Somaiya Vidyavihar University

Name: Dr. Makarand Govind Kulkarni			**E-mail:makarandkulkarni@somaiya.edu**
Contact No: 022-66449212 (Office), 09969256375 (Mobile)			
Department/Section: Department of Electronics Engineering			
College: K J Somaiya School of Engineering			
DOJ Somaiya: 01 / 08 / 2002	Career Experience: 23 Yrs	Industry Experience: 06 months	Teaching Experience: 23Yrs
Present Academic Designation: Associate Professor		Present Administrative Designation: Joint Associate Dean Resource and Infrastructure Management	

Area of research/specialization and Courses Delivered

Research domain/interests/areas

1. Internet of Things (IoT) and Sensors Technology
2. RF and Microwave Circuits and System
3. Wireless Sensor Networks
4. Computer Networks
5. Optical Fiber Communication

Courses Delivered

Classes / Branch	Subjects
UG	Cloud Computing, Discrete Mathematics, Engineering Electromagnetic, Basics of Communication Engg., Microwave & Fiber Optic Communication, Digital communication & Coding Techniques, Control System Engg., Mobile Communication, Wireless Sensor Networks.
PG	Advanced Wireless Networks
Ph. D.	Research Publication and Ethics, Research Methodology

Recognition as a teacher by any University	UG: Yes	PG: Yes	Ph.D : Yes

Details of Recognitions

- Recognized teacher and guide for Ph. D. since 2021
- Recognized teacher and guide for PG since July 2017
- Recognized teacher for UG since August 2002

Education

Examination	Name of the Degree	University/Board	Institute/College	Year	CPI/SPI/ %Marks
Ph.D	Ph.D. (Technology)	University of Mumbai	VJTI, Mumbai	2020	Awarded
PG	M. Tech. (Electronics & Telecommunication)	University of Mumbai	VJTI, Mumbai	2011	CPI = 9.7
UG	B.E. (Electronics & Telecommunication)	University of Mumbai	S. S. Jondhale Collage of Engineering	2001	60.63%

Research Accomplishments and Projects		
No of students pursuing Ph.D as on date: 04		No of students completed Ph.D as on date:0
No of students completed PG thesis / Project work as on date:03		No of students / groups completed UG projects as on date:50
Publications Total= 34	Number of Peer review Journal papers: 15	Number of Conference papers:19

International Journals:

1. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Coplanar Waveguide Band Reject Filter Using Electromagnetic Band Gap Structure," Progress In Electromagnetic Research Letter (PIER-L), Vol. 70, pp. 53-58, ISSN/ISBN No. 1937-6480, September 2017, DOI : 10.2528/PIERL17070204 **(Scopus Indexed)**

2. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Novel Coaxial Cable Implementationof Miniaturized Wilkinson Power Divider and Quadrature Hybrid Coupler for VHF Applications", Telecommunications and Radio Engg, Vol. 77, No. 15, pp. 1365-1374, September 2018. DOI: 10.1615/TelecomRadEng.v77.i15.70. **(Scopus Indexed)**

3. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, " Design and Analysis of Coplanar Waveguide Band Stop Filter using Asymmetric Defected Ground Structure for Fine Alteration of Stop Band", International Journal on Electronics & Applied Research, Vol. 05, No.01, pp.17-31, ISSN 2395-0064, June 2018.

4. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Design and development of a compact 1: 4 unequal Wilkinson power divider using coaxial cables for VHF radar applications", Telecommunications and Radio Engineering, Vol. 78, pp. 1287-1294, ISSN 0040-2508, September 2019. DOI: 10.1615/TelecomRadEng.v78.i14.60**. (Scopus Indexed)**

5. M. G. Kulkarni, Nisha Sarwade, "Suppression of Harmonics in Wilkinson Power Divider using Defected Ground Structure", Int Journal on Electr. & Comm Tech.,Vol.2,(2), June 2011.

6. V. Lotia, Karan Shah, M. G. Kulkarni "Design and performance Assessment of Compact Microwave Filter using Defected Ground Structure", International Journal of Engineering, Technology, Scienceand Research, pp- 239-289, April 2017.

7. Himadri Patil, M. G. Kulkarni "A review on Various Mood detection and Regulation Methods", International Journal of Engineering Research in Computer Science and Engineering, Vol. 7, Issue 9, September 2020.

8. Himadri Patil, M. G. Kulkarni "Mood detection and Regulation Methods", International Journal for Scientific Research & Development, Vol. 8, Issue 10, 2020, ISSN: 2321-0613.

