



Dayananda Sagar Academy of Technology and Management, Bangalore
 (Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)
 Accredited 3 years by NBA, New Delhi



Department of Electronics and Communication Engineering

3 Days Workshop On

"Antenna Design Workshop using HFSS/CST Tool"

In Association With IETE

RSS



Resource Person

Dr. Swetha Amit.

Co-Founder & CEO, Meander Spectra Private Limited, Bangalore.

Principal
 Dayananda Sagar Academy of Technology and Management
 Udayapura, Kanakapura Road,
 Bangalore - 560 082.

10-06-2023 to 14-06-2023 | 9.30AM-4.30PM
 Venue:NI Lab

Student Registration



Dr. Manjunath P. Y
 HOD - ECE

Staff Coordinator

Dr. M. Ravishankar
 Principal

Dr. ... Biradar, Prof. Shalini M G, Dr. Tripti Kulkarni,
 Prof. Manu H M, Dr. Dilip

Antenna design Workshop using HFSS TOOL

for 6th 'A' & 'B' section students

Planning for conduction of the workshop

DAY 1: 12/07/2023

TIME	Plan
10.00 am-10.30 am	Introduction and plan
10.30am-11.30 am	Talk on the basic concepts of Antenna and communication
11.30 am-11.45 am	Tea break
11.45 am-01.30 pm	Talk on the basic characteristics of antenna design
01.30 pm-2.30 pm	Lunch break
02.30 pm-4.30 pm	Introduction about the HFSS Tool and procedure explanation to design the antenna for wireless applications using HFSS Tool

DAY 2 : 13/07/2023

TIME	Plan
10.00 am-11.30 am	Design of Dipole antenna for signal transmission and analyzing the antenna design and parameters
11.30am-11.45 am	Tea break
11.45 am-01.30 pm	Continuation of design of dipole antenna
1.30 pm-2.30 pm	Lunch break
02.30 pm-4.30 pm	Design of Micro strip patch antenna

DAY 3 : 14/07/2023

TIME	Plan
10.00 am-11.30 am	Design of Micro strip patch for signal transmission and analyzing the antenna design and parameters
11.30am-11.45 am	Tea break
11.45 am-01.30 pm	Continuation of design of Micro strip patch antenna
1.30 pm-2.30 pm	Lunch break
02.30 pm-4.30 pm	Design of Micro strip patch antenna array
4.30 pm-5.00 pm	Vote of thanks and distribution of certificates.

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Baleguda - 50002



DAYANANDA SAGAR ACADEMY OF TECHNOLOGY & MANAGEMENT

Opp. Art of Living, Udayapura, Kanakapura Road, Bangalore- 560082
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CE, CSE, ECE, EEE, ISE and ME are Accredited by NBA, New Delhi

NAAC Accredited with A+ Grade

Department of Electronics & Communication Engineering

Event Name	Workshop
Theme	Antenna Design workshop using HFSS /CST TOOL
Date	12 th ,13 th and 15 th June 2023
Venue	NI Lab

Objectives of the Workshop:

- To explore student's knowledge on basics of Antenna.
- Introduce the concept of antenna and latest trends in antenna designing.
- Provide hands on experience on Ansoft HFSS tool.
- Application, fabrication and measurement techniques of antenna.

Coordinator:

1. Mrs. Shalini M G, Asst. Prof., Mob: 9964643735, shalinimg.39@gmail.com
2. Dr. Siddalingappagouda Biradar, Associate. Prof., Mob: 9880337267, siddubiradarri@gmail.com

Photos: (4 Photos)



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Purpose: The workshop aimed at introducing the basic tools and technologies of Antenna, to cultivate among the students an interest in the area of Antenna Design using HFSS TOOL. The workshop mainly aims to bind the gap between classroom teaching and software requirements of Industry.

About the topic: Introduction to Antenna, Importance of antenna in the real world Antenna characteristics and its importance.

Resource person: Dr.Swetha Amit
Co-Founder & CEO
Meander Spectra Private limited, Bengaluru

Addressing the GAP: The workshop mainly aims to bind the gap between classroom teaching and software requirements of Industry.

Preferably Measurable outcomes:

- To understand the basics of Antenna and its applications.
- To apply the concepts of antenna and its characteristics in solving real time applications using HFSS Tool.
- To provide Hands-on exposure to various applications of Antenna in wireless Communications, in Satellite communications, RADAR using HFSS Tool.
- To analyze the design of Antenna for real time applications.

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Impact of the feedback: To develop student's quality of learning with simulation based real time projects using HFSS Tool for designing of Antenna.



