E-MRS Global Dialogue on
Materials Science & Technologies for Sustainable Development

The E-MRS Global Dialogue on Materials Science & Technologies for Sustainable Development is an exclusive, invitation-only event designed to convene top-level scientists, industrial leaders, and policymakers. This high-caliber gathering aims to address critical challenges and opportunities in sustainable materials through focused discussions on topics such as bio-based materials, energy efficiency, e-waste management, and international policy impact. A key emphasis of the event is on networking, with dedicated sessions like the Networking Break and Networking Lunch specifically designed to facilitate meaningful connections and collaborations among these influential stakeholders. By fostering direct interactions between leading experts and decision-makers, the dialogue seeks to drive innovation, accelerate the commercialization of sustainable technologies, and shape effective sustainability policies on a global scale.

a. **Format:** ***Panel discussion***
b. **Invited panelists :** ***< 30***
c. **Date:** ***May 27th, 2025***
d. **Panel sessions:** ***3***
e. **Topics:** ***5***

- **List of topics and panelists' interest ranking for topics**

Topic	Topic description	Moderator & Panelists
1	**Sustainable Materials and Circular Economy** – Advancing bio-based, recyclable, and energy-efficient materials while optimizing material life-cycle management through circular economy strategies.	**Sanjay Mathur** Teresa Andrewa, Emmanuel Flahaut Zhengyi Fu, Emmanuel Ionescu K.K. Pant, P. Rambabu Xiaolin Xie, Zhong-Lin Wang Anke Weidenkaff, Liqun Zhang
2	**Energy Efficiency and Carbon Reduction** – Innovations in energy storage, renewable materials, carbon capture, and AI-driven resource efficiency to minimize environmental impact.	
3	**E-Waste Management and Resource Recovery** – Addressing cradle-to-cradle recycling, the recovery of critical materials for the green energy transition, and Extended Producer Responsibility.	**Ratheesh** Syed Saleem Basha, Emmanuel Flahaut Wei Huang, Changsheng Liu Sreeram Kalpathy, Maarit Karppinen Ravikumar, Bao-Lian Su
4	**Bridging Research and Industry** – Accelerating the commercialization of sustainable materials through	

	collaboration between scientists, industry leaders, and policymakers.	
5	**Global Collaboration and Policy Impact** – Strengthening international cooperation to shape effective sustainability policies, enhance resource efficiency, and drive responsible material use.	**Guo-Hua Hu** Rajeev Ahuja, Wei Huang Jean-Christophe Gabriel, Maarit Karppinen, Changsheng Liu Sanjay Mathur, James Raju Sumathi Ramachandran, Ratheesh, Anke Weidenkaff Liqun Zhang

List of participants to the Global Dialogue on Materials Science & Technologies for Sustainable Development at E-MRS Spring Meeting 2025

Chair	Guo-Hua Hu guo-hua.hu@univ-lorraine.fr	University of Lorraine	France
Chair	Sanjay Mathur sanjay.mathur@uni-koeln.de	University of Cologne	Germany
1	Teresa Andrewa tandreu@ub.edu	UAB, Barcelona	Spain
2	Emmanuel Flahaut emmanuel.flahaut@univ-tlse3.fr	University of Toulouse	France
3	Jean-Christophe Gabriel jean-christophe.gabriel@cea.fr	Atomic Energy Commission (CEA)	France
4	Emmanuel Ionescu emanuel.ionescu@gast.tu-darmstadt.de	Fraunhofer Institution for Materials Recycling and Resource Strategies	Germany
5	Maarit Karppinen maarit.karppinen@aalto.fi	University of Aalto	Finland
6	Bao-Lian Su bao-lian.su@unamur.be	University of Namur	Belgium
7	Anke Weidenkaff anke.weidenkaff@mr.tu-darmstadt.de	Technical University of Darmstadt	Germany
1	Zhengyi Fu, Academician zyfu@whut.edu.cn	Wuhan University of Technology	China
2	Wei Huang, Academician vc@nwpu.edu.cn	Northwest Polytechnic University	China
3	Changsheng Liu, Academician & president liucs@shu.edu.cn	Shanghai University	China

