

# **Post Conference Report**

7th Edition

**World Engineering Conference on Contemporary Technologies™**

**WECON 2022™**

Conference Theme – Advances in Materials and Devices

May 20-21, 2022

Organized By



Publication Partner

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PROCEEDINGS



## Overview

Launched in 2008, World Engineering Conference on Contemporary Technologies™ (WECON™) is a flagship engineering conference of Chitkara University, Punjab, India. The 7<sup>th</sup> edition of the conference (WECON 2022) has been organized during May 20-21, 2022 in collaboration with Elsevier as publication partner and attended by 200 delegates in a virtual mode. Conference featured 50 paper presentations in 5 parallel tracks, 4 keynote talks, and 9 invited talks. In this editorial, an overview of the theme of WECON 2022 and technical program details of the conference are presented. Additionally, a brief history of the conference, and efforts of Chitkara University in organizing and supporting WECON for the last 14 years are also discussed. Finally, the editorial acknowledges all the committees and entities that have contributed toward the success of the conference.



## 1. Introduction

Chitkara University has been organizing WECON since 2008 and so far seven editions of the conference have been conducted in the years 2008, 2009, 2011, 2015, 2016, 2018, and 2022. It started as ‘International Conference on Wireless Networks and Embedded Systems’ and has now evolved into ‘World Engineering Conference on Contemporary Technologies’ to cater to many other fascinating technology areas that have been growing very rapidly and are attracting the interest of researchers worldwide. The name of the conference was trademarked by Chitkara University in 2020. Over the years, WECON has been successful in garnering support and endorsement from government institutions including ISRO and DRDO; leading industries including Texas Instruments, NXP Semiconductors, Applied Materials Inc., IESA, EFY etc.; and eminent foreign institutions like British Columbia Institute of Technology (Canada), Deakin University (Australia), George Brown College (Canada), Heriot Watt University (Malaysia) etc. The 2016 and 2018 editions of WECON were conducted with technical sponsorship from IEEE Delhi section and conference proceedings were published by IEEE on IEEE Xplore.

WECON 2022 has been organized during May 20-21, 2022 with a theme ‘Advances in Materials and Devices’ in collaboration with Elsevier as publication partner. The proceedings of the conference has been published in Materials Today Proceedings.

Currently, WECON is one of the top engineering conferences in the region and Chitkara University is fully committed in ensuring that the conference maintains its reputation of accepting and publishing only high quality research papers.

### 1.1. Chitkara University Ecosystem – An Overview

Founded in 1998, Chitkara Educational Trust has two government recognized and UGC sanctioned universities – Chitkara University, Punjab and Chitkara University, Himachal Pradesh. These universities have 15+ institutions, over 30,000 students and close to 2000 faculty members. In 2021, Chitkara University was awarded the rating of A+ by the prestigious National Assessment and Accreditation Council (NAAC), which places it among the 5% of higher education institutions in India to be granted such a coveted grade. With Dr. Ashok K Chitkara (Chancellor, Chitkara

University) and Dr. Madhu Chitkara (Pro-Chancellor, Chitkara University), the hardcore academicians with more than 40 years of experience in academia, at the helm of affairs, whole ethos system at Chitkara University is very unique and learning-centric as it focuses on application oriented teaching and research. In 2014, Chitkara University established Chitkara University Research and Innovation Network (CURIN) to focus on project oriented and applied research. More than 100 researchers from different departments of the university work on many interdisciplinary research projects in CURIN. The university has already received over INR 500 Million of government funded projects, filed over 1600 patents (around 200 have been granted), and published around 3700 research papers in leading peer reviewed journals and conferences. Additionally, Chitkara University has a very strong ecosystem that supports innovation and entrepreneurship. Over 130 start-ups have been set-up and supported by the university that have a total valuation of INR 1.85 Billion. University also has 40 technologies that are ready for commercialization.