9. Jay Ingle Tanmay Gorad, Gaurav Dighe, Makarand Kulkarni, COVID SLAYER - A Covid safety kit with biometric attendance system, , International Research Journal of Engineering and Technology, Vol 9, Issue 05, pp 1245-1252, 2022

10. Patel, I., Kulkarni, M. & Mehendale, N. "Review of sensor-driven assistive device technologies for enhancing navigation for the visually impaired" Multimed Tools Appl, Vol 83, pp 52171–52195 (2024). https://doi.org/10.1007/s11042-023-17552-7 **(Scopus Indexed)**

11. S. Mane, M. Kulkarni, and S. Gupta, "Effectiveness of Multilayer Perceptron for Indoor Localization in Wi-Fi Enabled IoT Environments" J. Inst. Eng. India Ser. B (2024).

https://doi.org/10.1007/s40031-024-01164-2. **(Scopus Indexed).**

12. Mane, S., Kulkarni, M. & Gupta, S. 'Hyperparameter Optimization for Indoor Localization in Wi-Fi IoT Application'. Wireless Pers Commun 139, 2601–2629 (2024). https://doi.org/10.1007/s11277-024-11727-7 **(Scopus Indexed).**
13. S. Mane, M. Kulkarni, and S. Gupta, " RSSI-Based Indoor Distance Estimation in Wi-Fi IoT Application Using AI Approaches," International Journal of Communication Systems, Volume 38, Issue 5, pp. 1–19, 2025.**(Scopus Indexed).**
14. Kulkarni, M. G., Pednekar, M. A., & Nirmal, J. H. (2025). Workshop-Driven Internship: A New Paradigm in Engineering Education. Journal of Engineering Education Transformations, 38, 384–388. https://doi.org/10.16920/jeet/2025/v38is2/25046.**(Scopus Indexed).**
15. Sandeep R. Sainkar ,Anudeepa S. Kholapure, Makarand G. Kulkarni, 'Design of GaN-Based Phase-Locked Dielectric Resonator Oscillator for Strategic Applications', Jordan Journal of Electrical Engineering, Volume 11, (2), June 2025, pp. 365-379, https://doi.org/10.5455/jjee.204-1738563761.**(Scopus Indexed).**

Conferences:

1. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Design of a novel CPW filter using asymmetric DGS", Proceedings of IEEE International Symposium on Antennas & Propagation (APSYM-2016), Kochi, 15-17 December 2016, pp 01-04. (ISBN: 978-93-80095-85-8). (Published on IEEE Xplore, DOI: 10.1109/APSYM.2016.7929141) **(Scopus Indexed)**
2. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Quadrature Hybrid Coupler Using a Novel Coaxial Cable Implementation for VHF Band", IEEE International Conference on 'Advanced Antenna Technology' in Indian Antenna Week (IAW-2017) , Defence Institute of Advanced Technology (DIAT), Ministry of Defence, Govt. of India, Girinagar, Pune, June 05-09, 2017.
3. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Design and Analysis of CPW Low Pass Filter with Good Filter Selectivity and Sharpness Factor", Proceedings of IEEE 3rd International Conference on Microwave and Photonics (ICMAP), IIT (ISM) Dhanbad, Feb. 09-11, pp. 1-2 2018. (DOI: 10.1109 / ICMAP.2018.8354617). **(Scopus Indexed)**
4. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Design of a Novel CPW Band Stop Filter using Asymmetric Meander-Line Defected Ground Structure", Proceedings of IEEE International Conference on Wireless Communication. Lecture Notes on Data Engineering and Communications Technologies, Vol. 19, January 2018, Springer, Singapore. DOI: https://doi.org/10.1007/978-981-10- 8339-6_13. **(Scopus Indexed)**
5. M. Kulkarni, A. N. Cheeran, K. P. Ray and S. S. Kakatkar, "Novel Compact Implementation of Rat- Race Hybrid Coupler Using Coaxial Cable For VHF Applications," IEEE, TEQIP III Sponsored International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW), National Institute of Technology (NIT), Tiruchirappalli-, Tamil Nadu, India, May 22-24, 2019, pp. 69-71, DOI: 10.1109/IMICPW.2019.8933215. **(Scopus Indexed)**
6. A. Khare, S. Kharat, A. Rajapkar, S. M. Rathod and Makarand Kulkarni, "Design of a Compact Wilkinson Power Divider using Four Asymmetric DGS for Harmonic Suppression," 2019 TEQIP III Sponsored International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks (IMICPW), 2019, pp. 353-356, doi: 10.1109/IMICPW.2019.8933177. **(Scopus Indexed)**