HOD-ECE

Dr. Mallikarjun P. Y.

H.O.D. Department of Electronics & Communication
Dayananda Sagar Academy of Technology & Management
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Kanakapura Road, Bangalore - 560 082.



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I have no suggestions	More practical applicat...	No
Could have added a c...	It was nice no improva...	Nothing...
		NA

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9/7/23, 2:22 PM

Feedback of 3 days Student Development Program on "Applications of Artificial Intelligence in Image Processing Using MATLAB"

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Feedback for 3 Days Student Development Program on " Antenna Design Workshop using HFSS/CST Tool "

All the student are here by informed to submit the feedback for 3 days Student
Development Program on " Antenna Design Workshop using HFSS/CST Tool " Organized
by Department of Electronics and Communication Engineering, Dayananda Sagar Academy
of Technology and Management, Bengaluru-560082 from 12-06-2023 to 15-6-2023.

* Indicates required question

1. Name of the Student (In Capital) *

2. USN *

3. Semester and Section *

Mark only one oval.

6th A

6th B

4. EMail ID

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5. **1. How would you rate the organization of workshop? ***

Mark only one oval.

- Excellent
 Very Good
 Good
 Fair

6. **2. Did the workshop achieve the program objectives? ***

Mark only one oval.

- Yes
 No

7. **3. Enhancement in subject knowledge? ***

Mark only one oval.

- High
 Medium
 Low

8. **4. Have you designed antenna using CST and HFSS? ***

Mark only one oval.

- Yes
 No

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9. **5. Is it possible to design the antenna for 5G and 6G communication system using CST and HFSS** *

Mark only one oval.

- Yes
 No

10. **6. Which of the following is the most common version of the printed antenna?** *

Mark only one oval.

- Horn antenna
 Microstrip antenna
 Wire antenna
 Lens antenna

11. **7. In Microstrip antenna, the patch and feed line is photo etched on dielectric substrate** *

Mark only one oval.

- True
 False

12. **8. The Most commonly used Microstrip antenna is ***

Mark only one oval.

- Rectangular
 Circular
 Cylindrical
 Elliptical

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13. 9. In mobiles, which of the following antenna is widely used? *

Mark only one oval.

- Microstrip Antenna
- Horn antenna
- Yagi-Uda antenna
- Lens antenna

14. 10. One of the advantages of the Microstrip antenna compared to conventional microwave antenna is *

Mark only one oval.

- Small size
- Low gain
- No surface wave excitation
- High gain

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Sl. No.	Name of the Student (As Capt'd)	USN	Section and Section	EMAIL	1. How would you rate the organization of	2. Did the workshop achieve the program	3. Enhancement in subject knowledge?	4. Have you designed activities using C#? and	5. Is it possible to design the activities for DB	6. Which of the following is the most common	7. In Microsoft software, the path and feel the file	8. The Most memory used Microsoft software	9. In mobility, which of the following software	10. One of the advantages of the Microsoft software
4002.5435	B. VYRNA G H	107200041	SH A	Mayasree19@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5448	WYVA BAHAKRPH	107200078	SH B	Wiyatankapurb@gmail.com	Very Good	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5479	Kalavati K J	107200042	SH B	Kalavati151@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5484	B. RAVAS B U	107200094	SH B	praveeraj14@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5461	ADY Udas	107200060	SH A	aditya2441@gmail.com	Excellent	Yes	Medium	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5494	DMV B1 KASWAP	107200012	SH A	dmv2002@gmail.com	Very Good	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5754	K YAM S H	107200002	SH A	lokeshkumar1900@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5157	PNALWAL D KOPPA	107200063	SH B	pnalwalpp@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.4708	Tyagesh Gowth	107200065	SH B	tyageshgowth7@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.4310	ACPT. RAJENDRA RAJENDRA RAJENDRA RAJENDRA RAJENDRA	107200060	SH A	rajendrak10@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.4175	REKHA RAJENDRA RAJENDRA RAJENDRA	107200061	SH A	rajendrak10@gmail.com	Very Good	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.4839	MOUSALI	107200061	SH A	rajendrak10@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.4082	G HIRANSHI	107200093	SH A	hishiranshi@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	High size
4002.4793	MBHUSHI MATHI	107200062	SH A	mathimushim@gmail.com	Very Good	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.4547	SANVITHA K S	107200086	SH B	santhitha10@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5088	Sondarya S	107200087	SH B	sondaryas@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5090	LAKSHMI H	107200086	SH A	lakshmi10@gmail.com	Very Good	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.5081	VINEETA KRISHNA KURU	107200080	SH B	vineeta10@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.6121	Mitala srinivas	107210010	SH B	srinivas10@gmail.com	Very Good	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size
4002.6549	ADITHYAN K M H	107210006	SH A	adithyan10@gmail.com	Excellent	Yes	High	Yes	Yes	Microsoft access	True	Rectangular	Microsoft Access	Small size

