



Visvesvaraya National Institute of Technology (VNIT) Nagpur, Maharashtra, India

Department of Physics and Chemical Engineering, Nagpur

Report on the 3-day SERB-sponsored International Conference on Nanomaterials and Nanotechnology (ICNN-2023) held during 11-13th September 2023

The Department of Physics and Chemical Engineering, VNIT Nagpur, Maharashtra, India hosted a three-day 'International Conference on Nanomaterials and Nanotechnology (ICNN-2023),' sponsored by the Science and Engineering Research Board (SERB) in offline mode from 11th -13th September 2023. The conference served as a global platform where enthusiastic researchers, scientists, engineers, and intellectual scholars exchanged their ideas, shared cutting-edge developments, and presented sophisticated research work in the field of nanotechnology. The shared knowledge is aimed to contribute to our economic prosperity and elevate the quality of life for all members of society.



Photograph taken during the inaugural program of ICNN-2023, 11th September, 2023

The three-day program took place in the Chemical Engineering Department of VNIT Nagpur. The program was inaugurated by the chief guest **Dr. Anupam Agnihotri, Director, Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC) Nagpur**, and patroned by **Prof. Pramod. M. Padole, honorable Director, VNIT Nagpur** in the presence of Prof. Yun-Hae KIM, Korea Maritime and Ocean University, Republic of KOREA, Prof. Pankaj Koinkar, Tokushima University, JAPAN, Heads of Physics and Chemical Engineering Departments, Deans, faculty colleagues, students, and research scholars of VNIT Nagpur, and participants from other Institutes across the world.

The conveners of the conference, Prof. C. Ravikumar from the Chemical Engineering Department and Prof. S.M. Giripunje from the Physics Department, delivered the introductory address. They outlined the conference's purpose and objectives, introduced the speakers and session chairs, and provided details about the sponsors and the event's schedule. Prof. Sachin A. Mandavgane (Head of the Chemical Engineering Dept.) and Prof. A.V. Deshpande (Head of the Physics Dept.) briefly presented their respective Departments. Prof. S.M. Giripunje extended gratitude through a vote of thanks.

A total of 19 keynote lectures were delivered by distinguished Professors and Scientists at the conference, including **Prof. Yun-Hae KIM** (Korea Maritime and Ocean University, Republic of KOREA), **Prof. Pankaj Koinkar** (Tokushima University, JAPAN), **Prof. D. P. Kothari** (Director Research, Wainganga College of Engg. & Management, Nagpur), **Prof. Ashna Bajpai** (IISER Pune), **Prof. Rakesh Kumar Pathak**, IISER Berhampur), **Prof. Ethayaraja Mani** (IIT Madras), **Prof. Siddhartha Panda** (IIT Kanpur), **Prof. Chandrashekhar Sharma** (IIT Hyderabad), **Prof. Pankaj Sagdeo** (IIT Indore), **Dr. Debalaya Sarker** (Scientist-D, UGC-DAE CSR Indore), **Prof. Rajdip Bandyopadhyaya** (IIT Bombay), **Prof. Rabibrata Mukherjee** (IIT Kharagpur), **Prof. Babasaheb Sankapal** (VNIT Nagpur), **Prof. Jatin G. Bhatt** (VNIT Nagpur), **Dr. Nitin Labhasetwar** (NEERI Nagpur), **Prof. C. Ravikumar** (VNIT Nagpur), **Prof. Kailas L. Wasewar** (VNIT Nagpur), **Miss. Megha Agrawal**, Patent Agent and DST-TIFAC Scientist, Nagpur.

A total of 55 participants from various institutions like Korea Maritime and Ocean University, (South Korea), Tokushima University (Japan), Guru Nanak Institute of Engineering and Technology (Nagpur) Maharashtra, Priyadarshini Bhagwati College of Engineering (Nagpur) Maharashtra, Rashtrasant Tukdoji Maharaj Nagpur University (Nagpur) Maharashtra, Amravati University, Pratap College Amalner (Jalgaon) Maharashtra, Amity University, (Mumbai) Maharashtra, Vidarbha Institute of Science and Humanities (Amravati) Maharashtra, Dr.Ambedkar College (Nagpur) Maharashtra, Bhavan's College (Autonomous), (Mumbai) Maharashtra, Lal Bahadur Shastri Mahavidyalaya, Dharmabad (Nanded), Maharashtra, Visvesvaraya National Institute of Technology (Nagpur), Maharashtra, Jamia Millia Islamia, (New Delhi), JD College College of Engineering and Management, (Nagpur), Maharashtra, J.M Patel Arts, Commerce & Science College (Bhandara), Anand Niketan College, Anandwan, (Warora) Chandrapur, Maharashtra, Marian Engineering College (Thiruvananthapuram), Kerala, MMV Banaras Hindu University, (Varanasi), Uttarpradesh,