Chitkara University has been organizing a large number of conferences to provide young researchers a platform, wherein they present their quality research work and obtain feedback from the leading researchers of the world in their domains. These conferences also provide great networking opportunities as top researchers, academicians, scientists, and industry professionals are invited to participate and share their expertise in these forums. Some of the conferences organized by Chitkara University in the recent past include, VLSI Design & Test Symposium 2010; International Conference of Computing, Analytics and Networks (2017 and 2022); Chitkara University Doctoral Consortium (2017, 2019 and 2021); ACM COMPUTE 2018; 6<sup>th</sup> International Conference on Transformations in Engineering Education 2019; 26<sup>th</sup> National Conference on Liquid Crystals 2019; seven editions of WECON etc.

## 1.2. WECON 2022 Theme

WECON 2022 has been organized with a deep focus on 'Advances in Materials and Devices' and covered a wide range of topics in materials from across disciplines including materials for liquid crystals, fuel cells, semiconductors, sensors, optics, photonics, biological and medical applications. Additionally, topics like characterization of materials, coating of materials, new engineering materials and their possible applications have also been covered. Table 1 summarizes all the thematic areas that have been covered in the conference. A total of 154 papers were submitted in WECON 2022 in these thematic areas.

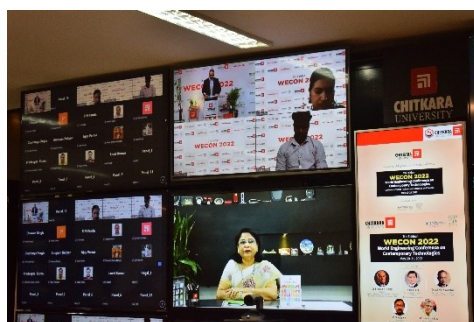
Table 1. Thematic areas of WECON 2022

Carbon materials	MEMS & NEMS	Phase change materials
Compound materials	Microelectronic materials	Photonics
Computational materials	Nano biotechnology	Polymeric materials
Fluids and liquid crystals	Nano devices	Role of materials science in advancement of technology
Fuel-cell materials	Nano electronics	Self-assembled materials
Graphene technologies	Nano materials	Semiconductor materials
Magnetic materials	Nano mechanics	Superconductors
Materials characterization	Nano medicine	Surface engineering
Materials for novel electronic devices	Nano photonics and optics	Surface nanoscience
Materials for photovoltaic application	Nanodrug delivery	Surface science and interface
Materials for the sensor applications	Nanofabrication	Technologies to develop new materials
Materials in Biology	Nanomaterials and composites	Theoretical simulations
Materials for communication networks	New engineering materials	Thin films and coating
Materials physics and chemistry	New frontiers in materials research	Unexplored areas in Materials
Materials processing	Optical materials	

## 2. Technical Program of WECON 2022 – Inauguration, Keynotes, Invited Talks and Paper Presentations

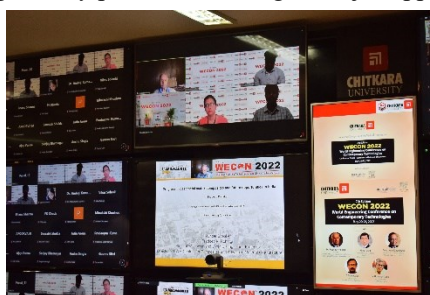
On May 20, 2022, the inaugural ceremony of WECON 2022 commenced with an inspiring video message from Dr. Madhu Chitkara, Pro-Chancellor, Chitkara University, and a welcome address by Dr. Archana Mantri, Vice-Chancellor, Chitkara University, Punjab and the General Chair of WECON. Dr. Madhu Chitkara appreciated the efforts in conducting the seven editions of WECON in the last 15 years and she emphasized upon the strong focus of Chitkara University in promoting research culture in the university. Dr. Archana Mantri in her welcome address highlighted the importance of the theme of WECON 2022 that focused on advances in wide range of materials

including semiconductor materials, nano materials, superconductors, polymers, composites etc.



