at NIT Rourkela specializing in bio-process engineering. His primary research involves applying non-thermal "cold plasma" technology to modify the properties of food, extend shelf-life, and improve packaging. While his expertise is in cold plasma, he has also co-authored studies on microwave-assisted extraction, a heating method distinct from plasma technology, for isolating compounds from plants.

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