



Subject Matter Experts

The instructional faculty comprises **experts from AIT, and a select number of women professionals and leaders from across the region**. WePower SAR-100 brings together a group of women and men who are highly regarded by their peers and will each highlight their perspectives in the broad topic of women and leadership contextualized to the area of sustainable energy. Each instructor brings specialized knowledge, deep knowledge of South Asia's regional context, and international experience, offering participants a comprehensive understanding of topics under discussion within the subject of Women and Leadership.



Prof. SIVANAPPAN KUMAR

Emeritus Professor

*Sustainable Energy Transition, Department of Energy, Environment and Climate Change
Asian Institute of Technology*

Prof. Sivanappan Kumar is a professor at the Asian Institute of Technology (AIT) with over 30 years of experience in renewable energy, climate change mitigation, and sustainable development. He has taught at the master's and PhD levels, supervised more than 140 students, and published over 100 peer-reviewed articles and 70 book chapters. His research focuses on renewable energy and low-carbon development across Asia, and he has led over 90 projects with a combined budget exceeding \$9.5 million. Kumar has served as Vice President for Academic Affairs and Dean at AIT, and he is the editor of the International Energy Journal. He holds a PhD from the Institut National Polytechnique de Toulouse, France, along with degrees in Energy Technology and Mechanical Engineering. He is recognized as one of AIT's top 2% global scientists in Sustainable Energy Transition.



Prof. FRANCISCO GONZALES-LONGATT

Professor
Electrical Power Systems
University of South-Eastern Norway

Prof. Longatt is a professor at the University of South-Eastern Norway. He is the founder and leader of the Digital Energy Systems Laboratory, a real-time hardware-in-the-loop laboratory facility built for research. His specialties include power systems dynamics with a strong background in electromechanical processes, power system operation and control with an emphasis on using novel methods to enhance the performance of power systems including heuristic optimization and machine learning. He has experience in research and development on wind power, energy storage, electric vehicles, multi-terminal-HVDC, and protection systems with an emphasis on wide-area control and digital substations using IEC 61850.



Dr. RUPENDRA KUMAR PACHAURI

Associate Professor
School of Advanced Engineering
UPES, Dehradun, India



Dr. Rupendra Kumar Pachauri is an expert in the area of renewable energy technology and electrical hybrid power generation systems (Micro-grid advancements). His major research contribution is based on the hydrogen fuel cell power generation, energy management, advanced strategies for photovoltaic systems (stand-alone: ground mounted and floating photovoltaic systems) for power enhancement during the adverse environment conditions (dust aerosol, partial shading conditions) and power generation forecasting using Artificial intelligence and Machine learning techniques. Dr. Rupendra Kumar Pachauri is a distinguished academic and an Associate Professor holding the esteemed position within the Electrical Cluster department at UPES in Dehradun, India. Dr. Pachauri has been a valued member of the UPES faculty since 2016, where he has made significant contributions to the fields of Electrical and Electronic Engineering, with a special focus on Solar Energy. His academic journey is underpinned by a strong educational foundation. Dr. Rupendra Kumar Pachauri was associated with the Department of Energy, Environment & Climate Change, School of Environmental Resource and Development, Asian Institute of technology, Pathum Thani, Thailand during his Post-doctoral fellowship from June 2022- August 2023. He has completed his PhD degree from G. B. University, Gautam Buddha Nagar, India (2016). Dr. Pachauri completed his M. Tech degree at Aligarh Muslim University (2009), and earlier, he obtained his B. Tech degree from UPTU Lucknow, India (2006). In 2023, Dr. Pachauri is recognized as one of the world's top 2% scientists by Stanford University and Elsevier. These qualifications have laid the groundwork for his illustrious career in academia and his expertise in the intricate domains of electrical and electronic engineering.



Dr. ABHISHEK RANJAN

*Vice President and Head of Renewable, Smart and DSM Projects
BSES Rajdhani Power Limited (BRPL)
India*

Dr. Ranjan is the Vice President and Head, Renewable, Smart and DSM Projects at BSES Rajdhani Power Limited (BRPL) in India. Abhishek has about two decades of experience in Power and Information Technology sectors in India. He started his career with Infosys Technologies Limited where he worked on development of enterprise applications for a major US utility and a technology MNC. Abhishek is currently leading a team in the areas of energy efficiency & demand side management, renewable integration and rooftop solar, grid level energy storage solutions, EV charging infrastructure, power scheduling & demand forecasting and energy analytics.



