



**CSIR-ADVANCED MATERIALS AND  
PROCESSES RESEARCH INSTITUTE,  
BHOPAL**

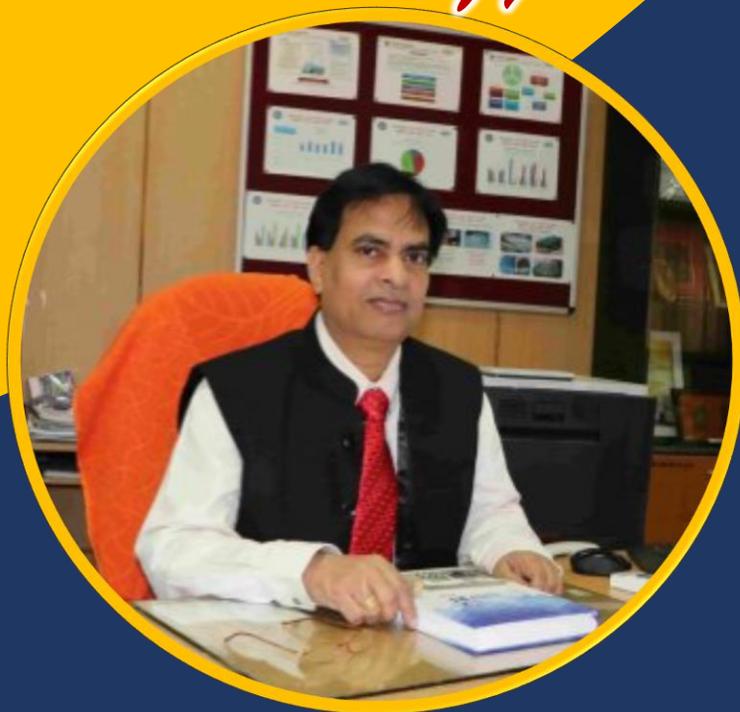


# 5<sup>th</sup> National Science Teachers Workshop - 2022

04<sup>th</sup> to 05<sup>th</sup> Feb, 2022, Virtual Mode



*“Self-Reliant India using Cutting  
Edge Science & Technology”*



**Prof. (Dr.) Avanish Kumar Srivastava**

Director, CSIR-AMPRI  
Outstanding Professor AcSIR  
President EMSI

**Dr. Satanand Mishra**

Sr. Scientist, & Coordinator CSIR Jigyasa Programme, CSIR-AMPRI

# Special Invitees

## • Inaugural Ceremony



**Prof. Sunil Kumar Singh**  
Director, CSIR-NIO, Goa  
(Chief Guest)



**Prof. Anandh Subramaniam**  
Professor, IIT Kanpur  
(Guest of Honor)



**Mr. P. S. Sardar**  
Deputy Commissioner  
NVS, Bhopal Region



**Mr. Somit Shrivastav**  
Deputy Commissioner  
KVS, Bhopal Region

## • Valedictory Ceremony



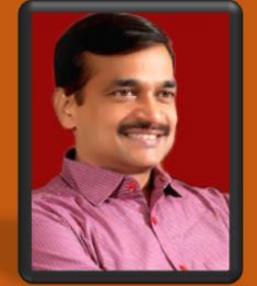
**Dr. Partha Ghosal**  
Scientist G. & Head-  
Electron Microscopy  
DMRL, DRDO  
(Chief Guest)



**Prof. Vivekanand Singh**  
Professor, Civil Engineering  
Department, NIT Patna  
(Guest of Honor)



**Mr. Vinod Kumar**  
Deputy Commissioner  
KVS Raipur Region



**Mr. Tajuddin Shaik**  
Deputy Commissioner  
KVS Jabalpur Region

## About CSIR

The Council of Scientific & Industrial Research (CSIR), known for its cutting edge R&D knowledgebase in diverse S&T areas, is a contemporary R&D organization. Having a pan-India presence, CSIR has a dynamic network of 38 national laboratories, 39 outreach centers, 3 Innovation Complexes and 5 units. CSIR's R&D expertise and experience is embodied in about 4600 active scientists supported by about 8000 scientific and technical personnel.



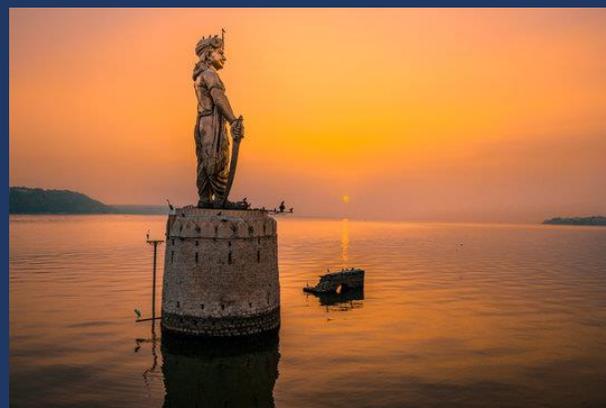
## About CSIR- AMPRI



CSIR-Advanced Materials and Processes Research Institute (CSIR-AMPRI), Bhopal is a constituent laboratory of Council of Scientific and Industrial Research (CSIR), New Delhi. The Institute was started in the year 1981 as a Regional Research Laboratory (RRL) and renamed as Advanced Materials and Processes Research Institute (AMPRI) from March 2007 onwards by the CSIR to give more visibility for carrying out focused research.

## About Bhopal

Bhopal is the capital of Madhya Pradesh. Also known as the city of Lakes for its various natural as well as artificial Lakes. It is one of the cleanest & greenest cities in India. The city is considered as the jewel of Madhya Pradesh. A rich history and very interesting culture has endowed quite some seen to Bhopal. Tourist places like *Bhimbetka Caves, Bhojpur Temple, Birla Temple, Sanchi Stupa, Tajul Masjid, State Museum, Bharat Bhawan, Science Centre, Gohar Mahal, Shaurya Smarak* constitute an interesting mix of destinations to visit. The Upper Lake, created by Raja Bhoj in the 11th century is the oldest man - made lake in India.



**For Registration, Scan the given QR Code**

**Contact Us**

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Sr. Scientist and coordinator CSIR-JIGYASA Programme  
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**SCAN ME**

# About Jigyasa

As a significant milestone event, Council of Scientific and Industrial Research (CSIR) has signed the Memorandum of Understanding (MoU) with Kendriya Vidyalaya Sangathan (KVS) on 06 July 2017 to launch “Jigyasa” programme in the gracious presence of Dr. Harsh Vardhan, Minister of Science & Technology, Earth Sciences, Environment, Forests and Climate Change and Shri Prakash Javadekar, Minister of Human Resource Development. Jigyasa envisages a wide-ranging Scientist-Student Connect programme as per various models proposed in the MoU. An MoU was signed between Council of Scientific & Industrial Research (CSIR) and Navodaya Vidyalaya Sangathan (NVS) on March 13, 2020 to implement JIGYASA.

The “JIGYASA” aims to inculcate the culture of inquisitiveness on one hand and scientific temper on the other, amongst the school students and their teachers. The Programme is expected to connect 1151 Kendriya Vidyalayas and 661 Navodaya Vidyalayas with 38 National Laboratories of CSIR targeting 100,000 students and nearly 1000 teachers annually. The JIGYASA program enables the students and teachers to practically live the theoretical concepts taught in science by visiting CSIR laboratories and by participating in mini-science projects under following modules:

## Patron

**Dr. A. K. Srivastava**

Director, CSIR-AMPRI, Bhopal

## Convenor

**Dr.(Er.) Manish Mudgal**

Senior Principal Scientist & HOD

## Advisory Committee

Dr. R. K. Morchhale, Chief Scientist

Dr. S. A. R. Hashmi, Chief Scientist

Dr. D. P. Mondal, Chief Scientist

Dr. A. K. Singh, Chief Scientist

Dr. P. Asokan, Chief Scientist

Dr. S K S Rathore, Chief Scientist

Er. R. S. Ahirwar, Chief Scientist

Dr. Mohd. Akram Khan, Senior Principal Scientist

Dr. J P Shukla, Senior Principal Scientist

Er. H. N. Bhargava, Senior Principal Scientist

Dr.(Er.) Manish Mudgal, Sr. Principal Scientist

- Laboratory Foundation Day Celebrations
- Sponsored Programmes for School Children
- CSIR Foundation Day (26 September)
- Important Awareness Days
- National Technology Day
- Lab specific activities / Onsite experiments
- Visits of Scientists to Schools / Outreach Programme
- KVs Hosted within CSIR
- Popular Lecture Series / demonstration programme at School
- Student Apprenticeship Programme
- Science Exhibitions
- Projects of National Children’s Science Congress
- Science and Maths Club
- Scientists as Teachers and Teachers as Scientists
- Teachers’ Workshop
- Student Residential Programme
- Publication of Student articles in CSIR Journals
- Summer Vacation Programmes
- Virtual Lab
- ATAL Tinkering Lab