4	Liqun Zhang, Academician & president liqunzhang@xjtu.edu.cn	Xi'An Jiaotong University	China
5	Xiaolin Xie, vice-president xlxie@hust.edu.cn	Huangzhong University of Science and Technology	China
6	Zhong-Lin Wang, Academician zlwang@binn.cas.cn	Beijing Institue of Nanoenergy & Nanosystems, CAS	China/USA
Chair	R, Ratheesh ratheesh@cmet.gov.in	C-MET	India
1	Prof. K.K. Pant, Director director@iitr.ac.in	Indian Institute of Technology, Roorkee	India
2	Dr. P. Rambabu, Chief Sustainability Officer, rambabu.p@greenkogroup.com	Greenko Energies Private Limited	India
3	Prof. Ravi Kumar nvrk@iitm.ac.in	Indian Institute of Technology, Madras	India
4	Prof. Rajeev Ahuja, Director director@iitrpr.ac.in	Indian Institute of Technology, Ropar	India
5	Dr. Sumathi Ramachandran, Group Leader, Sumathi@lrz.uni-muenchen.de	Ludwig-Maximilians-Universität in Munich	Germany

Prof. Dr. Guo-Hua HU

guo-hua.hu@univ-lorraine.fr

Guo-Hua Hu graduated in 1985 from East China University of Science and Technology (Shanghai) with a Bachelor's degree in Polymer Chemical Engineering. He subsequently earned both his Master's (1987) and PhD (1990) in Polymer Science and Engineering from the University of Strasbourg, France. After completing his doctorate, he conducted postdoctoral research at the University of Pittsburgh, USA (1990–1992). In 1992, Prof. Hu joined the French National Centre for Scientific Research (CNRS) as a Research Associate. He was appointed Professor at the University of Lorraine (France) in 1998 and later promoted to Distinguished Professor.

Prof. Hu's scientific contributions have been recognized with numerous honors. He received the CNRS Bronze Medal in 1996 and the Morand Lambla Award from the Polymer Processing Society in 2001, in recognition of his significant contributions to polymer processing, particularly in reactive polymer processing. In 2005, he was appointed Piercy Distinguished Visiting Professor at the University of Minnesota (USA). He has also served as a member of the Scientific Committee of the European Materials Research Society (E-MRS). He was elected Fellow of the Academic Institute of France in 2004, Fellow of the European Academy of Sciences in 2022, Fellow (Foreign Member) of the Chemical Industry and Engineering Society of China in 2024, and Scientific Officer of the Engineering Division of the European Academy of Sciences in 2025.

Prof. Dr. Sanjay Mathur

Director, Institute of Inorganic and Materials Chemistry

University of Cologne, Greinstrasse 6, D-50939 Cologne, Germany

E-mail: sanjay.mathur@uni-koeln.de

Sanjay Mathur is a Chair Professor and Director of the Institute of Inorganic Materials Chemistry at the University of Cologne in Germany. He is a Distinguished Professor at IIT Madras, India. He is also the Director of the Institute of Renewable Energy Sources at the Xian Jiao Tong University, Xian, China and a World Class University Professor at the Chonbuk University in Korea. His research interests focus on application of nanomaterials and advanced ceramics for energy technologies. He holds several patents and has authored/ co-authored over 540 original research publications (h index, 80) and has edited several books. He serves as the Editor-in-Chief for Journal of Electroceramics, and Editor for Nano Energy. He is an Academician of the World Academy of Ceramics. He was awarded the Honorary Doctorate of the Vilnius University in 2016. He is a Fellow of ACerS, ASM International and MRS. He was elected Fellow of the European Academy of Sciences in 2020 and as Foreign Fellow of National Academy of Science, India in 2021. He was awarded the Woody White Award of the Materials Research Society (MRS) in 2021 and had received the Medal of the Chemical Research Society of India (2022). He is also the recipient of the Materials Frontiers Award (2022) of the International Union of Materials Research Society (IUMRS, 2022). He has served as the President of the American Ceramic Society (ACerS, 2022-23), USA. He was recognized by the Orton Jr. Lecture (2022/23) of the ACerS. He is the Secretary of IUMRS, and he serves on the Boards of European Science Council, German Ceramic Society and German Materials Society. He was recognized with the M L Bhagat award of the Indian Ceramic Society (2024). He was elected Fellow of the European Ceramic Society (2025) and Academician of the African Academy of Science (2025).

Dr. R. Ratheesh

Dr. R. Ratheesh is working as the Director of Center for Materials for Electronics Technology (C-MET), Ministry of Electronics and Information Technology, Government of India, Hyderabad since 2016. He is the recipient of many postdoctoral fellowships abroad which include Alexander von Humboldt fellowship at University of Osnabrueck, Germany, BOYCAST fellowship at State University of New Jersey, USA, Lady Davis fellowship at Solid State Institute, Technion, Israel, DIST bilateral fellowship at University of Western Australia, Australia etc. He is also a Honorary visiting chair Professor at Department of Metallurgical and Materials Engineering, Indian Institute of Technology (IIT), Madras under Urban Mining.

