THE NATIONAL INSTITUTE OF ENGINEERING
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
Manandavadi Road, Mysuru-570 008
Phone: 0821-2480475,2481220,4004944 Fax: 0821-2485802, Email: echod@nie.ac.in

REPORT: Siemens Altair Feko Training Program

Title: **Siemens Altair Feko Training Program**

Conducted by: **Siemens, Bengaluru**

Date: 23--24 March 2026 Organized by Dept. of ECE for VI semester Students of BEC613F and Faculty members of ECE

The Department of Electronics and Communication Engineering at NIE Mysuru successfully organized a 2-day hands on training session from March 23 to March 24, 2026. Training Objectives

The interactive training is designed to familiarize the participants with the essential functions of FEKO by going through the following topics listed in the table below.. Experts from Simens-Messan Labs conducted various sessions to enrich students' and faculty members understanding and practical skill in designing Transmission Lines, Patch Antenna using Simenes Feko SOftware. Sessions were also also extended to understand the applicability of WinProp software in alalyzing the Electromagnetic Wave propagation in various medioum such air/free space.

Program Overview:

DAY-1 (23/03/2026): **Introduction to Siemens Feko and Handson sessions**

Forenoon (FN) Session:

The Day-1 training session commenced with an introduction to Siemens Feko, delivered by expert trainer Mr. Satwik Joshi from Siemens in association with its partner MessenLabs. The session highlighted the key capabilities of Feko in electromagnetic simulation, antenna analysis, and real-world problem solving. This was followed by an in-depth explanation of the solver portfolio, where different computational techniques and their practical applications were discussed in detail. After the break, participants engaged in a hands-on session on transmission lines and various types of port assignments, gaining practical experience in setting up simulation models. The forenoon session concluded with a comprehensive hands-on exercise on antenna design and array design, enabling participants to model, simulate, and analyze antenna performance effectively.

Afternoon (AN) Session:

The afternoon session continued under the guidance of Mr. Satwik Joshi from MessenLabs, a partner of Siemens. Participants were taken through an advanced hands-on exercise on antenna placement over a Ruiwalk helicopter platform, providing valuable insights into real-world applications, particularly platform-based antenna integration and performance evaluation. The session emphasized how structural and environmental factors influence electromagnetic behavior. The training concluded with an interactive Q&A session, where the expert addressed participant queries, clarified key concepts, and shared practical insights, making the session highly informative and application-oriented**.**

Day-2 (24/03/2026): Introduction to WinProp and Handson Sessions.

Forenoon (FN) Session:

The Day-2 training session began with an introduction to WinProp, delivered by expert trainer Mr. Satwik Joshi from Siemens in association with its partner MessenLabs. The session highlighted the capabilities of WinProp in wireless propagation, coverage analysis, and radio network planning, particularly for real-world scenarios in domains such as telecommunications and aerospace. This was followed by a hands-on session on antenna placement on a quadcopter, where participants gained practical exposure to configuring antenna systems on aerial platforms. After a short break, an extensive virtual flight test in an urban scenario was conducted, allowing participants to simulate and analyze signal propagation, coverage, and performance in complex environments, thereby strengthening their understanding of real-time wireless network behavior.

Afternoon (AN) Session:

The afternoon session continued with further exploration of the virtual flight test in an urban scenario, guided by Mr. Satwik Joshi from MessenLabs, a partner of Siemens. Participants refined their simulations and analyzed various parameters affecting network performance, including coverage, interference, and capacity. The session emphasized practical understanding of wireless system design and optimization using WinProp. The training concluded with an interactive Q&A session, where participants clarified their doubts and gained deeper insights into simulation techniques, making the session highly engaging and application-oriented.

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OUTCOMES OF THE PROGRAM:

Upon completion of these events, students and faculty members have:

- Gained a strong understanding of Computational Electromagnetics and its real-world applications.
- Acquired practical knowledge of using Siemens Feko for antenna design, array modeling, and electromagnetic analysis.
- Developed hands-on skills in transmission line modeling and port assignment techniques.
- Understood the working principles of different solver techniques and their applications in solving complex EM problems.
- Learned antenna placement and performance evaluation on real-world platforms such as aerial vehicles.
- Gained exposure to wireless propagation modeling using WinProp.
- Developed the ability to perform virtual flight tests and analyze coverage, interference, and network performance in urban scenarios.
- Enhanced problem-solving and simulation skills through practical, hands-on sessions.
- Strengthened their understanding of antenna integration, EMC/EMI considerations, and system-level design.
- Received guidance for virtual internship opportunities from Siemens and its partner MessenLabs.
- Are now in a position to effectively work on and solve problem statements floated by Siemens.
- Improved confidence in applying simulation tools for research, academic projects, and industry-oriented applications.