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TEJAS NIVAN D	4502.0094 U	10729C411	Bh A	tejasn1@proton	Comfort	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
TEJAS NIVAN D	4502.0094 U	10729C411	Bh A	tejasn1@proton	Comfort	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
G. SRAMEDHANI	4502.0091 REEDY	10729C011	Bh A	sramesh@redy	Comfort	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
K. B. HANISH	4502.0104 chowdry	10729C014	Bh A	hanish@redy	Very Good	Yes	Medium	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
APOORVA	4502.0076 APOORVA	10729C099	Bh A	apoorva@redy	Very Good	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	High gain
ASHAY KALASH	4502.0081 ASHAY KALASH	10729C096	Bh A	ashay@redy	Comfort	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
SORITALA GOPI	4502.0005 CHOWDARY	10729C025	Bh A	soritala@redy	Comfort	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
DURGA RASAB	4502.0101 REDDY NALLURU	10729C021	Bh A	durga@redy	Very Good	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size
ANANDHA	4502.0207 KESHAVAN	10729C006	Bh A	anandha@redy	Comfort	Yes	High	Yes	Yes	Microchip antenna	True	Rectangular	Microchip Antenna	Small size

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Dr. Swetha Amit

Co-Founder & CEO, Meander Spectra Private Limited, providing Advanced Engineering solutions in Antennas and RF Systems along with training, internships, Products and Services.

Email: swetha.amit@gmail.com, swetha.amit@meanderspectra.com, Phone no: 9353286709

I am a motivated and passionate professional with over 15+ year of academic and 9+ year of Research on design and development of Antennas and RF components. I have expertise in antenna design, simulation, prototyping, testing, optimization, documentation and fabrication. I have hands on antenna design experience with state-of-the-art design tools such as Ansys HFSS, Optenni Lab, ADS, Network Analyzer and Anechoic Chamber. My strengths include multitasking, problem solving, quick learner, attention to detail, good communication skills and always looking for product improvement. My research focusses on design of Wearable/Textile/Embroidery antennas with Metamaterials and Frequency selective surface for Health monitoring and IoT applications, Analysis of Specific Absorption rate (SAR) and its reduction in human body, Liquid Antenna design for reduced RCS application and reconfigurability.

TEACHING EXPERIENCE: 13 years, R&D EXPERIENCE: 9 years

Professional Experience

1. Assistant Professor, Department of Electronics and Telecommunication Engineering, M S Ramaiah Institute of Technology, Bangalore, August 2012- August 2021
2. Research Scholar, R V College of Engineering, Bangalore, 2012
3. Lecturer, Global Academy of Technology, Bangalore, 2009-11
4. Lecturer, Adichunchanagiri Institute of Technology, Chikkamagalur, 2006-2007

SI No	R&D related to Antenna and RF systems	Details
1	Government Funded Projects	3
2	Consultancy	9
3	Talks delivered to Industry (Ansys & BEL) and academics	15
4	SJR and Scopus Publications	13
5	Reviewer/Editor task for Journal/Conference/Book Chapter	10
6	Primary Member of Center of Excellence on Antenna and RF systems at M S Ramaiah Institute of Technology, Bangalore	Designed the setup for Anechoic chamber
7	Patents	2 product patents filed and published

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8	Tools and software (since 8 years)	1) Ansys HFSS , FEKO, CST 2) RF Analyzers, Generators etc. 3) Anechoic chamber experiments
9	YouTube Channel for RF and Antenna Interaction & Knowledge Sharing	Antenna Enclave https://www.youtube.com/channel/UCFLY-AXUcRYeLwIYkux6WiA
10	Professional Membership	IEEE Senior Member (92618904) , IETE, ATMS (Antenna Test and Measurement Society)