His current areas of research interest include cost effective and environmental friendly technologies for E-waste recycling, high end microwave ceramics and composites for wireless communication applications, Hafnium metal targets and sponge for semiconductor and aerospace applications, growth of SiC single crystal boules for power electronics applications etc. Two US patents were recently awarded to him for the development of ultra low loss high end microwave printed circuit boards for 5G communications.

Dr. Ratheesh has published more than 115 research papers in International Journals, 11 patents, 28 technology transfers to private industries, two book chapters and delivered more than 150 invited lectures. Dr. Ratheesh bagged Young Scientist award from KSCSTE in the year 2000, PSN National Technology Award in 2011, ELCINA-EFY Award for excellence in outstanding R&D in 2016-17 and Atma Nirbharatha Award from ISAS in 2023.

Teresa Andreu is senior lecturer in the Department of Materials Science and Physical Chemistry and holds a degree in Chemistry (UB, 1999) and a PhD in Materials Science and Technology (UB, 2004). She has been part-time lecturer at the Dept. of Materials Science of University of Barcelona (2014-17) and Polytechnic University of Catalonia (2017-19). After a period in industry as researcher in MacDermid Inc, she has been deputy group leader at the Catalonia Energy Research Institute (2009-20), and is now a member of the consolidated Materials for Surface Engineering (MES) group, and the principal investigator of the Sustainable Electrochemical Processes group at the Institute of Theoretical and Computational Chemistry (IQTC). Her research focuses on the use of green electricity for the sustainability of the chemical industry, with the development of materials and reactors for hydrogen production, carbon dioxide conversion and waste valorization using (photo)electrochemical or plasma-catalytic technologies. Throughout her career, she has participated in and led several national, European and industrial projects.

She has participated in the definition of the Catalan Hydrogen Roadmap for 2030-2050 and is currently an active member of the Catalan Hydrogen Network H2CAT (Home – Xarxa H2CAT), the Executive Committee of the Hub of Global Sustainability of the University of Barcelona and representative of the Catalan Society of Chemistry in the Physical Chemistry division of the European Chemical Society (EUCHEMS).

She is professor of Materials for Energy at the Master of Renewable and Sustainable Energies. She has mentored several postdoc researchers, supervised more than 10 TFMs and 10 PhD thesis in renewable energy-related subjects. Among the graduate doctors, most of them continue their scientific or technological career. Now, 4 thesis are in progress at UB. T. Andreu has authored 4 patents and more than 100 scientific articles. Her h-index is 48

Dr Emmanuel FLAHAUT

CNRS research director (senior researcher)

"Nanocomposites and Carbon Nanomaterials" team leader at CIRIMAT

http://eflahaut.nano.free.fr [ORCID: 0000-0001-8344-6902]

Dr E. Flahaut works as a CNRS Senior Researcher at the CIRIMAT (Inter-University Centre for Research and Engineering of Materials) working at the University Paul Sabatier in Toulouse, France. He obtained his PhD in 1999 from the University of Toulouse, in the field of the catalytic chemical vapour deposition (CCVD) synthesis of carbon nanotubes (CNT) and the investigation of CNT-containing nanocomposite ceramics. He has developed a synthesis route allowing the gram-scale synthesis of double-walled CNT (DWNT) with ca. 80% selectivity associated to a good purity.

He was a post-doctoral research fellow at Oxford University in the group of Pr Malcolm Green where he worked mainly on the filling of CNT with 1D-crystals.

His main research fields are the CCVD synthesis, functionalisation and filling of CNT (double-walled CNT in particular), for various applications in the fields of materials (interconnections in nanoelectronics, composite materials, sensors) and bio-medicine (Gadonanotubes for MRI, CNT scaffolds for tissue engineering, cargoes for drug-delivery, etc.). Dr E. Flahaut is working on the human health issues related to CNT and graphene and related materials, including the synthesis and functionalisation as well as the study of their environmental impact.

He is expert for the French National Agency for Food, Environmental and Occupational Health & Safety since 2008 and currently member of its Scientific Council.

