Dr. Bivalkar Mandar Kisan
Current profile: Assistant Professor (Grade-I)
(Computer Science Engineering) formerly in
(Electronics Engineering)

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SKILLS AND PERSONAL SUMMARY

A creative, active and open-minded Teacher who can change a student's life by nurturing in them a love for learning and a fearless desire to better themselves. Mandar is very good at planning, evaluating and revising curricula, course content, subject materials, and methods of instruction. During his 5 years of research on microwave imaging he carried out in depth analysis and synthesis of electromagnetic waves and developed indigenous GPR system for object detection. He wishes to continue his research in Artificial Intelligence (AI) and Machine Learning (ML). Currently, he works at K. J. Somaiya Institute of Technology, Mumbai and handles administrative responsibilities as IQAC co-coordinator and Training-Placement for two years.

RECENT ACHIEVEMENTS

1) Nominated as an expert technical evaluation committee (ETEC) member FOR **6G proposals** by Department of Telecom (**DoT**), Government of India (**GOI**).

2) Invited as a speaker to deliver a talk on **"Role of AI for Stealth Applications"** at Indian Institute of Information Technology **(IIIT), Vadodara** – international campus Diu.

3) Invited as a panelist to discuss **"Development of 5G and 6G labs under Bharat 6G vision "**at Dr. Babasaheb Ambedkar Technological University (Dr. BATU), Lonere.

4) Delivered a talk on **"6G and future vision"** in 40th GISFI standardization series meeting organized by KITCOEK, Kolhapur.

5) Delivered session on "**Guidance for Technical Writing and Publications"** at KJSIT, Mumbai.

6) **Certified faculty** for "**AI for youth**" program by Dell.

📖 SUBJECT TAUGHT

Sr. No.	Name of the subject	Department where taught	Book referred	Related research work and Labs conducted
01	Artificial Intelligence	Electronics, Computer	Stuart J. Russell	Case study for cancer cell detection using machine learning
02	Computer Networks	Electronics, Computer	Andrew S. Tanenebaum	NS2 for stop and weight and Go – back-N, wireshark
03	Mobile Computing	Computer	Jochen Schiller	Cell capacity enhancement with better SNR
04	Wireless Sensor Network	Electronics and Communication	Holger Karl & Andreas Willig	NS2 for network design and simulation.

🎓 EDUCATION

- **Indian Institute of Technology, Roorkee (IIT, Roorkee),** India

Ph. D. in **Signal and Image processing** with CGPA:8.41/10 in course work.
Research topic: Development of Signal Enhancement Techniques for Target Detection with Microwave/ Millimeter Wave Imaging Systems.

Methodology: Statistical Signal Processing and Machine Learning.

Supervisor: Prof. Dharmendra Singh (Professor and HOD, IIT Roorkee)

- **Indian Institute of Technology, Bombay (IIT, Bombay),** India
One semester M. Tech. credit course on **Adaptive signal processing** with BB grade.

Course instructor: Prof. U. B. Desai (currently Director, IIT Hyderabad).

- **Dr. Babasaheb Ambedkar Technological University, Lonere (Dr. BATU, Lonere),** India
Master of Technology, Department of Electronics and Communications Engineering CGPA: 8.29/10.

Supervisors: Prof. S. B. Deosarkar and Dr. S. L. Nalbalwar

- **Shivaji University, Kolhapur,** India
Bachelors of Engineering, Department of Electronics Engineering, First class: 63.80 %

WORK HISTORY

Sr. No.	Name of the Institute	Post	Duration	Department	Number of years
01	K. J. Somaiya Institute of Technology (An Autonomous institute of Mumbai university)	Assistant Professor	August 2007 to present	Electronics/ Computer	17 years
02	Konkan Gyanpeeth College of Engineering (Mumbai university)	Lecturer	September 2003 to August 2007	Electronics and Communication	04 years
03	Rajendra Mane College of Engineering (Mumbai university)	Lecturer	August 2003 August 2002	Electronics and Communication	01 years

FDP AND STTP COURSES COMPLETED

Sr. No.	Name of course	Organizer	Duration
01	Natural Language Processing	ICT Academies IIT Kanpur, IIT Roorkee, MNIT Jaipur, PDPM IIITDM Jabalpur and NIT Patna	2 Weeks
02	Remote Sensing Science and Sensors for Agricultural Applications	IIT Roorkee	1 Week
03	Advancement of Signal Processing in Earth Observation	IIT Roorkee	1 Week
04	Microwave integrated circuit	NIT Surat	1 Week
05	Optical fiber and laser technology	COEP, Pune	2 Weeks

PAPER PUBLICATIONS AND PATENTS

International Journals (SCIE index): *Published:05 Communicated:02*

1. **Mandar Bivalkar**, Smriti Agarwal, Dharmendra Singh, "Development of an efficient approach for detection and measurement of crack length in ceramic tile manufacturing using millimeter- wave imaging," **Elsevier** *NDT & E International*, 2022, 102656, ISSN 0963-8695, https://doi.org/10.1016/j.ndteint.2022.102656. **(IF: 4.683 Q1)**

2. **Mandar Bivalkar**, Dharmendra Singh, H. Kobayashi "Entropy-Based Low-Rank Approximation for Contrast Dielectric Target Detection with Through Wall Imaging System" Electronics 2019, 8, 634. Link: *https://www.mdpi.com/2079-9292/8/6/634* (*Journal name: ELECTRONICS*) **(IF: 2.46 Q2)**

3. **Mandar K. Bivalkar** "An Adaptive and Statistical Approach for Blood Vessel Segmentation Using Genetic Algorithm" *Signal, Image, and Video Processing* by *Springer nature* SIViP (2023). https://doi.org/10.1007/s11760-023-02709-6 **(IF: 2.0 Q2).**