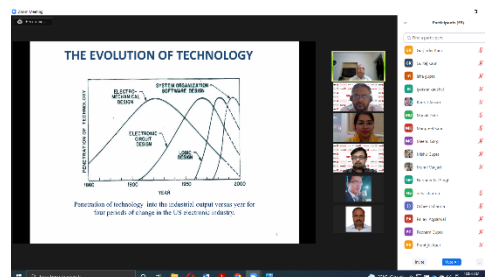
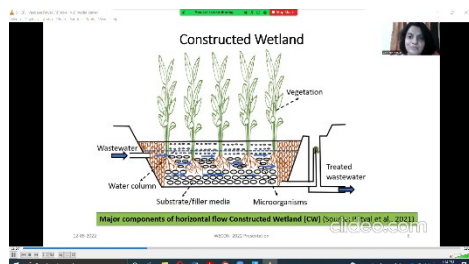
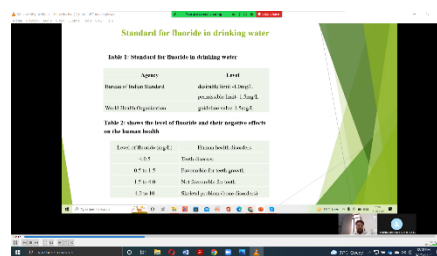
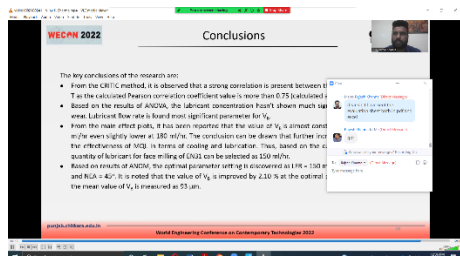
Video Message by Dr. Madhu Chitkara, Pro-Chancellor, Chitkara University and Welcome Address by Dr. Archana Mantri, Vice Chancellor, Chitkara University, Punjab

The inauguration ceremony was followed by two insightful keynotes by Dr. Pradeep K. Rohatgi – Director, Centers for Composites and Advanced Materials Manufacture, University of Wisconsin-Milwaukee, USA, and Dr. Ashwini K Aggarwal - Director, Government Affairs, Applied Materials Inc., New Delhi, India. Dr. Rohatgi shared his rich experience in the field of metal matrix composites, unique properties of these composites, their need, processing methods and research opportunities for India in this field. Dr. Aggarwal, on the other hand discussed about semiconductor industry in India including the key policies, challenges, major opportunities etc.



Keynote Address by Dr. Pradeep K. Rohatgi, University of Wisconsin-Milwaukee, USA

Additionally, Day 1 of the conference witnessed paper presentations in two parallel tracks and four invited talks by Prof. Dr. Satyabrata Jit (IIT BHU), Prof. Dr. Angsuman Sarkar (Kalyani Government Engineering College, West Bengal), Dr. Govind Gupta (CSIR-National Physical Laboratory, New Delhi) and Dr. Arpan Deyasi (RCC Institute of Information Technology, West Bengal).



Glimpses of Paper Presentations

On Day 2, two keynote talks were organized that were delivered by Prof. Dr. R.S. Gupta (Maharaja Agrasen Institute of Technology, New Delhi) and Mr. P Rajagopalan (Marvell Technology, Singapore). Prof. Gupta talked about Evolution of Electronics and VLSI. Mr. Rajagopalan spoke about Design Considerations and Recent Trends in Automotive IP Cores (Semiconductors). This was followed by paper presentations in three parallel tracks. Day 2 also witnessed five invited talks by Prof. Dr. Rajesh Khanna (Thapar Institute of Engineering and Technology, Punjab), Prof. Dr. Rishu Chaujar (Delhi Technological University, New Delhi), Dr. Harsupreet Kaur (University of Delhi South Campus), Dr. Sudhanshu Singh (Amity University, Rajasthan), and Dr. Manash Chanda (Meghnad Saha Institute Of Technology, Kolkata). More than 200 delegates attended WECON 2022 that witnessed 50 paper presentations in 5 tracks, 4 keynote talks and 9 invited talks. Listed in Table 2 are the titles of 50 presented papers and 2 invited papers that have been considered for publication by Elsevier in Materials Today Proceedings.