S.F.S College, (Sadar) Nagpur, Maharashtra, SSES Amravati's Science College pauni, (Bhandra), Maharashtra, SAS Om Sterling Global University, (Hisar), Harayana, M.B Patel College (Gondia), Maharashtra, Anjuman College of Engineering and Technology, (Nagpur), Maharashtra, KBC North Maharashtra University, (Jalgaon) Maharashtra, All Indian Institute of Medical Sciences (AIIMS Bilaspur), Himachal Pradesh, CSIR-Central Institute of Mining and Fuel Research (CIMFR Nagpur), Maharashtra, have participated in the conference.

All the participants and distinguished speakers received a registration kit, which comprised a backpack, a souvenir, a writing pad, and a pen. Additionally, all attendees, including both participants and delegates, were catered to with meals and refreshments throughout the entire three-day duration of the event.

The poster presentations for all the participants were held in the classroom complex (CRC) building of VNIT Nagpur. A total of 55 presentations were made and **3 best poster awards** were given. **Mr. Aksay B and Faisal Seyas** of Marian Engg. College, Trivandrum, **Kerala (India)**, **Mr. Gaurav L. Deollikar**, Dept. of Chemistry, **VNIT Nagpur**, and **Miss. Ranu I. Bande**, Central Institute of Mining and Fuel Research (**CIMFR**), **Nagpur** secured first, second, and third best poster awards respectively.

The event was sponsored by various organizations, including SERB, New Delhi, Maharashtra Remote Sensing Applications Centre (MRSAC) Nagpur, PSP Instruments Nashik, and Magnet Traders Nagpur. The successful execution and seamless conduct of the conference were made possible with the valuable assistance of research scholars from the Department of Chemical Engineering, namely Abhiram S. Yadav and Abhijeet S. Manwar, and scholars from the Department of Physics, including Sakshi Baid, Navyalakshmi, Kalawati Chute, Ashwini Gadge, Muktai Aote, Chaitanya Gajbiye, Nutan Mangate, Archita Sharma, Diganta Kaur, Tushar Deshmukh, Alok Verma, Kedara, and Gitesh Choudhary. Their contributions were instrumental in ensuring the conference's success.

The valedictory function took place in the presence of the Chief Guests **Prof. Rabibrata Mukherjee (Dept. of Chemical Engg., IIT Kharagpur)** and **Dr. Sanjay V. Balamwar (Senior Scientist, Dept. of Planning, MRSAC, Nagpur)**. During this ceremony, all the participants were rewarded with a participation certificate. Prof. S.M. Giripunje provided a concise overview of the program's events, and the vote of thanks was delivered by Prof. C. Ravikumar.



Photograph taken during the valedictory function of ICNN-2023, 13th September, 2023

Sincerely,

Dr. S. M. Giripunje and Dr. C. Ravikumar, Conveners, ICNN-2023

Conference Schedule

 International Conference on Nanomaterials and Nanotechnology (ICNN-2023) Department of Physics and Chemical Engineering, VIT Nagpur, Maharashtra, India - 440010 11-13 th September 2023 Program Schedule Venue: Department of Chemical Engineering	
Time	Events
Day - 1 Monday 11th September 2023	
08.30 - 9.30 am	Registration
09.30 - 11.00 am	Inauguration function Chief Guest: Dr. Anupam Agnihotri , Director, Jawaharlal Nehru Aluminum Research Development and Design Centre (NARDDDC) Nagpur High Tea
11.00 - 11.30 am	Session Chair: Prof. S. B. Kondekar
11.30-12.00 pm	Lecture 1: Prof. Yun-Hae KIM , Korea Maritime and Ocean University, Republic of KOREA Title: <i>Strengthening Mechanism of Thermoset Composites through Incorporation of Halloysite Nanotubes</i>
12.00 - 12.30pm	Lecture 2: Prof. Pankaj Kulkarni , Tokushima University, JAPAN Title: <i>Potential Use of Solution-Processed Two-Dimensional Materials for Electronics and Optoelectronics Application</i>
12.30 - 1.00 pm	Lecture 3: Prof. D.P.Kothari , Director Research, Wainganga College of Engg. & Management, Nagpur Title: <i>Nanoelectronics and Nanotechnology: A Review</i>
01.00 - 03.30 pm	Lunch Break/Poster Session -1 (CRC Building)
Session Chair: Prof. Pankaj Kulkarni	
03.30 - 04.15 pm	Lecture 4: Prof. Ashish Bajpai , Department of Physics, IISER Pune Title: <i>Functional Magnetic Oxides Inside Carbon Nanotubes</i>
04.15 - 04.30 pm	Coffee Break
04.30 - 05.15 pm	Lecture 5: Prof. Rakesh K. Patil , Dept. of Chemistry, BSER, Berhampur Title: <i>Multi-faceted Supramolecular Nanocarriers for Advanced Drug Delivery</i>
05.15 - 06.00 pm	Lecture 6: Dr. Sanjay Kumar , Korea Maritime and Ocean University, Republic of KOREA Title: <i>Temperature-Dependent Tensile Properties of Open Hole, Pin Joint, Bolted Joint and Hybrid Joint Thermoplastic Composites</i>
07.30 - 09.00 pm	Dinner