4. **Mandar Bivalkar,** Sashwat Pandey, Dharmendra Singh "An Adaptive Approach for the Detection of Contrast Targets for the Through Wall Imaging" *International Journal of Microwave and Wireless Technologies*, 1-16. doi:10.1017/S1759078722000733 **(IF: 1.09 Q3)**

5. **Mandar Bivalkar**, Bambam Kumar, Dharmendra Singh "Modified Low-Rank Approximation forDetection of Weak Target by Noise space Exploitation in Through Wall Imaging." *Defense Science Journal*, **DRDO** *69(5), 464-468. https://DOI.org/10.14429/dsj.69.14952 Link : https://publications.drdo.gov.in/ojs/index.php/dsj/article/view/14952* **(IF: 1.05 Q3)**

6. Kiran R. Rathod, Saurabh Raskar, Shubham Gamit, **Mandar Bivalkar,** Sonal A. Hutke, Naznin Pendhari "Electromagnetic Band Gap Structure Embodied Low Specific Absorption Rate Hexagonal Ring Wearable Textile Antenna". *International Journal of Microwave and Optical Technology*, *19(5), September 2024.* **(Scopus)**

7. **Mandar Bivalkar**, S. L. Nalbalwar "mixed-mode modulation scheme for indoor wireless" **International journal for computer application (IJCA)** *ACM digital library ISBN 978-93-80747-69-0.*

International Patents:

8. German patent for idea is published on 25/05/2023 bearing application number 202023101790. (A system for determining the effects of noise on the subjective quality of sleep)

International Conferences :05

1. **Mandar Bivalkar**, Dharmendra Singh "An Approach to Detect Low- Dielectric Targets for Through-Wall Imaging" *2018 9th International Symposium on Signal, Image, Video, and Communications (ISIVC). Rabat, Morocco, 2018, pp. 43-47, DOI: 10.1109/ISIVC.2018.8709193,DBLP.*

2. **Mandar Bivalkar**, Dharmendra Singh "An approach for fault detection in metallic structures using millimeter-wave imaging." I*GARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, Waikoloa, HI, USA, 2020, pp. 1209-1212, doi: 10.1109/IGARSS39084.2020.9323484.

3. Suman Anand, **Mandar Bivalkar**, Shailza Gotra, Vineet Singh, Dharmendra Singh **"**An approachto detect low and high dielectric targets behind the wall with through-wall imaging system" *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 425-428, doi: 10.1109/IGARSS46834.2022.9883645.

4. A. K. Maurya, V. Kashyap, **M. K. Bivalkar** and D. Singh, "Efficient Use of Interferometric Coherence for Improvement in Classification of Urban and Tall Vegetation with SAR

Data," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, 2022, pp. 4392-4395, doi: 10.1109/IGARSS46834.2022.9883895.

5. **Mandar Bivalkar,** S. L. Nalbalwar "CP –orthogonal frequency division multiplexing Vs SC-CP for indoor wireless" *International conference and workshop on emerging trends in technology (ICWET 2011) (6) pp 816- 819 June 25- 26 2011.*

6. S. G. Jagtap and **M. K. Bivalkar**, "Optimized method for compressive sensing in mobile environment," *2016 Conference on Emerging Devices and Smart Systems (ICEDSS)*, Namakkal, India, 2016, pp. 83-87, doi: 10.1109/ICEDSS.2016.7587775.

7. H. Chotaliya, M. A. Khatri, S. Kanojiya and **M. Bivalkar**, "Review: DeepFake Detection Techniques using Deep Neural Networks (DNN)," *2023 6th International Conference on Advances in Science and Technology (ICAST)*, Mumbai, India, 2023, pp. 480-484, doi: 10.1109/ICAST59062.2023.10454938.

8. A. Shirke, R. Pawar, **M. Bivalkar**, H. Waghela and Z. Shah, "Advance Keylogger – Capturing Keystrokes," *2023 6th International Conference on Advances in Science and Technology (ICAST)*, Mumbai, India, 2023, pp. 250-255, doi: 10.1109/ICAST59062.2023.10455057.a

National Conferences: 03

9. **Mandar Bivalkar**, S. B. Deosarkar "Review of OFDM for Optical wireless communication" *Wireless National conference on pervasive computing" (NCPC 10) Feb 25- 26 2011.*

10. **Mandar Bivalkar**, Dharmendra Singh "Modified Low Rank Approximation for Detection of Weak Target by Noise – Space Exploitation in Through Wall Imaging" was presented in *VAMMAM 2018 held at IIT, Roorkee on 24th – 25th August 2018. upgraded version published inDSJ DRDO journal (SCIE index)*

11. **Mandar Bivalkar**, S. L. Nalbalwar "Review of Orthogonal Frequency Division Multiplexing forOptical Wireless" *2nd National conference on Emerging trends in information technology (NCETIT 10) Jan 29- 30 2010.*

EDITORIAL BOARD MEMBER:

1. Appointed as a Reviewer for International Journal on Signal Processing (**IET**) – SCI/SCIEindex journal.
2. Appointed as a Reviewer for **MDPI Remote Sensing**- SCI/SCIE index journal.
3. Appointed as a Reviewer for **IEEE Transactions** on Geosciences and Remote Sensing (TGRS) - SCI/SCIE index journal.
4. Appointed as a Reviewer for **Springer** sensing and imaging - SCI/SCIE index journal.
5. Appointed as a member for **Technical Program Coordinating Committee of IEEE GRSS** Society Bombay section.

OTHER RESPONSIBILITIES HANDLED:

6. QIP co- coordinator for NAAC and NBA.
7. Training and placement departmental coordinator.
8. Exam coordinator.

Some pictures with developed GPR prototype during PhD research: