



Department of Science
Engineering and Technology



INDO-GERMAN SCIENCE & TECHNOLOGY CENTRE

A Bilateral Institution of Government of India (DST) and Federal Ministry of Education and Research (BMBF)

IGSTC VIRTUAL WORKSHOP MATAPP 2021



Indo-German Bilateral Virtual Workshop on High Performance Metallic Materials for Energy Storage and Power Generation Sector

|| 22-23rd April 2021, Thursday || 11:30 AM IST / 7:00 AM CET

The Indo-German Science & Technology Centre (IGSTC) was established to facilitate Indo-German R&D networking through substantive interactions among government, academia/research system and industries, thus forecasting innovation for economical and societal developments in both the countries.

Indo-German Science & Technology Centre (IGSTC) is hereby accorded for hosting the Indo-German virtual workshop on **Special steels and superalloys for advanced thermal, concentrating solar power and heat storage plants (MATAPP 2021)** to be organized by **Vellore Institute of Technology, Vellore** during **22nd and 23rd April 2021**. The proposed Workshop will cover the special metallic materials required for advanced versions of thermal power plants and energy storage systems for CSP technology. Thermal energy storage systems become important in this context and special steels and superalloys resistant to Phase Change Materials (PCM) need to be developed.

SPEAKERS



Dr. G. Padmanabham
Director
ARCI
Hyderabad



Dr. Bernd Kuhn
Subject Area Leader
Metallic Materials
FZ Julich GmbH,
Germany



Dr. Torsten Fischer
FZ Jülich GmbH,
Germany



**Priv. Doz. Dr. Steffen
Brinckmann**
FZ Jülich GmbH,
Germany



Mr. Somnath Nandhi
MTL Lab
Corporate R&D,
BHEL, Hyderabad



Dr. S K Jha
Chairman and Managing
Director
MIDHANI, Hyderabad



Dr. M. Manikandan
School of Mechanical
Engineering
Vellore Institute of
Technology, Vellore

Workshop Coordinators

Indian Side

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German Side

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About VIT

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe.

Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. In fact, it has become a way of life for us. The highly motivated youngsters on the campus are a constant source of pride. Our Memoranda of Understanding with various international universities are our major strength. They provide for an exchange of students and faculty and encourage joint research projects for the mutual benefit of these universities. Many of our students, who pursue their research projects in foreign universities, bring high quality to their work and esteem to India and have done us proud. With steady steps, we continue our march forward. We look forward to meeting you here at Vellore Institute of Technology. VIT Information - <https://vit.ac.in/>

About Forschungszentrum Jülich

Conducting research for a changing society: This is the mission of more than 6,000 employees working hand in hand at Forschungszentrum Jülich, including 600 visiting scientists from 59 countries. We want our research to have an impact. That's why we conduct research into the fundamentals, technologies, and systems of a digitized society, a climate-friendly energy system, and a resource-efficient economy. At Jülich, natural, life and engineering sciences in the fields of information, energy, and the bioeconomy are closely linked with our specialist expertise in high-performance computing and benefit from the use of unique scientific infrastructure. We are one of the largest interdisciplinary research institutions in Europe and contribute to solving the grand societal challenges of our time as a member of the Helmholtz Association.

Moreover, Forschungszentrum Jülich holds strong collaborations with leading research institutions around the globe and is an integral member of numerous strategic partnerships as well as European Research Infrastructures.

The scientific methods and instruments set up, operated, and developed by Forschungszentrum Jülich and its partners are a perfect match for our scientific spectrum and our interdisciplinary approach. Institutions such as the Jülich Supercomputing Centre (JSC), the Helmholtz Nano Facility (HNF) and the Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons (ER-C) are world-class infrastructures that complement each other and which are also available to external researchers.

At Jülich, internationally outstanding post-docs are given the opportunity to establish their own young investigators group. In 2019, there were 21 young investigator groups at Forschungszentrum Jülich, three of them international; eight of the group heads held junior professorships and three held W2 professorships; four were funded by the EU with an ERC Starting Grant.

In 2019 Forschungszentrum Jülich acquired third party funds totalling 316 million.

Jülich Information - <https://www.fz-juelich.de/>

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IGSTC VIRTUAL WORKSHOP MATAPP 2021

22-23rd April 2021, Friday || 11:30 AM IST / 7:00 AM CET Onwards

Day 1 (22 April 2021)

Time (IST/CET)	Talks / Presenter
11:30 to 12:00 PM / 7:00 to 7:30 AM	Workshop Inaugural
12:00 to 1:30 PM / 7:30 to 9:00 AM	Materials and coatings for improved performance and life of thermal power plants Dr. G. Padmanabham Director, International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI) Hyderabad - 500005
1:30 to 2:30 PM / 9:00 to 10:00 AM	Break
2:30 to 3:30 PM / 10:00 to 11:00 AM	Reactive Microstructure – The Key to Cost-Effective High Temperature Structural Materials Dr. Bernd Kuhn Subject Area Leader Metallic Materials FZ Jülich GmbH, Germany
3:30 to 3:45 PM / 11:00 to 11:15 AM	Break
3:45 to 5:00 PM / 11:15 to 12:30 AM	Effects of Superimposed Oxidation / Corrosion on Fatigue Properties Dr. Torsten Fischer FZ Jülich GmbH, Germany

Day 2 (23 April 2021)

11:30 to 1:00 PM / 7:00 to 8:30 AM	Advanced Steel and Superalloy for Advanced Ultra Supercritical power plants Mr. Somnath Nandhi MTL Lab CORPORATE R&D, BHEL, HYDERABAD
1:00 to 1:30 PM / 8:30 to 9:00 AM	Break
1:30 to 2:45 PM / 9:00 to 10:15 AM	Indigenously Development of Special steel and Superalloys for Indian Energy related Programs Dr S K Jha Chairman and Managing Director MIDHANI Hyderabad
2:45 to 3:00 PM / 10:15 to 10:30 AM	Break
3:00 to 4:00 PM / 10:30 to 11:30 AM	Micromechanical investigation of cubical and hexagonal NbCo ₂ Laves phases Priv. Doz. Dr. Steffen Brinckmann FZ Jülich GmbH, Germany
4:00 to 5:30 PM / 11:30 to 1:00 AM	Hot Corrosion behavior of Super alloys under Molten Salt Environments encountered in High Temperature Applications Dr. M. Manikandan School of Mechanical Engineering Vellore Institute of Technology Vellore 632014
5:30 to 6:00 PM / 1:00 to 1:30 AM	Valedictory and Concluding Remarks

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SCAN OR USE LINK TO REGISTER

<https://forms.gle/4fG2E4nY9jT8tA238>

E – Certificate will be provided for all the participants