## Organizing Committee

Dr. Deepti Mishra, Senior Principal Scientist

Dr. S. Murali, Senior Principal Scientist

Dr. Sanjeev Saxena, Senior Principal Scientist

Dr. J. P. Chourasia, Senior Principal Scientist

Mr. Prabhat Kumar Baghel, Senior Principal Scientist

Mr. R. K. Bharliya, Principal Scientist

Dr. Raju Khan, Principal Scientist

Dr. Gaurav Kumar Gupta, Principal Scientist

Dr. N. Sathish, Principal Scientist

Dr. Sarika Verma, Principal Scientist

Dr. Neeraj Dwivedi, Principal Scientist

Dr. Meraj Ahmed, Principal Scientist

Dr. Sanjay K. Panthi, Principal Scientist

Dr. Rajesh Patidar, Principal Scientist

Dr Kirti Soni, Principal Scientist

Dr. Alka Mishra, Senior Scientist

Mr. Abishekh Pandey, Senior Scientist

Mr. Venkat A. N.Ch., Scientist

Dr. Chetna Dhand, Senior Scientist

Dr. Pradeep Gangwar, Senior Scientist

Mr. Sriram Sataihya, Scientist

Dr. Tilak Chandra Joshi, Scientist

Dr. Mohammad Ashiq, Scientist

Dr. Surender Kumar, Scientist

Dr. Mohit Sharma, Scientist

Mr. Nikhil Rajendra Gorhe, Scientist

Dr. Manoj Kumar Gupta, Scientist

Dr. Shabi Thankaraj Salammal, Scientist

Mrs. Medha Mili, Scientist

Mr. Narendra Singh, Scientist

Mr. Shiv Singh Patel, Scientist

Dr. Shiv Singh, Scientist

## Technical Team

Dr. R. K. Soni, Principal Technical Officer  
Dr. Rajeev Kumar, Inspire Faculty  
Sh. Anoop Khare, Technical Officer  
Sh. Deepak Kashyap, Technical Officer  
Sh. Mohammad Shafiq, Technical Officer  
Ms. Shivani Pandey, Research Scholar  
Sh. Aajid Khan, Research Scholar  
Mr. Ankit Kumar Dubey, Research Scholar  
Mr. Kush Kumar dey, Research Scholar  
Mr. Anil Kumar, Research Associate  
Mr. Tanmay Sardar, Project Associate  
Ms. Divya Pandey, Project Associate

## Organizing Secretary

Dr. Satanand Mishra, Senior Scientist  
Dr. Archana Singh, Principal Scientist

## Programme Schedule

04 <sup>th</sup> Feb, 2022	
Time	Session
10:00 AM – 12:00 PM	Inauguration ceremony
12:00 PM – 01:00 PM	Session I
01:00 PM - 02:00 PM	Lunch Break
02:00 PM - 03:00 PM	Session II
03:00 PM - 04:00 PM	Session III
04:00 PM - 05:00 PM	Session IV
05 <sup>th</sup> Feb, 2022	
10:00 AM – 11:00 AM	Session V
11:00 AM – 12:00 PM	Session VI
12:00 AM – 01:00PM	Session VII
01:00 PM - 02:00 PM	Lunch Break
02:00 PM - 03:00 PM	Session VIII
03:00 PM - 04:00 PM	Session IX
04:00 PM - 05:00 PM	Valedictory Session

# scope of Workshop

Motivational and interactive sessions among scientists and teachers with aim to create scientific temper among teachers in the area of recent innovations in science and technology under “CSIR-Jigyasa Programme”

A good portion of an academician’s life and work is teaching. Indeed, teaching is one of the primary goal of a school. Most faculty members would like to motivate and inspire students to learn deeply in their courses. Still, it is well known, some teachers are more effective than others. This workshop is for effective interaction of teachers with each other as well as with scientists to become a effective teacher.



It is a well-known quote that A good teacher can inspire hope, ignite the imagination and instill a love of learning. One cannot be an effective teacher for a subject without having a decent understanding and knowledge of that subject. However, even with an understanding of the subject, one may not be an effective teacher. This workshop aims to help faculty, or aspiring faculty, who have a decent understanding of the subject matter to become effective teachers.

This workshop will discuss key concepts and practical aspects of scientific knowledge which are widely accepted and implemented for the development of school students.

The workshop sessions will employ a mixture of presentation and virtual laboratory demonstrations. Reading will be given for each session, and after a short presentation on the topic, laboratory demonstrations will be conducted. Participating teachers will be engaged in experiments. In some sessions, we will take course descriptions of some of our courses and analyze them. It is hoped that participants will apply some of the techniques discussed in the workshop in their teaching and share the experience with their class.



# Our Speakers



**Prof. K. S. Tiwari**

**Ex-Director IGNOU**

Emerging challenges and role of  
Science and Technology



**Dr. Anuj Hundet**

**Professor, Physics and  
Electronic Dept., IEHE Bhopal**

Innovative use of IT in the  
Teaching and learning process



**Dr. P. Asokan**

**Chief Scientist, CSIR –AMPRI  
Bhopal**

Waste to Wealth: Recent Innovation &  
opportunities



**Dr. (Er.) Manish Mudgal**

**Sr. Principal Scientist, CSIR-  
AMPRI Bhopal**

Advance (Cement Free) Fly Ash  
based Geopolymeric Eco- Friendly  
Concrete for infrastructural  
Applications



**Er. H. N. Bhargaw**

**Sr. Principal Scientist, CSIR-  
AMPRI Bhopal**

Application of smart materials as  
an actuators



**Dr. Sarika Verma**

**Principal Scientist, CSIR –AMPRI  
Bhopal**

Recent Advances in Carbon-Based  
Nanomaterials for health care  
Applications



**Dr. Archana Singh**

**Principal Scientist, CSIR-AMPRI  
Bhopal**

Carbon-free future energy source  
Hydrogen



**Dr. Vandana**

**Principal Scientist, CSIR-AMPRI  
Bhopal**

Silicon PV Technology: Progress  
and Advanced Concepts



**Dr Kirti Soni**

**Principal Scientist, CSIR –AMPRI  
Bhopal**

Calibration and Assessment of Air  
Quality Equipments