Dr. ANKUSH SHARMA

*Associate Professor
Department of Electrical Engineering
IIT Kanpur, India*

Dr Ankush Sharma is currently working as Associate Professor in the department of Electrical Engineering at IIT Kanpur, India. Prior to that, he was working as Assistant Professor at IIT Bhubaneswar, India. In addition to academic experience of around 8 years, he also has close to 16 years of industry experience. He holds a Ph.D. degree in Electrical Engineering from IIT Kanpur. He has been Project Management professional (PMP[®]) certified in 2009 from Project Management Institute (PMI), USA and holds an MBA degree in Finance. He has also worked as Professor In-charge at Start-up Incubation and Innovation Centre (SIIC), Indian Institute of Technology (IIT) Kanpur, India, during 1st September 2022 to 31st August 2024.

He has received various awards in his academic and professional career, including POSOCO Power System Award (PPSA) in 2015. He received Gold Award for the “Smart City Pilot Project” by India Smart Grid Forum in 2019. He is a senior member of IEEE.





Dr. TRIPTA THAKUR

*Director General
National Power Training Institute (NPTI), Ministry of Power
Government of India*

Dr. Tripta Thakur is Director General, National Power Training Institute (NPTI), apex body of Ministry of Power, Government of India. She was earlier Head and Professor, Electrical Engineering Department at the National Institute of Technology, MANIT-Bhopal, India. She is a graduate in Electrical Engineering with Master's degree in Power Electronics from IIT-Kanpur, and has a PhD from IIT-Delhi. She has been recipient of several awards such as Commonwealth Research Scholar at University of Dundee (2005-2008), UK, Commonwealth Academic fellow at Durham University Business School (2014), UK, COFUND Senior researcher at Durham University Business School (2016), Visiting Faculty at AIT, Bangkok (2010), technical member for International Electrotechnical Commission (IEC), SEG4 Group, ISGF (MoP) working group member etc. She has teaching and research experience of 28 years, with close to 100 publications to her credit. She was also an international consultant for developing possible common South Asian electricity markets. She has done various consultancies for distribution companies in India.



Sanath Prabhu

Director of Sales and Business Development at Energy Exemplar

Sanath Prabhu is the Director of Sales and Business Development at Energy Exemplar, a leading provider of energy market simulation software. With nearly two decades of experience in the energy sector, Sanath has been instrumental in driving growth and expanding market presence for various companies like Oracle Utilities, Siemens, Power Ledger and currently at Energy Exemplar.

Before joining Energy Exemplar, Sanath served as the Regional Manager for South Asia at Power Ledger, where he led sales efforts and managed key accounts. Powerledger is a blockchain-based platform that facilitates flexible trade, management, and provenance tracking of sustainable energy from sources like solar, wind, and hydrogen. Sanath's role involved creating technical and commercial proposals to support sales processes and leading project delivery and contract negotiations.



Sanath holds an M.S. in Power Systems from Clemson University, US and a B.E. in Electrical and Electronics Engineering from SJCE, Mysore. He is passionate about advancing sustainable energy practices through cutting-edge technology and innovative solutions

Module 2: Renewable Energy Integration in Power Systems

Course Objective:

To provide in-depth knowledge on integrating renewable energy sources into traditional power systems, focusing on emerging technologies, forecasting, data analytics, and cybersecurity.

Learning Outcomes : By the end of the course, the participants would be able to,

- Gain a comprehensive understanding of the global energy transition, sustainable practices, and various renewable energy sources (wind, solar, hydro, biomass, geothermal).
- Equip participants with knowledge of the challenges of integrating intermittent renewable energy, grid balancing techniques, load forecasting, and smart grid technologies.
- Learn about the crucial role of energy storage in renewable energy integration, advancements in battery storage, and alternative storage technologies (e.g., thermal storage, CAES).
- Explore the applications of AI, ML, and IoT in grid management, blockchain for energy trading, predictive analytics, and cybersecurity solutions within renewable-integrated power systems.
- Learn methods to enhance power system flexibility, the impact of demand response programs, and the integration of Vehicle-to-Grid (V2G) infrastructures.