7. Mr. M.G. Kulkarni, Nisha Sarwade, “Performance Evaluation Based on Harmonic Suppression & Analysis of Defected Ground Structure in Microwave Devices & Circuits”, International Conference onSunrise Technologies, SSVPS, Dhule, January 2011.
8. Mr. M.G. Kulkarni, Nisha Sarwade, “Design Analysis and Testing of Wilkinson Power Divider with Harmonics Suppression using Defected Ground Structures”, IEEE sponsored International Conference on Signal Processing, Communication, Computing & Networking Technology, Dept. of Electronics & Communication Engg, Noorul Islam Centre for Higher Ed., Thuckalay, Tamil Nadu, July2011, pp. 50-55, doi: 10.1109/ICSCCN.2011.6024513. **(Scopus Indexed)**
9. Mr. M.G. Kulkarni, Nisha Sarwade, “Performance Assessment & Recent Trends in Wilkinson Power Divider”, National Conference on Emerging Trends in Computing & Communication, MIT, Indore, M. P., November 2010.
10. Mr. M.G. Kulkarni, D. P. Kulkarni, “Acousto-optic Tunable Filter for WDM Technology”, National Conference on, Tends in Telecom Transmission: Copper to Fiber, Dept. of Electronics & Communication Engineering, K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, March 2006.
11. S. Mane, M. Kulkarni, and S. Gupta, "Energy Prediction for Efficient Resource Management in IoT-Enabled Data Centres,", International Conference on Technologies for Energy, Agriculture, and Healthcare (ICTEAH 2024),K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, India, April 2024. **(Scopus Indexed).**
12. Patel, I., Kulkarni, M. & Mehendale, N., "Multi-Sensor Fusion for Indoor Navigation Assistance for the Visually Impaired" International Conference on Technologies for Energy, Agriculture, and Healthcare (ICTEAH 2024),K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, India, April 2024. **(Scopus Indexed).**
13. S. Mane, M. Kulkarni, and S. Gupta, "Particle Swarm Optimization Driven Failure Prediction In Industrial Internet of Things," 3rd International Conference on Advanced Communication and Intelligent Systems (ICACIS 2024), Jawaharlal Nehru University, New Delhi, India, May 2024.
14. Mrunmayee Utekar, Makarand Kulkarni et. al. "Smart IoT-Based Healthcare Monitoring System", International Conference on Technologies for Energy, Agriculture, and Healthcare (ICTEAH 2024),K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, India, April 2024. **(Scopus Indexed).**
15. Prathamesh Bagal, Aditya Mishra, Makarand Kulkarni, “Design and Development of Wilkinson Power Divider for WiFi Applications”, International Conference on Technologies for Energy, Agriculture, and Healthcare (ICTEAH 2024),K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, India, April 2024. **(Scopus Indexed).**
16. I. Patel, M. Kulkarni and N. Mehendale, "Machine Learning-Based Sensor Synchronization for Enhanced Spatial Awareness in Assistive Technologies," 2024 International Conference on Intelligent Systems and Advanced Applications (ICISAA), Pune, India, 2024, pp. 1-6, doi: 10.1109/ICISAA62385.2024.10829046.
17. P. Chopra and M. G. Kulkarni, "A Secure File Encapsulation System for File Sharing in the Absence of a Trusted Channel," 2024 3rd Edition of IEEE Delhi Section Flagship Conference (DELCON), New Delhi, India, 2024, pp. 1-4, doi: 10.1109/DELCON64804.2024.10866565. **(Scopus Indexed).**
18. Heena Singh and M. G. Kulkarni, “Analog beamforming: A promising technology for 5G and mm wave technology”, 7th International Conference on Advances in Science and Technology (ICAST 2024-25)" in association with the University of Mumbai, India which will be held on June 20th and 21st , 2025 at KJSIT, Sion, Mumbai. **(Scopus Indexed).**
19. Sushant Gawade, Makarand Kulkarni, Ninad Mehendale “Advances in Soil Nutrient Sensing

Technologies for Precision Agriculture: A Comprehensive Review", International Conference on Technologies for Energy, Agriculture, and Healthcare (ICTEAH 2025),K. J. Somaiya College of Engineering, Vidyavihar, Mumbai, India, June 2025. **(Scopus Indexed).**

Book Chapter:

1. M. G. Kulkarni, A. N. Cheeran, K. P. Ray, and S. S. Kakatkar, "Design of a Novel CPW Band Stop Filter using Asymmetric Meander-Line Defected Ground Structure", Proceedings of IEEE International Conference on Wireless Communication. Lecture Notes on Data Engineering and Communications Technologies, Vol. 19, January 2018, Springer, Singapore. DOI: https://doi.org/10.1007/978-981-10- 8339-6_13. **(Springer)**

No of Research / consultancy / projects completed: Rs: 01	No of Research / consultancy / projects on-going: Rs: 02	No of Research / consultancy / projects on applied as on date: Rs:00

Details of Research / consultancy / projects:

Completed

1. Minor Research Proposal 2019-20 project titled 'Design and Development of Radial power combiner and divider for high power microwave applications' under Minor Research Proposal Grant 2019-20 of University of Mumbai. (Rs 35000/-)

On-going

1. LiDAR cap for the blind with text-to-speech (TTS) navigation system SVU funded project.(Rs 1.75 Lakhs/-)
2. Inertial Measurement Unit (IMU) based Motion Capture System for Gait Analysis is KJSCE funded project. (Rs 63000/-)
3. The Somaiya Space Research Project (SSRP).