Prof. Dr. Maarit Karppinen

Maarit Karppinen received her doctor degree in inorganic chemistry from Helsinki University of Technology (now named Aalto University; Finland). In 1995 she joined the Materials and Structures Laboratory, Tokyo Institute of Technology (Japan), first as a visiting and then regular associate professor to conduct research on functional oxide materials. In 2006 she returned back to Finland to her Alma Mater as a full professor and the head of Department of Chemistry (2008-2015). For 2009-2013 she was also holding the Academy Professor title in Finland. Currently she is renowned for her pioneering research on ALD/MLD (atomic/molecular layer deposition) fabricated metal-organic thin films and layer-engineered inorganic-organic structures, funded by several prestigious European Research Council (ERC AdGs 2013 & 2022; ERC PoCs 2015 & 2017) grants. Her group's research scope covers the design and synthesis of new materials as well as their characterization for a variety of functionalities. She was nominated as a VIP Visiting International Professor at Ruhr-University Bochum (Germany) in 2016, Aalto Distinguished Professor in 2017, and Member of the Scientific Council of ERC in 2025.

Prof. Dr. Bao-Lian Su

Fellow of the Royal Academy of Belgium, Fellow of the European Academy of Sciences, Honorable Fellow of the Chinese Chemical Society, Foreign Fellow of the Chemical Industry and Engineering Society of China (FFCIESC), Fellow of the Royal Society of Chemistry (UK), Francqui Chair of Belgium, Professor of the University of Namur, Strategic Scientist of the Wuhan University of Technology, Clare Hall Life Member of University of Cambridge, Editor-in-Chief of Chemical Synthesis, Section Editor (Materials) of National Science Review, Associated Editor-in-Chief of Interdisciplinary Materials, former President of Senior Member Selection Panel of the Institut Universitaire de France and actual President of the International Mesostructured Materials Association (IMMA) .

Prof. Su's current research fields include pore science and engineering for catalysis, photocatalysis, artificial photosynthesis, nanotechnology, biotechnology, energy storage and conversion and cell therapy. He published over 710 sci papers with more than 35 000 citations and H index of 96.

Prof. Dr. Anke Weidenkaff

Anke Weidenkaff is W3-professor for Sustainable Materials Science at the Technical University of Darmstadt. Her principal areas of research and expertise are *materials science and resource strategies*, including the development, synthesis and characterization of sustainable materials for energy conversion and storage. Her current work focuses on regenerative circular materials and the development of next-generation green process technologies for fast and efficiently closed material cycles. She completed her PhD degree in Chemistry at ETH Zürich in 1999, received the Venia Legendi for Solid State Chemistry and Materials Science from the University of Augsburg in 2006 and became section head at Empa as well as associated professor at the University of Bern, Switzerland.

She was chair holder of Materials Chemistry and director of the Institute for Materials Science at the University of Stuttgart from 2013-2018. From 2018 – 2024 she was executive director of the Fraunhofer IWKS in Hanau and Alzenau.

Ms Weidenkaff is an elected board member of the International Society of Solid State Ionics, the executive Board of Materials Valley e.V. and the E-MRS Scientific Council. She was awarded with the Kavli Foundation Lectureship prize in 2011, the Karl Böer Award and the GDCh/GCCCD Award for Excellent Supervisors of Chinese PhD Students in 2022. From 2016 to 2019, she was president of the European Thermoelectric Society (ETS). She served on the expert panel of the German Science Foundation DFG, and the European Research Council (ERC). She was member of the German Advisory Council on Global Change (WBGU) from 2020-2024 and represents the German Federal Ministry for Economic Affairs and Climate Action (BMWK) in the High Tech Founders Fund (HTFG) committee. She is councilor of various societies and organizations (BAM, Fraunhofer ISE, and FH IAF among others). She holds a honorary professorship of the Southwest Petroleum University in Chengdu China.

Anke Weidenkaff is member of the German National Academy of Sciences Leopoldina and the National Academy of Science and Engineering acatech.

Prof. Dr. Zhengyi Fu

Prof. Zhengyi Fu is the director of the State Kay Lab of Advanced Technology for Materials Synthesis and Processing of Wuhan University of Technology, China. He is an academician of the Chinese Academy of Engineering, a member of the European Academy of Sciences, a member of the Russian Academy of Engineering, an academician of the World Academy of Ceramics. He is the vice-president of the International Ceramic Federation, an editor-in-chief of the Interdisciplinary Materials and an editor-in-chief of the Ceramics International.

His research fields are focused on multifunctional ceramics and ceramic-based composites, structural/functional integrative composites, novel materials structure and properties, in-situ reaction synthesis and processing, fast and ultra-fast sintering, bioprocessing-inspired synthesis and processing.

