

Kochar Inderkumar, Ph.D. (IIT Roorkee)

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Education

- 2019 – 2024 ■ **Ph.D., Indian Institute of Technology, Roorkee** RF & Microwave Engineering
Thesis title: *Lunar Regolith Characterization Using Polarimetric Synthetic Aperture Radar Data*
- 2008 – 2010 ■ **M.Tech. Electronics and Communication Engineering, Indian Institute of Technology, Roorkee** in Communication Systems.
Dissertation title: *Performance Evaluation of Hybrid ARQ Using LDPC Codes.*
- 2001 – 2004 ■ **B.E. Electronics and Telecommunication Engineering, University of Mumbai.**

Research Publications

Journal Articles

- 1 **Inderkumar Kochar**, A. Das, and R. K. Panigrahi, “A unique dielectric constant estimation for lunar surface through polsar model-based decomposition,” *ISPRS Journal of Photogrammetry and Remote Sensing*, vol. 218, pp. 546–554, 2024, ISSN: 0924-2716. [DOI: https://doi.org/10.1016/j.isprsjprs.2024.10.022](https://doi.org/10.1016/j.isprsjprs.2024.10.022).
- 2 A. Kumar, R. Sharma, **Inderkumar Kochar**, H. Maurya, and R. K. Panigrahi, “Edge detection in polarimetric synthetic aperture radar images using a hybrid approach based on scattering and statistical information,” *Journal of Applied Remote Sensing*, vol. 18, no. 3, p. 034 519, 2024. [DOI: 10.1117/1.JRS.18.034519](https://doi.org/10.1117/1.JRS.18.034519).
- 3 **Inderkumar Kochar**, T. Chakraborty, S. S. Bhiravarasu, A. Das, D. Putrevu, and R. K. Panigrahi, “Estimation of lunar surface roughness using chandrayaan-2 full-polarimetric dfsar data,” *Icarus*, vol. 406, p. 115 720, 2023, ISSN: 0019-1035. [DOI: https://doi.org/10.1016/j.icarus.2023.115720](https://doi.org/10.1016/j.icarus.2023.115720).
- 4 **Kochar Inderkumar**, H. Maurya, A. Kumar, *et al.*, “Retrieval of lunar surface dielectric constant using chandrayaan-2 full-polarimetric sar data,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1–12, 2022. [DOI: 10.1109/TGRS.2022.3201050](https://doi.org/10.1109/TGRS.2022.3201050).
- 5 A. Kumar, **Kochar Inderkumar Madanmohan**, D. K. Pandey, *et al.*, “Dielectric constant estimation of lunar surface using mini-rf and chandrayaan-2 sar data,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1–8, 2022. [DOI: 10.1109/TGRS.2021.3103383](https://doi.org/10.1109/TGRS.2021.3103383).
- 6 **Kochar Inderkumar**, A. Kumar, and R. K. Panigrahi, “Three-component decomposition of hybrid-polsar data with volume scattering models,” *IEEE Access*, vol. 9, pp. 117 415–117 423, 2021. [DOI: 10.1109/ACCESS.2021.3106151](https://doi.org/10.1109/ACCESS.2021.3106151).

Conference Proceedings

- 1 N. Rai, I. Khan, and **Kochar Inderkumar**, “Design of via-loaded multiband yagi antenna using single director,” 60th Annual IETE convention (AIC-2k17), 2019.
- 2 **Kochar Inderkumar**, P. Rathore, and K. Prabhu, “Bandwidth enhancement of dual band impedance transformer with transmission zero,” in *2018 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, 2018, pp. 1–4. [DOI: 10.1109/ICCCNT.2018.8494195](https://doi.org/10.1109/ICCCNT.2018.8494195).