Table 2. Titles of WECON 2022 Papers Published in Materials Today Proceedings

S. No.	Paper Title	S. No.	Paper Title
1	A comparative study on seismic analysis of regular and plan irregular buildings resting on different soils	27	L-Aspartic acid based molecular rectifier using dissimilar electrodes
2	A comprehensive overview of metal chalcogenides for rechargeable batteries	28	Macrocylic scaffold: A boon in advancement of sensor technology - Review
3	A critical review on sustainable way of power generation from microbial fuel cell technology	29	MQL assisted face milling of EN-31: Tool wear optimization and its correlation with cutting temperature
4	A review on thermochemical conversion process for energy applications by using rice straw	30	Multi-response optimization of EDM parameters for tungsten carbide using TGRA
5	Achieving the sustainable development goals in agriculture using Nano fertilizer in cereal based system	31	Numerical simulations of 26.11% efficient planar $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite n-i-p solar cell
6	Adsorption: A preferred technique for fluoride removal from water	32	Optimization based on computational analysis of lead-free inverted planar photo-voltaic device structure using halide based double perovskite material
7	Analysis and design of an irregular precast building	33	Parametric evaluation of carbon nano-tube based piezoresistive pressure sensor
8	Application of UPIoT based power monitoring system	34	Performance and emission characteristics of Mahua blended biodiesel
9	Bamboo as a sustainable building construction material	35	Performance and emission investigations of CI engine using blends of corn oil bio-diesel and turpentine
10	Bibliometric analysis of India and United States of America for published research in water science and technology	36	Performance evaluation of metal-air batteries for sustainable agricultural equipment
11	Briefings on e-waste hazard until COVID era in India	37	Performance investigation of hetero gate dielectric DGTFT with drain pocket for analog/RF applications
12	CFD analysis on a water turbine blade	38	Perspective and future scope of nanotechnology in modification of microbial fuel cell
13	Comparison of dielectric properties of sol-gel derived pure and calcium modified lead zirconate titanate ceramics and thick films of compositions near MPB	39	Ranking of structural composite batteries for sustainable agricultural equipment
14	Convertor topologies of DFIG based wind energy conversion system	40	Rogers ratio test for fault diagnosis of transformer using dissolved gas analysis
15	Customary of CPW configurations in Silicon-RF technology targeting monolithic integration for GHz to THz frequency bands	41	Rogue waves generation by using higher order rational solutions of discrete nonlinear Schrodinger equation
16	Datapath system design using 32nm FinFET technology for low power applications	42	Screening of low-cost waste materials for removal of phosphorus from waste water on constructed wetlands
17	DC microgrid – A short review on control strategies	43	Screening the six plant species for phytoremediation of synthetic textile dye waste water
18	Demonstration of normally-OFF recessed MIS-Gate Technique on AlGaIn/GaN HEMT for improved power dissipation	44	Simulation investigation of double-heterostructure T-gate HEMT with graded back-barrier engineering for improved RF performance
19	Design & development of flying capacitor multilevel inverter with impact of ultra-capacitor and battery	45	Sintering temperature optimization for terbium doped strontium hexaferrite with improved microwave properties
20	Design and simulation of optical logic gates at ultra-high speed of 200 Gb/s employing single SOA	46	Solutions of electric flux lines in transverse-magnetic surface Plasmon modes at metal-dielectric interface
21	Design methodology of a surface Plasmon resonance-based affinity biosensor using instantaneous Poynting vector analysis	47	Spin transport properties in DNA & electrically doped Iron QD organo-metallic junction
22	Design of all-optical XOR/X-NOR gate at 200 Gb/s with Mach-Zehnder interferometer and delayed interferometer schemes	48	Study of P-I-N structure based modified tunnel FET for use in low power VLSI circuits
23	Development of standard and high strength concretes using sustainable and recycled materials	49	Synthesis and development of gold nanoparticles and their characterizations
24	Dissolution behaviour of Nanoparticles and its usefulness in understanding the toxicity of nanoparticles- A Review	50	Synthesis and performance of bimetallic Poly vinyl alcohol beads in electrocatalytic denitrification
25	Double lead-free perovskite solar cell for 19.9% conversion efficiency: A SCAPS-1D based simulation study	51	UPIoT based power monitoring of transformer
26	Impact of construction & demolition waste and slag sand on the properties of high strength self-compacting concrete	52	Use of viscoelastic material and design parameters optimization for optimum reduction of vibration response of primary system

### 3. Committees of WECON 2022

The Chief Patrons of the conference, Dr. Ashok K Chitkara (Chancellor, Chitkara University) and Dr. Madhu Chitkara (Pro-Chancellor, Chitkara University) always remain a guiding force with their unconditional and unwavering support, which is one of the main reasons for the success of the conference.