He has published 550 papers and obtained 100 patents. He has been awarded two Second-class Award of National Technology Invention Prizes (2012, 2015) and one Third-class Award of National Science and Technology Progress Prize (1997) issued by the State Council of China. He has been awarded the John Jeppson Award of the American Ceramic Society (2020), Ross Coffin Purdy Award of the American Ceramic Society (2019), Samuel Geijsbeek International Award of the American Ceramic Society (2019), Engineering Valour of the Russian Academy of Engineering (2018).

Professor Academician HUANG Wei

Professor HUANG Wei **is Academician of the Chinese Academy of Sciences (CAS), and International Member of the Russian Academy of Sciences (RAS) and National Academy of Engineering of USA (NAE).** He is an eminent scientist in the area of organic optoelectronics and flexible electronics. He is also the General Director of the State Key Laboratory of Flexible Electronics, Frontiers Science Center for Flexible Electronics (FSCFE) of the Ministry of Education, and the Basic Science Center for Flexible Electronics of the National Natural Science Foundation of China. He is Chair Professor of "The Recruitment Program of Global Talents" and the "Cheung Kong Scholars Program", Winner of the "National Outstanding Youth Fund", and the Chief Scientist of "The National 973 Programs". He was awarded Honorary Doctorate by the Russian Academy of Sciences, University of Sheffield, and University of Johannesburg. He is also the Fellow of the Royal Society of Chemistry (RSC), the Optical Society of America (OSA), the Society of Photo-Optical Instrumentation Engineers (SPIE), the Singapore National Institute of Chemistry (SNIC), and President of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP), and Senior Adviser to the President and Member of the Executive Council of the World Federation of Engineering Organizations (WFEO). He is also Visiting Professor of the National University of Singapore, Nanyang Technological University, University of Hong Kong, and Honorary Professor or Adjunct Professor of University of Wollongong of Australia, Peking University, the Institute of Chemistry of the Chinese Academy of Sciences, Nankai University, Xiamen University, and several other prestigious academic institutions. Moreover, he was awarded the Second-class Prize of the National Natural Science Award in 2013 and 2018 respectively, the Technological and Scientific Progress Award from the Ho Leung Ho Lee Foundation of Hong Kong in 2014, the Top 10 Progress in Science and Technology of China's Universities from Ministry of Education in 2016 and 2022 respectively, the First-class Prize of the Natural Science Award of the Ministry of Education in 2016, 2017, 2018, and 2021 respectively, the first prize of the Natural Science Award of the Chinese Institute of Electronics in 2020, 2022, and 2024 respectively, the first prize of the Natural Science Award of the China Petroleum and Chemical Industry Federation in 2023 and 2024, and the first prize of the Natural Science Award of the Chinese Optical Society in 2020 and 2024.

Professor LIU Changsheng, President of Shanghai University

Liu Changsheng, academician of the Chinese Academy of Sciences and professor, serves as the President of Shanghai University. Prof. Liu has been a member of many prominent scientific and technical institutions in China, such as the Academic Advisory Committee of the Chinese Academy of Medical Sciences, the National Natural Science Foundation of China, the National "Nanotechnology" Project General Expert Group, and the Materials Division of the Science and Technology Commission under the Ministry of Education. Prof. Liu has been dedicated to the research on biomaterials, developing various bioactive bone repair materials as well as novel techniques for growth factor preparation and material activation. He has pioneered the development of self-setting calcium phosphate artificial bone in China, obtaining the first product registration certificate in this field with numerous clinical applications. Prof. Liu has got 80 invention patents and authorized 60 including 5 patents in the United States. He has published over 300 SCI-indexed papers and five Chinese and English monographs and textbooks.

His research and findings have been widely recognized. His notable awards include the Second Prize of the National Natural Science Award, the Second Prize of the National Science and Technology Progress Award (both ranked first), the National Innovation Excellence Award, Ho Leung Ho Lee Foundation Innovation Prize, and the National Outstanding Professional and Technical Talent Award. He has also been honored as a Fellow of the International Union of Societies for Biomaterials Science and Engineering and a Fellow of the American Institute for Medical and Biological Engineering.

Prof. Dr. Zhong Lin Wang

Dr. Zhong Lin Wang is a preeminent physicist and materials scientist whose groundbreaking work has revolutionized the fields of nanotechnology, energy harvesting, and self-powered systems. He currently serves as the Director of the Beijing Institute of Nanoenergy and Nanosystems and holds the distinguished titles of Regents' Professor and Hightower Chair (Emeritus) at the Georgia Institute of Technology. Dr. Wang is widely recognized as the pioneer of the nanogenerators field, which has enabled advancements in distributed energy, self-powered sensors, and large-scale blue energy. Additionally, he coined and developed the fields of piezotronics and piezo-phototronics, which have significant implications for third-generation semiconductors.