FDPs/Seminars/Workshops/Training Programs Attended:

FDPs/Seminars/Workshops/Training Programs Attended	Organized by	Duration
International Conference on Emerging Technologies for Sustainable Development (ICETS 2025)	KJSIT Sion and ISTE	June 26–27, 2025
SWAYAM -12 weeks NPTEL course on 'Introduction To Internet Of Things	IIT Kharagpur	January to April 2025
ISTE approved STTP on 'Towards a Secure Cyber Space: Navigating the Cyber Security Frontier in Academia and Beyond'	Dept. of Computer Engineering, KJSCE	June 24-29, 2024
SWAYAM -12 weeks NPTEL course on 'Discrete Mathematics' from July to October 2023.	IIT Madras	July to October 2023
Design and analysis of Microwave Antennas using HFSS	IEEE MTT-S Vardhman College of Engineering, Hydrabad	June 26 to July 01, 2023
'Hands-on workshop on Internet of Things'	Dept. of Electronics Engineering,KJSCE	March 16 and 17, 2023
Internet of Things: A Multidisciplinary Approach	Dept. of Electronics and Telecommunications Engineering, KJSCE and ISTE	January 02 to 06, 2023
NAAC For University	IQAC Cell KJSCE in asso. with IQAC Cluster India	July 20 to July 22, 2022
Train The Trainer Program on PLC, HMI, SCADA and Modular Production System.	Dept. of Electronics Engineering, KJSCE	January 03 to 06, 2022
Webinar series on "Designing EMI-immune electronic system"	Technology Innovation Hub for IoT at IIT-Bombay.	April 14 and 21, 2021
Applications of Microwaves & Contribution of International Centre for Radio Science (ICRS)	International Centre for Radio Science (ICRS), Jodhpur	June 24, 2021
STTP on Next Generation Communication and Networks	Thakur College of Engineering and Technology, Mumbai	June 14 to 19, 2021

STTP on Digital Transformation in Teaching Learning Process	Department of Computer Engineering Fr. C. Rodrigues Institute of Technology, Vashi	January 18-22, 2021.
FDP on Post Covid Challenges: What industry expects from Academia.	K J Somaiya College of Engineering, Vidyavihar, Mumbai	January 08, 2021.
Webinar on 5G - Myth busters and benefits for Indian environment	Bharti Vidyapeeth Institute for Computer Applications and Management, New Delhi	July 02, 2020
STTP on Exposure & Rejuvenation of Technologies in changed Era of the World	Raj Kumar Goel Institute of Technology, Delhi	July 06 to July 10, 2020
Webinar on Internet of Things (IoT) – Industrial Perspective	Bharti Vidyapeeth Institute for Computer Applications and Management, New Delhi	July 11, 2020
STTP on "Advances in Internet of things"	FRCECE, Bandra	May 29 to June 02, 2020
STTP on "Sensors, IoT and Machine Learning"	K J Somaiya College of Engineering, Vidyavihar, Mumbai	June 01 to 05, 2020
Conference Somaiya Research Interventions in Engineering & Technology Somaiya Institute for Research and Consultancy	SVU, Mumbai	May 29. 2020
Online webcourse on 'Teaching withMATLAB'	Online Webcourse	April 17, 2020
Training Program on "Delta AutomationCup 2020" Delta Electronics India Pvt Ltd..	D. J. Sanghvi College ofEngineering, Mumbai	February 13 to 17, 2020
STTP on "Leveraging Digital Content toBuild Productive Class Room Engagement"	Thadomal Shahani EngineeringCollege, Bandra	January 07 to 11, 2020

Notable Positions and Responsibility			
Sr. No.	**Name of the post Committee**	**My Role**	**SVU Level / Department level / Institute level**
1	Performer for regulatory compliance for Air Pollution	Performer	Institute Level
2	Internal Complaint Committee (ICC)	Member	SVU Level
3	Infrastructure Committee	Member	SVU Level
4	University Expert Committee (UEC)	Member	SVU Level
5	University Exam Audit Committee (UEAC)	Member	SVU Level
6	Resource and Infrastructure Management, KJSCE	Joint Associate Dean	Institute level
7	NAAC Criteria IV	Convener	Institute level
8	Written-off Committee	Member	Institute level
9	Laboratory Planning, Development, Budget and Purchase	Convener	Department level
10	Department Academic Committee (DAC)	Member	Department level
11	Departmental Planning Committee (DPC)	Member	Department level
12	Dept. Proctor Committee	Member	Department level
13	BOS (EXCP)	Member	Department level

Dr. Makarand Govind Kulkarni
Associate Professor,
Dept of Electronics Engineering