Dr. Archana Mantri (Vice Chancellor, Chitkara University) is the General Chair of WECON. The conference has evolved and grown many-folds under her leadership. WECON 2022 has been fortunate to have Dr. Pradeep K. Rohatgi (Director, Centers for Composites and Advanced Materials Manufacture, University of Wisconsin-Milwaukee, USA) as the Chief Advisor and General Co-Chair. He guided us on several matters related to the theme of the conference.

WECON 2022 had a diverse and experienced Advisory Committee comprising of senior academicians, scientists and industry professionals. The members of the advisory committee are listed in Table 3. The conference was ably supported by a large number of professionals who helped in building a strong technical program and reviewing papers in the conference. These professionals featured in the Technical Program Committee (TPC) as showcased in Table 4. TPC was headed by Dr. Angsuman Sarkar (Professor, Kalyani Government Engineering College, West Bengal, India), Dr. R.S. Gupta (Professor, Maharaja Agrasen Institute of Technology, Delhi, India) and Dr. Rajnish Sharma (Pro-VC, Academic Affairs, Chitkara University, Punjab, India).

Table 3. Advisory Committee of WECON 2022

Dr. Anup Kumar Panda - NIT Rourkela, Odisha, India
Dr. Ashwini Aggarwal - Applied Materials, India
Dr. C.P. Ravikumar - Texas Instruments, India
Mr. H.S. Jatana - Semiconductor Laboratory, Government of India
Mr. Hitesh Garg - NXP Semiconductors, India
Dr. Jagdish Lal Raheja - CSIR- CEERI Pilani, Rajasthan, India
Dr. M M Sharma - MNIT Jaipur, Rajasthan, India
Dr. Mohit Ghambir - Innovation Cell, MHRD, Government of India
Dr. Pao-Ann Hsiung - National Chung Cheng University, Taiwan
Mr. Preet Yadav - NXP Semiconductors, India
Dr. Raghunath Bhattacharya (Retired Scientist) - CSIR-NPL, New Delhi, India
Dr. Rishu Chaujar - DTU, New Delhi, India
Dr. V S Rao - SRM University, Andhra Pradesh, India

The conference was convened by Mr. Sagar Juneja (Assistant Dean, CURIN, Chitkara University, Punjab). He has been the convener of WECON since 2016. The core organizing team of WECON 2022 also included Dr. Rahul Pandey and Dr. Jaya Madan – Assistant Professors, CURIN, Chitkara University, Punjab who were the Track Chairs. Additionally, the Publication Committee of WECON 2022 included Dr. Rajnish Sharma, Mr. Sagar Juneja, Dr. Rahul Pandey, and Dr. Jaya Madan. This committee worked very closely with the authors and Elsevier for the publication of the conference proceedings.



Core Committee of WECON 2022 (L-to-R) Dr. Jaya Madan, Dr. Rahul Pandey, Dr. Rajnish Sharma, Dr. Archana Mantri and Mr. Sagar Juneja