Dr. Wang's scientific impact is unparalleled. Among 100,000 scientists across all fields worldwide, he has been ranked #1 for single-year scientific impact continuously from 2019 to 2024, #2 in career scientific impact, and #1 in Materials Science. His research has garnered over 480,000 citations on Google Scholar, with an extraordinary h-index of 330, underscoring his immense influence and contributions to science.

Throughout his illustrious career, Dr. Wang has received numerous prestigious awards, including the Global Energy Prize (2023), the Albert Einstein World Award of Science (2019), the ENI Award in Energy Frontiers (2018), the James C. McGroddy Prize in New Materials from the American Physical Society (2014), and the MRS Medal from the Materials Research Society (2011). His groundbreaking work has earned him memberships and fellowships in some of the world's most esteemed scientific academies, including the US National Academy of Inventors, the Chinese Academy of Sciences (as a foreign member), the European Academy of Sciences, the European Academy of Engineering, the Korea Academy of Science and Technology (as a foreign member), the Academia Sinica, and the Canadian Academy of Engineering (as an International Fellow).

Wang's pioneering contributions to nanogenerators, piezotronics, and self-powered systems have not only advanced fundamental science but also paved the way for transformative technologies in energy harvesting, sensing, and semiconductor development. His exceptional scientific impact, numerous accolades, and leadership in the global scientific community underscore his status as one of the most influential materials scientists of our time.

Prof. ZHANG Liqun

XJTU President
Academician of the Chinese Academy of Engineering

Prof. ZHANG Liqun has served as president of Xi'an Jiaotong University (XJTU) since March 2024. He previously served as president of South China University of Technology and vice-president of Beijing University of Chemical Technology.

He is a professor and academician of the Chinese Academy of Engineering. And his research interests include rubber science and engineering, polymer nanocomposites, bio-based and bio-medical materials and polymer processing engineering.

He has been awarded 2 Second Prizes of China's State Technological Invention Award and 1 Second Prize of China's National Science and Technology Progress Award as the ranking first winner, Youth Innovation Award of Prize for Ho Leung Ho Lee Scientific Technological Innovation (China), 9th Youth Award of Guanghua Engineering Science and Technology Prize (China), Sparks-Thomas Award of Rubber Division of American Chemistry Society, The SCEJ Asian Research Award of The Society of Chemical Engineers of Japan, Morand Lambla Award of International Polymer Processing Society, IRCO Medal of International Rubber Conference Organization, Colwyn Medal of The Institute of Materials, Minerals & Mining (UK), and 2024 IISRP Technical Award. He has published over 500 SCI articles, 2 books, and over 300 patent authorizations.

Prof. Dr. Xiao-lin Xie 	Xiao-lin Xie is a Professor at the School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology (HUST). He earned his PhD from Sichuan University in 1995 and subsequently completed two years of postdoctoral research at Zhejiang University. Prof. Xie has also held visiting professorships at the University of Sydney (Australia) and the University of Colorado Boulder (USA). His current research interests encompass polymer composites, holographic plastics, electronic plastics, and the rheology of polymer processing. He is one of editors of Composites Science and Technology, fellow of the Chinese Chemical Society (FCCS) and the Royal Society of Chemistry (FRSC).
Prof. Dr. **Haiyan Peng**  Email: hypeng@hust.edu.cn	**Haiyan Peng** is a Full Professor in the School of Chemistry and Chemical Engineering at Huazhong University of Science and Technology (HUST). His research interests are on holographic plastics, holographic polymer nanocomposites, and polymer/supramolecular materials for advanced manufacturing. He received his B.Sc. and Ph.D. degrees from HUST in 2008 and 2014, respectively. He received the Ph.D. degree under the direction of Professor Xiaolin Xie and Professor Yen Wei. He worked with Professor Christopher N. Bowman (Member of the National Academy of Engineering, United States) at the University of Colorado Boulder from 2012 to 2014 as a visiting scholar. He became an Associate Professor at HUST in 2016 and was promoted to the Full Professor position in 2021. He has published more than 50 peer-reviewed papers in *JACS*, *Adv. Mater.*, *Angew. Chem.*, *Nat. Commun.*, et al, and obtained more than 40 issued patents in both China and the United States. He received the National Natural Science Fund for Excellent Young Scientists in 2021 and the First-Class Science and Technology Invention Award from the China National Light Industry Council (2/6) in 2024. Now he serves as a member of the Supramolecular Chemistry Committee of the Chinese Chemical Society, the Rheology Committee under the Chinese Chemical Society & Chinese Society of Theoretical and Applied Mechanics, and the Optoelectronic Materials and Devices Committee under the Chinese Society for Optical Engineering. He also serves as a vice-director of the State Key Laboratory of Materials Processing and Die & Mould Technology.