Event Coordinator/Lab Incharge HOD ECE

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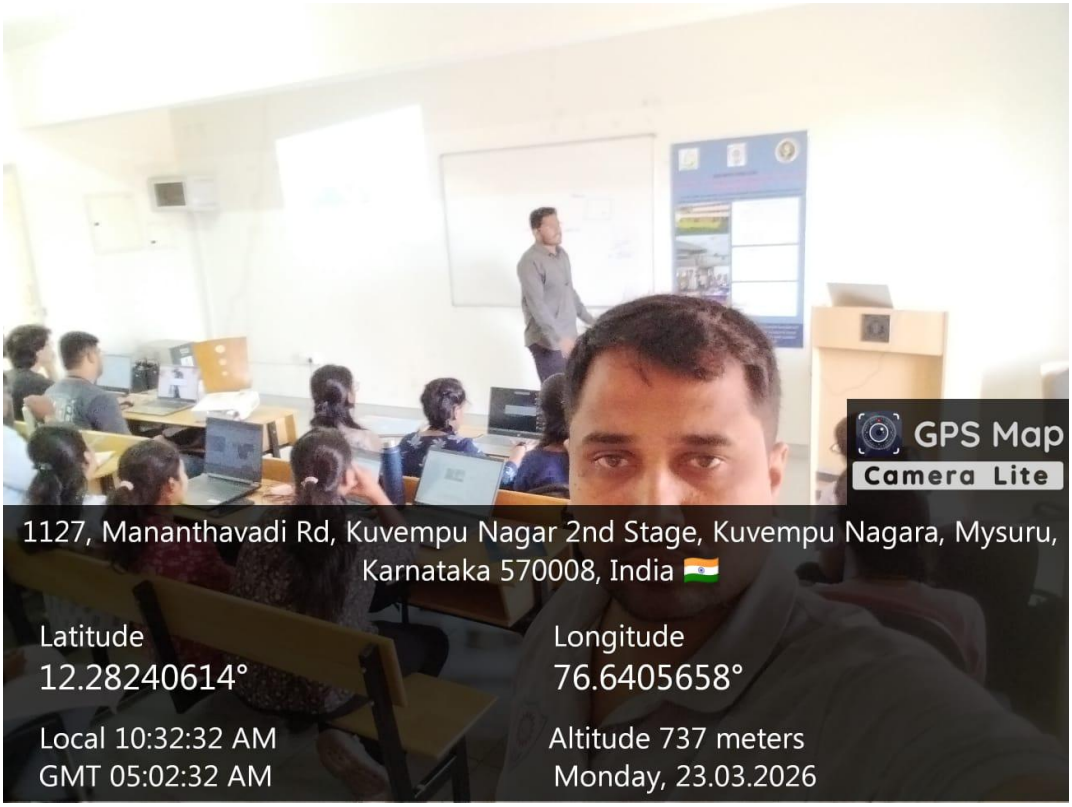

FEKO TRAINING SESSION AGENDA-March 2026

Date: 23/03/2026

Timing:10 AM - 3:15PM

Altair Feko Training Program

FEKO is a comprehensive computational electromagnetics (CEM) software product used widely in the telecommunications, automotive, aerospace and defense industries. Altair **FEKO** is a powerful electromagnetic simulation tool used for designing and analyzing antennas, antenna placement, and EMC/EMI. FEKO offers tools that are tailored to solve the more challenging EM interactions.

This training is for new users interested in Antenna design and Placement.

Training Objectives

The interactive training is designed to familiarize the participants with the essential functions of FEKO by going through the following topics listed in the table below.

Sl.No	Topic	Duration	Time
1	Introduction to Altair Feko and its capabilities	15 mins	10 – 10.15 AM
2	Introduction to Solver portfolio of Feko	45 mins	10.15 – 11.00 AM
	Break	15 mins	11.00 – 11.30 AM
3	Hands-On – Transmission line /Types of Port Assignment	1 Hr	11 AM – 12 PM
4	Hands-On – Antenna Design, Array Design	1 Hr	12 PM – 1 PM
	Lunch Break	1 Hr	1:30 PM – 2:15PM
4	Hands-On – Antenna Placement on Ruiwalk Helicopter	1 Hr	2:15 PM – 3 PM
	QnA	15 mins	3PM to 3:15PM

FEKO TRAINING SESSION AGENDA– MARCH 2026

Date: 24/03/2026

Timing:10 AM - 3PM

Altair Feko/WinProp Training Program

FEKO is a comprehensive computational electromagnetics (CEM) software product used widely in the telecommunications, automotive, aerospace and defense industries. To support FEKO's design in real world wireless scenarios, WinProp is a comprehensive and leading simulation tool in the domain of wireless propagation and radio network planning.

Altair **FEKO & WinProp** are powerful electromagnetic simulation tools used for designing and analyzing antennas, antenna placement, and EMC/EMI & **WinProp** allows the planning of coverage and capacity as well as network simulations scenarios.

Training Objectives

The interactive training is designed to familiarize the participants with the essential functions of FEKO & WinProp by going through the following topics listed in the table below.

Sl.No	Topic	Duration	Time
1	Introduction to WinProp and its capabilities	15 mins	10 – 10.15 AM
2	Hands-On -Antenna placement on a quadcopter	45 mins	10.15 – 11.00 AM
	Break	15 mins	11:00 – 11:15 AM
3	Virtual Flight Test for a quadcopter in Urban scenario	2 Hr	11:15 AM – 1:15 PM
	Lunch Break	1 Hr	1:15 PM – 2 PM
4	Virtual Flight Test for a quadcopter in Urban scenario	45 mins	2 PM – 2:45 PM
5	QnA	15 mins	2:45 PM – 3 PM