Day - 2 Tuesday 12th September 2023	
08.00 - 09.00 am	Breakfast
Session Chair: Prof. Yun-Hae KIM	
09.30 - 10.15 am	Lecture 7: Dr. Nita Lahashtwar , Energy and Resource Management Division, NEERI Nagpur Title: <i>Low-cost Nanomaterials for Cleaner Energy and Environmental Applications</i>
10.15 - 11.00 am	Lecture 8: Prof. Ethayaraja Mani , Dept. of Chemical Engg., IIT Madras Title: <i>Kinetics of Aggregation of Amyloid B Under Different Shearing Conditions: Experimental and Modeling Analysis</i>
Coffee Break	
11.00 - 11.15 am	Coffee Break
11.15 - 12.00 pm	Lecture 9: Prof. Chandrabekhar Sharma , Dept of Chemical Engg., IIT Hyderabad Title: <i>Uncovering the Potential of Candle Soot Nanocarbon for Energy Storage Applications</i>
12.00 - 12.45 pm	Lecture 10: Prof. Pankaj Sagdeo , Department of Physics, IIT Indore Title: <i>Quantum Confinement or Thermal Effects? Understanding Laser Power-Dependent Raman Scattering of Nano Materials</i>
12.45 - 3.30 pm	Lunch Break/Poster Session - 2 (CRC Building)
Session Chair: Prof. Ethayaraja Mani	
03.30 - 4.15 pm	Lecture 11: Dr. Debajaya Sarkar , Scientist-D, UGC-DAE CSR Indore Title: <i>Swift Heavy Ion Irradiation for Engineering Shape Anisotropy in Ferromagnetic Nanoparticles: Theory and Experiments</i>
04.15 - 04.30 pm	Coffee Break
04.30 - 5.15 pm	Lecture 12: Prof. Rajdip Bandyopadhyaya , Dept. of Chemical Engg., IIT Bombay (online) Title: <i>Functional Materials for Sensing and Treatment of Contaminants in Water: From Materials to Devices</i>
05.15 - 6.00 pm	Lecture 13: Prof. Babasaheb Sankpal , Dept. of Physics, VIT Nagpur Title: <i>Exploring Chemical Routes for Flexible Energy Storage Supercapacitors: Synthesis to Applications</i>
07.30 - 9.00 pm	Dinner

Day - 3 Wednesday 13th September 2023	
08.00 - 09.00 am	Breakfast
Session Chair: Prof. Nilesh Ugenuge	
09.30 - 10.15 am	Lecture 14: Prof. Jain G. Bhat , Department of Metallurgical & Materials Engg., VIT Nagpur Title: <i>Indentation studies on High Pressure torsioned (HPT) processed on nanostructured metallic samples</i>
10.15 - 11.00 am	Lecture 15: Prof. Rabibrata Mukherjee , Dept. of Chemical Engg., IITKharagpur Title: <i>Surface Guided Assembly of Colloidal Particles and Transfer</i>
11.00 - 11.15 am	Coffee Break
11.15 - 12.00 pm	Lecture 16: Prof. Siddhartha Panda , Dept. of Chemical Engg., IIT Kanpur Title: <i>Chemical Sewing with Flexible Electronics</i>
12.00 - 12.45 pm	Lecture 17: Prof. Dilip R. Peshwe , Department of Metallurgical & Materials Engg., VIT Nagpur Title: <i>Miracles of Nanotechnology and Nanomaterials</i>
12.45 - 02.15 pm	Lunch Break
Session Chair: Prof. Divakar Shende	
02.15 - 03.00 pm	Lecture 18: Prof. Kailas L. Waswar , Dept. of Chemical Engg., VIT Nagpur, Title: <i>Effective Writing of Research Paper for Fruitful Reach & Impact</i>
03.00 - 03.45 pm	Lecture 19: Miss. Megha Agrawal , Patent Agent and DST-TIFAC Scientist, Nagpur. Title: <i>From Research Paper Publication to Patent Application</i>
03.45 - 04.00 pm	Coffee Break
04.00 - 06.00 pm	Valedictory Function (Panel Discussion, Feedback Discussion, Certificate Distribution)