Name	**Syed Saleem Basha, AVP, Greenko Group**
Photo	
Brief profile	Syed Saleem Basha is a professional in the field of Sustainability and Integrated Management Systems, currently serving at Greenko. Holding a postgraduate degree in Environmental Engineering from Anna University, complemented by an MBA in Project Management, his academic credentials are strong. Currently he is pursuing his PhD in Sustainability at IIT Hyderabad as an external candidate. With an impressive career spanning 30 years, Basha has diversified experience across teaching, Integrated Management Systems, and sustainability sectors. His association with Greenko for the past 15 years has been instrumental, witnessing and contributing to its metamorphosis into a frontrunner in the energy transition landscape.

Prof. Dr. rer. nat. Ravi Kumar, N V

Ravi Kumar earned his doctorate in natural sciences from the Max Planck Institute for Metals Research (now Max Planck Institute for Intelligent Systems), Stuttgart, Germany, in 2004 with a "Sehr gut" (very good) grade, supported by a Max Planck fellowship. He continued at the institute as a postdoctoral researcher and guest scientist. After six years, he moved to the Institute for Shock Physics in Pullman, USA. In 2007, he returned to India and joined the Dept. of Metallurgical and Materials Engg. at IIT Madras as an Assistant Professor. Since 2012, he has served as Associate Professor and heads the Central XRD Laboratory. He has been a Professor of ceramics in the same department since 2018.

He has received numerous awards, including the ACerS Global STAR Award (2025), T. N. Sharma Memorial Award from INCERS UP (2024), ACerS Global Ambassador Award (2023), IIM Start-up Jury Appreciation Award (2023), Honorary Membership from the Serbian Society for Ceramic Materials (2019), IIT Madras Institute Research and Development Award (2015), Certificate of Distinction from Hof University (2013), Young Faculty Recognition Award (2012), IEI Young Engineers Award (2010), and Young Scientist Award from the Indian Ceramic Society (2008).

His experience includes work at ISRO Satellite Centre, Bangalore, Dept. of Space. He has published over 130 peer-reviewed international papers and delivered numerous invited lectures across India, Europe, and the US. He has led several government- and internationally-funded projects. His research focuses on novel non-metallic and inorganic materials with atomically tunable properties, including for thermal management, catalysis, and energy. He has incubated two start-ups, serves on several journal editorial boards, leads a lab team of 22 people, and was Head of the Dept. at IIT Madras from 2020 to 2023.

Prof. Kamal Kishore Pant, Director IIT Roorkee

Prof. Kamal Kishore Pant received his Ph.D. in Chemical Engineering from IIT Kanpur in 1997. He has over 35 years of academic and research experience and previously held several leadership positions at IIT Delhi, including Petrotech Chair Professor, FIPI Chair Professor, Dean Faculty, Head of Chemical Engineering, and Chairman of GATE & JAM.

He has published over 280 journal articles, with more than 19,900 citations (h-index: 74, i10-index: 257), supervised 50 Ph.D. scholars, holds 20 patents, and has authored six books. His research spans green catalysis, CO_2 capture and conversion, biomass valorization, clean fuels, and waste-to-energy technologies. He played a key role in the development and demonstration of coal-to-methanol and CO_2-to-DME technologies in collaboration with DST and Thermax.

Prof. Pant serves as an editor for *Chemical Engineering Science* and *Food and Bioproducts Processing*, and has edited several special issues and books for Wiley, Springer, and Elsevier.

He is a Fellow of prestigious institutions including the Royal Society of Chemistry (FRSC, UK), NASI, INAE, InDA, BRSI, IEI, and IIChE. His accolades include the Distinguished Alumni Award (HBTU Kanpur), Prof. K. L. Chopra Applied Research Award (IIT Delhi), CHEMCON Distinguished Speaker Award, Herdilia Award, and multiple Dr. A. V. Rama Rao Awards for best Ph.D. supervision. He has also been an advisor for multiple Gandhian Young Technological Innovation Awards.