GRANTS AND AWARDS

1. Meander Spectra Private Limited won a challenge from Defense Innovation organization (DIO); Defense India Startup Challenge (DISC-5) on design and development of Conformal Helmet Antenna- 2022
2. Dr.Swetha Amit, Dr.Viswanath Talasila, Mr. P M Premnath, Department of Electronics & Telecommunication and AvGarde Systems Pvt Ltd jointly defended a challenge at the 4th edition of **Defense India Startup Challenge (DISC)** on "Reduction of RCS (Radar Cross Section) for Naval warships" launched by **iDEX** (Innovations for Defence Excellence) India and won the challenge. We were felicitated by the Honourable Raksha Mantri, Mr Rajnath Singh, during the StartUp Manthan event at Aero India in Bangalore on 5th February 2021.
3. Grant from Vision Group of Science & Technology (**VGST**) for project "Centre of Learning for setting up Microwave and Antenna Lab" under VGST K-FIST L2, *Grant money: 40 Lakhs, 2019-2021*
4. Grant from All India Council for Technical Education (**AICTE**) for project "Performance Characterization of Flexible Wearable Antennas for Dynamic IoT Connectivity" under the scheme Modernization and removal of Obsolescence (**MODROBS**) Scheme. *Grant money: 10 Lakhs, 2019-2021*
5. **Best Project** award for UG Final year student for guiding on project "Design and development of Saline based Reconfigurable Liquid Antenna". August 2020.
 - o Patent filed
6. **First Place** in the Project Presentation contest "Kagada 2019" conducted by IEEE UVCE on 21st October 2019 and were awarded a cash prize of Rs. 4,000/-. The project demonstrated was on Liquid Antennas at FM.
7. Secured **Gold Medal** in M. Tech (Communication Systems) under Visveswaraiiah Technology University (VTU).

RELATED R&D ACTIVITIES

- 1) Design and Development of **Textile Embroidery Antennas for Health monitoring and IoT Application**
- 2) R&D Collaborations
 - o Semi-Conductor Laboratory, Department of Space, Government of India - Antenna for TeraHertz Applications
 - o Dr. Prasad Sastry (Bradley Univ, USA) – UWB wearable devices
- 3) IEEE Execom member in Student Chapter in Antenna & Propagation Society
- 4) Research Mentor for student Industry Projects in Antenna and RF

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- o LRDE: June 2019
 - o Raman Research Institute: June 2018
- 5) Reviewer
- o IEEE conference "IEEE CONECCT, 2020, 2021.
 - o International Journal of RF and Microwave Computer-Aided Engineering, Q2, 2020, 2021
 - o Reviewer in Journal of "The Institution of Engineers" (India): Series B (IEIB), Q3, 2020, 2021
 - o Conference UPCON, 2020.
 - o Book Chapter "Microstrip Antenna Design for Wireless Application" with CRC Press, Taylor and Francis Group, September 2020
 - o IEEE conference "IEEE B-HTC 2020", July 2020
- 6) Editor
- o Special Issue Smart Antennas - Latest Trends in Design and Application, European Alliance for Innovation (EAI) and Springer Publisher, 2020
 - o Co-editor of Special Issue Questionnaire for MEASUR SI on Metamaterials for Antenna System Design and Optimization in Elsevier, June 2020

EDUCATION QUALIFICATION

Course	Institution/University	Year	Class and Percentage
Ph.D (Electronics Engineering)	Jain University	2018	-
M-Tech (Communication Systems)	Visvesvaraya Technological University R. V. College of Engineering Bangalore, Karnataka.	2009	FCD 78%
B.E (Electronics & Communication Engineering)	Visvesvaraya Technological University Adichunchanagiri Institute of Technology, Chikmagalur, Karnataka.	2005	FCD 79%
Post Graduate Diploma in Human Resource Management (Distance Education)	Jnana Sahyadri, Shankaraghatta, Kuvempu University, Shimoga	2007	FC 61%
PUC (10+2)	Deshiya Vidhya Shala, Shimoga, Karnataka	2001	FC 77%
SSLC (10)	Poorna Prajna Education Center, Bhadravathi, Shimoga (Dist), Karnataka.	1999	FCD 87%

CONSULTANCY PROJECTS

Sl. No.	Title of the project	Sponsoring Agency
1.	Array antenna Fabrication at 2.4GHz	Government Engineering College Bhavnagar, Gujarat
2.	Antenna Fabrication	Nitte Meenakshi Institute of Technology, Bangalore
3.	Antenna Design, fabrication and Testing	Adichunchanagiri Institute of Technology, Chikmagalur
4.	Design of RF Filters, Log-periodic antenna at C-band	TechniLab Instruments, Bangalore
5.	Testing RF Detectors for accurate calibration	Testing RF Detectors for accurate calibration
6.	Design of Patch antenna at L and S band	Elena Geo Systems Private Limited


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