Table 4. Technical Program Committee (TPC) of WECON 2022

TPC Members from India				TPC Members from Outside India	
Dr. Raman Kapoor	ABES Engineering College, Uttar Pradesh	Dr. Kuldeep Kaswan	Galgotias University, U.P.	Dr. Marina Oberemok	Belgorod State Technology University, Russia
Dr. Saba Shaikh	AISSMS Institute of IT, Maharashtra	Dr. Anu Jindal	GHG Khalsa College of Pharmacy, Punjab	Dr. Keith Tang	British Columbia Institute of Technology, Canada
Dr. S. Rajagopalan	Alagappa University, Tamil Nadu	Dr. Sreenivasa Ijjada	GITAM University, A.P.	Dr. Sheikh Mohammad Rezwan	Daffodil International University, Bangladesh
Dr. Lucky Krishnia	Amity University, Haryana	Dr. Subhash Chandra	GLA University, Uttar Pradesh	Prof. Gerrit Nandi	Duale Hochschule Baden Württemberg (DHBW), Germany
Dr. Sudhanshu Singh	Amity University, Rajasthan	Dr. Anjan Kumar	GLA University, Uttar Pradesh	Dr. Sabine Moebs	Duale Hochschule Baden Württemberg (DHBW), Germany
Dr. Rohit Sharma	Amity University, Uttar Pradesh	Dr. Vinay Kumar	Graphic Era University, Dehradun, Uttarakhand	Dr. Randell Baker	Full Sail University, USA
Dr. Sharanappa Chapi	AIEMS, Karnataka	Dr. B Srinivas Rao	GRIET, Hyderabad, Telangana	Mr. Gaurav Garg	Grabb-It Inc, USA
Dr. Shipra Upadhyay	Atria Institute of Technology, Karnataka	Dr. Arvind Dhingra	Guru Nanak Dev Engineering College, Punjab	Prof. Phan-Anh-Huy Nguyen	HCMC University of Technology & Education, Vietnam
Dr. Prabhakara Rao Kapula	B V Raju Institute of Technology, Telangana	Dr. Inderpreet Kaur	Guru Nanak Dev Engineering College, Punjab	Dr. M.L. Dennis Wong	Heriot Watt University, Malaysia
Dr. K.P.Lakshmi	B.M.S. College of Engineering, Bengaluru	Dr. Ravinder Singh Sawhney	Guru Nanak Dev University, Punjab	Prof. Georg Hauer	Hochschule Fur Technik Stuttgart, Germany
Prof. Amrit Kaur	BBSB Engineering College, Punjab	Dr. Shashidhar K. Shashidhar	Guru Nanak Institutions Technical Campus, Haryana	Dr. Sergey Mosin	Kazan Federal University, Russia
Prof. Kiranpreet Kaur	BBSB Engineering College, Punjab	Dr. Geetesh Goga	IES College of Technology, Bhopal	Prof. James McCartney	Kwantlen Polytechnic University, Canada
Dr. Deepak Garg	Bennett University, Uttar Pradesh	Dr. M.S. Hashmi	IIIT Delhi, New Delhi	Dr. Sandeep Kautish	LBEF Campus, Kathmandu, Nepal
Dr. Jerwinprabu A	Bharati Robotic Systems India Pvt. Ltd., Maharashtra	Dr. Kamal Arora	Indian Institute of Technology Bombay	Mr. Jyotir Moy Chatterjee	Lord Buddha Education Foundation, Kathmandu, Nepal
Dr. Neela Chatteraj	BIT Mesra, Jharkhand	Dr. Omkar Rambadey	Indian Institute of Technology Indore	Dr. Arnold C. Paglinawan	Mapua Institute of technology, Philippines
Dr. Hitesh Mathur	BITS Pilani, Rajasthan	Dr. Shruti Jain	JUIT, H.P.	Dr Mary Christine Tomas	Mapua Institute of technology, Philippines
Dr. M N Suma	BMS College of Engineering, Bengluru	Dr. Rajni Gautam	K.R. Mangalam University, Haryana	Dr Martin Anda	Murdoch University, Australia