Prof. Pant is an honorary faculty member at the University of Queensland, Australia, and visiting professor at institutions including Auburn University (USA), University of Saskatchewan (Canada), Aston University (UK), UNSW (Australia), and University of Utah (USA). He also serves on numerous national and international scientific committees.

Name	**Dr Rambabu P**
Photo:	
Brief Profile	Dr Rambabu is the Chief Sustainability Officer of Greenko group. He has been a thought leader in the Asian Sustainability and Climate Change movement and his previous roles include Managing Director at CantorCO2e Asia and Head of Sustainability and Climate Change practice in Asia at PricewaterhouseCoopers. He has advised ITC, various companies of Tata Sons and a number of multinational businesses in preparing sustainability reports and sustainability performance improvement and has been actively involved in development of BRR related standards/ formats/ practices. Dr. Rambabu has over 30 years of experience in consulting, research and teaching in governance, sustainability, and climate change. He has led over 200 sustainability assignments sponsored by the Ministry of Environment and Forests (MoEF), Ministry of Science and Technology (MoST), World Bank, UNDP and various national and international business organizations.

Prof. Dr. K C James Raju

M.Sc (Physics), Mahatma Gandhi University, Kottayam, Kerala

Ph.D (IIT, Madras). 1996. With Best Thesis Award.

Joined University of Hyderabad in 1996. Became Professor in 2009. Senior Professor in 2019.

Served as Head of Centre for Advanced Studies in Electronics Science and Technology (CASEST) and as Dean, School of Physics.

SM IEEE.

Abdul Kalam Technology Innovation National Fellow of INAE, India.

Visitor's (President of India) Awardee for Technology Development.

Fellow of Institute of Physics (UK).

Working at the interface of electronic materials and their applications in miniaturized microwave devices exploiting various physical phenomena. Started working with microwave dielectric resonators using bulk low loss dielectrics. Then proceeded to thin films of dielectrics, ferroelectrics and piezoelectrics. Recently working with magnetic thin films and magnetoelectric multilayers also. Working on development of ferroelectric thin film based varactors. Then proceeded to work with miniaturized high Q microwave resonators with electro acoustic resonance. At present working with magnet free miniature circulators and electric field control of magnetic properties using magnetoelectric multilayers. Developed a laser based process to reduce the crystallization temperature of oxide ferroelectrics like BST to 250^{o}C from 700^{o}C.

Guided 15 Ph.Ds, 30 M.Techs and completed more than 20 funded projects. Number of Papers in refereed Journals -200, Patents -4.

Priv.-Doz. Dr. Sumathi

Priv.-Doz. Dr. Sumathi is a Senior Scientist at the Leibniz-Institute for Crystal Growth (IKZ), Berlin, and vice-head of its Volume Crystals department since 2019. She leads a globally recognized research team in semiconductor crystalline materials and technology. Her current work focuses on ultra-high purity Group IV semiconductor materials and devices, especially isotopically enriched and ppt-level pure Ge single crystals for astrophysics research (e.g., studying whether the neutrino is its own antiparticle).

She is also affiliated with the Materials Science and Crystallography Institute at LMU Munich, where she previously led a group on wide-bandgap semiconductors and functional materials (2010–2018). A recognized expert in bulk nitride crystal growth, her contributions include developing large-area native AlN crystals via hetero-epitaxy for high-power electronics, autonomous driving, and deep-UV light sources for air and water disinfection (e.g., SARS/COVID-19).

Dr. Sumathi has received several honors: Senior Research Fellowship from CSIR (India), EPS Young Scientist Prize (2001), IPS Young Physics Colloquium (1998), DGKK Young Prominent Researcher Award (2013), "LMU-Excellent" Mentoring Award (2012–2015), and ISTA's Young Achiever Award (2018).

She earned her M.Sc. in Physics from Madurai Kamaraj University in 1994 and completed her Ph.D. in Crystal Growth from Anna University in 1999. She obtained her habilitation from LMU in 2014, becoming the first Indian woman to receive it from LMU's Faculty of Geosciences.

Dr. Sumathi is an Institutional Board member for the GERDA/LEGEND collaborations and active in various professional societies, including IACG, DGKK, WAYS, and IAPS. She serves as guest editor (Results in Materials, Elsevier) and topical editor (Crystals journal), sits on multiple advisory committees, and has co-chaired international conferences such as IWCGT-8 and DGKK's 51st convention in Berlin (2021).