



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
AICTE SPICES Sponsored Club Presents Short Term Training Programme on
SMART GRID TECHNOLOGIES - SGT'23

Coordinators: Ms. Soumya A V, Ms. Shilpa Susan Peter

Brief Report

The six-day Short Term Training Programme on **Smart Grid Technologies – SGT'23** was organized by the Department of Electrical and Electronics Engineering, Mar Baselios College of Engineering and Technology, Trivandrum, from 17 April 2023 to 22 April 2023. The programme was sponsored by **AICTE SPICES Sponsored Club**.

The objective of the course was to impart technical expertise and hands-on experience to the professional community including engineering students, faculty, researchers and industrialists in the field of Smart Grid Technologies. An important goal of Smart Grid Technology (SGT) is to leverage modern Information and Communication Technology (ICT) infrastructure to help monitor and control of the power system more effectively. This transforms conventional power system networks into smart energy grids that will be responsible for intelligent management, operation, and control of energy flow. The growing interest that the smart grid is attracting and its multidisciplinary nature motivate the need for solutions coming from different fields of knowledge. Due to the complexity, and heterogeneity of the smart grid and the high volume of information to be processed, artificial intelligence techniques and computational intelligence appear to be some of the enabling technologies for its future development and success. Through the lectures of eminent speakers, the programme intends to give an exposure to various fields like Introduction to distributed energy resources and microgrid, Power Quality Management in Smart Grid, Energy Management in Smart Grid, Substation and feeder automation, Cloud Computing in Smart Grid, Introduction to Smart Meters, Communication Protocols in Smart Grid, Plug-in Electric Vehicle in Smart Grid, Cyber Security: Challenges and Solutions in Smart Grid, Research Opportunities in Smart Grid and hands-on training in Energy forecasting in smart grid and cloud computing methods. The programme was so designed which will enable the faculty and research scholars to take up research initiatives in these areas.

About 54 participants from various institutions including faculty, research scholars and UG/PG students registered for the course.

The programme was inaugurated in Faraday Hall, Department of Electrical and Electronics Engineering, MBCET on 17 April 2023 at 9:30 am by **Er. Rajeev K R**, Energy Technologist B in EMC. **Ms. Soumya A V**, Coordinator of the STTP gave a brief description about the programme overview and welcomed the participants and the chief guest. **Dr. Abraham T Mathew**, Principal, MBCET gave the Presidential address followed by the lamp lighting. **Rev Fr. John Varghese** presented the memento to the chief guest and **Dr. Nisha G.K**, Head of the EEE Department, MBCET offered felicitation. **Ms. Shilpa Susan Peter**, Coordinator of the STTP proposed the vote of thanks.

On the first day (17 April 2023), first session was handled by **Er. Rajeev K R** on the topic “**Energy Management in Smart Grid**”. The second session was on the topic “**Introduction to Smart meters**” by **Dr. M Meenakshi Devi**, Assistant Professor, Thiagarajar College of Engineering, Madurai. The third session handled by **Dr. Harikumar R**, Associate Professor, CET was on the topic “**Introduction to distributed energy resources and Microgrid**”.

On the second day (18 April 2023), first session was handled by **Dr. Albert Alexander**, Associate Professor, VIT, Associate Professor, Vellore Institute of Technology, Vellore, on the topic “**Power Quality Management in Smart Grid**”. The second session was on the topic “**Communication Protocols in Smart Grid**” handled by **Dr. Sasikumar P**, Associate Professor, Vellore Institute of Technology, Vellore.

On 19 April 2023, the session was handled by **Dr. Nisha G.K**, Head of the EEE Department, Mar Baselios College of Engineering and Technology, on the topic “**Plug in Electric Vehicle in Smart Grid**”. The session was followed by a talk on “**Applications of AI in Smart Grid**” by **Dr. Tessy Mathews**, Professor, Department of Computer Science and Engineering, MBCET and a hands-on training on “**Energy forecasting using Machine Learning**” by **Dr. Jesna Mohan** Assistant Professor, Department of Computer Science and Engineering, MBCET.

On the fourth day (20 April 2023), two sessions were handled by **Mr. Biju S S**, Ex. Engineer KSEB. The first session was on the topic “**Smart Substation**”, followed by another session on “**Feeder Automation**”.

On the fifth day (21 April 2023), first session was handled by **Ms. Asha S**, Associate Professor Department of Computer Science and Engineering, MBCET. The session was on the topic “**Cloud Computing in Smart Grid**”, followed by another demo session on “**Cloud Computing Platforms**” by **Mr. Shibu V.S.**, Assistant Professor, Department of Computer Science and Engineering, MBCET.

On the last day (22 April 2023), first session was handled by **Dr. Sheryl Arulini A**, Assistant Professor, Department of Electrical and Electronics Engineering, MBCET, on the topic “**Cyber Security Issues and Challenges in Smart Grid**”. The second session was on the topic “**Research Opportunities in Smart Grid**” by **Dr. Marsaline Beno**, Dean-Research, St. Xavier’s Catholic College of Engineering and Technology.

The valedictory function was conducted through online platform on 22 April 2023 at 2:00 pm. **Dr. Nisha G.K**, Head of the EEE Department, MBCET congratulated the coordinators and expressed her gratitude to all the participants for making this STTP a grand success followed with feedback sessions from participants and **Ms. Shilpa Susan Peter**, Coordinator of the STTP concluded the session by extending a vote of thanks.



Short Term Training Program on
SMART GRID TECHNOLOGIES

17 April 2023 TO 22 April 2023

Department of Electrical and Electronics Engineering, MBCET



INNOVATION AND
ENTREPRENEURSHIP
DEVELOPMENT CENTRE