Dr. S.Mahalakshmi	BMSIT, Bengaluru	Dr. Jagneet Anand	Keshav Mahavidyalaya, University of Delhi	Dr. Stephen Klomp	Murdoch University, Australia
Mr. Avneet Singh	Bosch, India	Dr. Brijesh Singh	KIET Group of Institutions, Ghaziabad, Uttar Pradesh	Dr. Wendell Ela	Murdoch University, Australia
Dr. Balwinder Singh	CDAC Mohali, Punjab	Dr. Jagjit Dhatteval	KL University, Andhra Pradesh	Dr. Wei-Ta Chu	National Cheng Kung University, Taiwan
Dr. Shalom Akhai	Chandigarh Group of Colleges, Punjab	Mr. Prakash Hegade	KLE Technological University, Karnataka	Dr. Ren-Son Ko	National Chung Cheng University, Taiwan
Dr. Birinderjit Singh	Chandigarh University, Punjab	Dr. Rajendra P	KSRM College of Engineering, A.P.	Dr. Chun-Hsian Huang	National Taitung University, Taiwan
Dr. Lipika Gupta	Chandigarh University, Punjab	Dr. Ashwani Kush	Kurukshetra University, Haryana	Dr. Bharat K Bhargava	Purdue University, USA
Dr. Manish Deshwal	Chandigarh University, Punjab	Dr. Kavita	Lovely Professional University, Punjab	Prof. Vincent Lim	Republic Polytechnic, Singapore
Dr. Raman Chadha	Chandigarh University, Punjab	Dr. Sahil Verma	Lovely Professional University, Punjab	Dr. Lakshmanan Nataraj	Santa Barbara, California, USA
Dr. Ranjit Bindal	Chandigarh University, Punjab	Dr. Suman Tripathi	Lovely Professional University, Punjab	Dr. Radial Anwar	Telkom University, Indonesia
Dr. Rehana Perveen	Chandigarh University, Punjab	Prof. Bhupinder Verma	Lovely Professional University, Punjab	Dr. Casper Vogel	The Hague University of Applies Sciences, Netherlands
Dr. Nisha Deopa	Chaudhary Ranbir Singh University, Haryana	Dr. Pooja Dhand	Lyallpur Khalsa College Technical Campus, Punjab	Dr. Mark Lee	Univeristy Of Birmingham, UK
Dr. Pankaj Sharma	Chitkara University, Punjab	Dr. Neeraj Sharma	Maharishi Markandeshwar University, Haryana	Dr. Rocio A. Lizarraga-Morales	Universidad de Guanajuato, Mexico
Dr. Minaxi Dassi	Chitkara University, H.P.	Dr. Nirankar Singh	Maharishi Markandeshwar University, Haryana	Dr. Khalil Tamersit	Université 8 Mai 1945 Guelma
Dr. Mohit Kapoor	Chitkara University, Punjab	Dr. Paramvir Singh	Maharishi Markandeshwar University, Haryana	Dr. Muhammad Izuan Fahmi Romli	Universiti Malaysia Perlis, Malaysia
Dr. Arrik Khanna	Chitkara University, Punjab	Dr. Pooja Sethi	Maharishi Markandeshwar University, Haryana	Dr. Muzammil Jusoh	Universiti Malaysia Perlis, Malaysia
Dr. Jyotsna Kaushal	Chitkara University, Punjab	Dr. Shiv Dixit	Manav Rachna University, Haryana	Dr. Thennarasan Sabapathy	Universiti Malaysia Perlis, Malaysia
Dr. Kulbhushan Sharma	Chitkara University, Punjab	Dr. Sunanda Kapoor	Manipal University, Jaipur	Prof. Heitor Costa	University in Lavras, Brazil
Dr. Mamatha Sandhu	Chitkara University, Punjab	Dr. Manash Chanda	Meghnad Saha Institute of Technology, West Bengal	Dr. Michael Uelschen	University of Applied Sciences Osnabruck, Germany



Dr. Mohit Rana	Chitkara University, Punjab	Dr. B. Sandhya	MVSR Engineering College, Hyderabad, Telangana	Dr. Viranjay M Srivastava	University of KwaZulu-Natal, Durban, South Africa
Dr. Pankaj Kumar	Chitkara University, Punjab	Dr. Santu Mazumder	NIT Meghalaya	Dr. Manuel Frutos-Perez	University of the West of England, Bristol, UK
Dr. Partha Khanra	Chitkara University, Punjab	Dr. Saikat Ranjan Maity	NIT Silchar	Dr. Raman Singh	University of the West of Scotland, Lanarkshire, Scotland
Dr. Payal Sachdeva	Chitkara University, Punjab	Dr. Kholee Phimu	NIT Mizoram	Dr. Hossein Hosseini	University of Wisconsin-Milwaukee, USA
Dr. Pooja Mahajan	Chitkara University, Punjab	Dr. Chiranjib Bhowmik	NIT Silchar	Dr. Mukul Goyal	University of Wisconsin-Milwaukee, USA
Dr. Rajeev Sharma	Chitkara University, Punjab	Dr. Bijit Choudhuri	NIT Silchar	Prof. Simi Bajaj	Western Sydney University, Australia
Dr. Rajesh Kumar	Chitkara University, Punjab	Dr. Shikha Tripathi	PES University, Bangalore, Karnataka	Dr. Jin Ding	Zhejiang University of Science and Technology, China
Dr. Rakesh Goyal	Chitkara University, Punjab	Dr. TSB Sudarshan	PES University, Bangalore, Karnataka		
Dr. Shalli Rani	Chitkara University, Punjab	Dr. Arun Singh	Punjab Engineering College, Chandigarh		
Dr. Shivani Malhotra	Chitkara University, Punjab	Dr. Amarjeet Pandey	Rajarambapu Institute of Technology, Maharashtra		
Dr. Shivendu Prashar	Chitkara University, Punjab	Dr. Arpan Deyasi	RCC Institute of Information Technology, West Bengal		
Dr. Sunil Sharma	Chitkara University, Punjab	Dr. Vikas Sangwan	RPS Degree College, Haryana		
Dr. Vijay Sharma	Chitkara University, Punjab	Dr. Jatinder Kaur	School of Planning and Architecture, New Delhi		
Dr. Vandana Sharma	Chitkara University, Punjab	Dr. Manoj Kumar	SDRL Department of Electronics, Delhi		
Dr. Sandeep Singhai	CSIR-CSIO, Chandigarh	Dr. Shubham Mahajan	Shri Mata Vaishno Devi University, Katra		
Dr. Balaka Biswas	CSIR-CSIO, Chandigarh	Dr. Manpreet Manna	SLIET Longowal, Punjab		
Dr. Govind Gupta	CSIR-NPL, New Delhi	Dr. P Swamy Naga Ratna Giri	SR Gudlavaluru Engineering College, Andhra Pradesh		
Dr. KMK Srivatsa	CSIR-NPL, New Delhi	Dr. Dipika Jaspal	Symbiosis Institute of Technology, Pune		
Dr. Gurumukh Das	Dayalbagh Educational Institute, Uttar Pradesh	Dr. Mandeep Singh	Thapar Institute of Engineering and Technology, Punjab		
Dr. Sumandeep Kaur	Delhi Technological University, New Delhi	Dr. Neelima Singh	Thapar Institute of Engineering and Technology, Punjab		
Dr. Kamal Kishor	Delhi Technological University, New Delhi	Dr. Priya Vashisht	Thapar Institute of Engineering and Technology, Punjab		
Dr. Nishant Shankhwar	Delhi Technological University, New Delhi	Dr. Alpana Agarwal	Thapar Institute of Engineering and Technology, Punjab		
Dr. Samriti Sharma	Delhi Technological University, New Delhi	Dr. Rajesh Khanna	Thapar Institute of Engineering and Technology, Punjab		
Prof. Smith Thavalapill	Dharmsinh Desai University, Gujarat	Dr. Yesappa L	University of Agricultural Sciences, Raichur		
Dr. Ravi Verma	National Institute of Technology, Jalandhar	Dr. Deepika Kaundal	UPES, Dehradun, Uttarakhand		
Dr. Parveen Berwal	Galgotias University, U.P.	Dr. Preeti Goyal	USICT, University in Delhi		

#### 4. Acknowledgements and Concluding Remarks

The 7<sup>th</sup> edition of WECON, a flagship engineering conference of Chitkara University, was successfully organized during May 20-21, 2022. A total of 154 papers were submitted to the conference and 52 papers have been sent for publication in Elsevier Materials Today proceedings. WECON 2022 could not have been possible without the support of many different entities and individuals. First and foremost, thanks are due to Elsevier for agreeing to partner with WECON 2022 for the publication of conference proceedings in Materials Today. Thanks are due to the coordinators from Elsevier for their guidance - Lauren Ashby (Executive Publisher, Materials Science, Elsevier) Nandhini Thandavamoorthy (Senior Journal Manager, Elsevier), and Erna Justus (Commercial Sales Team, Elsevier).

WECON has been using Microsoft CMT for submission of papers and review process for many years now. Microsoft CMT is an excellent tool and is absolutely free. Thanks are due to the CMT team for its kind online support whenever needed during the conference.

Finally, thanks are due to all the stakeholders including but limited to the Advisory Committee, Technical Program Committee, Reviewers, Keynote Speakers, Invited Speakers, Session Chairs, Authors, Local Administration Teams of Chitkara University, and Volunteers for their support in efficaciously organizing WECON 2022.