- 3 N. S. Yadav, **Kochar Inderkumar**, T. K. Bhuiya, and R. Harsh, "Rf transmit/receive quadrature fed body birdcage coil for a 1.5t mr system," in *2018 2nd International Conference on Electronics, Materials Engineering Nano-Technology (IEMENTech)*, 2018, pp. 1–7.  DOI: 10.1109/IEMENTECH.2018.8465171.
- 4 **Kochar Inderkumar**, S. Dhende, and S. Chilap, "Compact wideband quarter-wave transformer using stepped impedance microstrip lines," in *2017 2nd International Conference on Communication Systems, Computing and IT Applications (CSCITA)*, 2017, pp. 184–188.  DOI: 10.1109/CSCITA.2017.8066550.
- 5 S. Patel, N. Rai, and **Kochar Inderkumar**, "Performance enhancement of duplex antenna for wireless communication," in *2017 International Conference on Emerging Trends in Computing and Communication Technologies (ICETCCT)*, 2017, pp. 1–4.  DOI: 10.1109/ICETCCT.2017.8280314.
- 6 P. Chacko, **Kochar Inderkumar**, and G. Shah, "Design of wideband planar printed quasi-yagi antenna using defected ground structure," in *Microelectronics, Electromagnetics and Telecommunications*, New Delhi: Springer India, 2016, pp. 663–671, ISBN: 978-81-322-2728-1.
- 7 C. A. Mishra, U. P. Khot, and **Kochar Inderkumar**, "Design of low profile and broadband microstrip monopolar patch antenna," in *2016 3rd International Conference on Computing for Sustainable Global Development (INDIACom)*, 2016, pp. 739–742.
- 8 S. Vaz, **Kochar Inderkumar**, and G. Shah, "Compact dual – band antenna for 2.4/5.2/5.8-ghz wlan applications," in *2016 International Conference on Micro-Electronics and Telecommunication Engineering (ICMETE)*, 2016, pp. 74–77.  DOI: 10.1109/ICMETE.2016.46.

Employment History

July 2025 onward	 Asst. Professor Electronics & Computer Science Department, Fr. Conceicao Rodrigues College of Engineering, Mumbai
July 2024 – Jun 2025	 Asst. Professor (ad hoc) Electronics & Telecommunication Engineering Department, Sardar Patel Institute of Technology, Mumbai
Aug 2012 – Dec 2019	 Asst. Professor Electronics & Telecommunication Engineering Department, St. Francis Institute of Technology, Mumbai
Jan 2011 – Aug 2012	 Asst. Professor Electronics & Telecommunication Engineering Department, Mukesh Patel School of Technology Management & Engineering, Mumbai
Jul 2010 – Jan 2011	 Design Engineer Rancore Technologies Pvt. Ltd., Navi Mumbai
Jan 2005 – Jun 2008	 Lecturer Electronics Engineering Department, Shah & Anchor Kutchhi Engineering College, Mumbai
Aug 2004 – Oct 2004	 Lecturer (ad hoc) Electronics Engineering Department, Thadomal Shahani Engineering College, Mumbai

Recognition

Awards and Achievements

2024	 Department Prize for Outstanding Student Performance , Second prize for poster presentation on Research Scholar Day, 2024 at IIT Roorkee.
2023	 Best poster presentation award in the Electromagnetic Modeling category at the IEEE-GRSS International Soil Moisture School, 2023.
2017	 Best Conference paper Award in Communication and Networking track at IEEE International Conference on Communication Systems, Computing & IT Applications, April 2017.
2003-04	 Merit Scholarship . Recipient of 'The J. R. D Tata Trust Scholarship'
2002-03	 Merit Scholarship . Recipient of 'The J. R. D Tata Trust Scholarship'
2001-02	 Merit Scholarship . Recipient of 'Sir Ratan Tata Trust Scholarship'

Continuing Education Programs

- 2019  **One-week STTP** on 'Recent Trends and Developments in Modern Antennas, RF and Microwave System' from 1st – 6th July 2019, K. J. Somaiya Institute of Technology, Mumbai.
- 2018  **Two-weeks STTP** on 'Efficient and Low loss Antenna Configurations' from 21st May – 2nd June 2018, at IIT Kharagpur.
- 2016  **One-week STTP** on 'Design, Testing, and Performance Evaluation & Applications of Microwave Antennae 2016' from 21st – 26th Nov. 2016 at Vishwakarma Institute of Information Technology, Pune.
- 2015  **One-week QIP** on 'Signal Processing And Applications' held at Department of Electrical Engineering, from 23rd – 27th Feb 2015 at Veermata Jijabi Technological Institute, Mumbai.
- 2014  **Training.** Two weeks training on HFSS from 15th – 27th Dec 2014, at International Centre for Radio Science, Jodhpur.
-  **Two-weeks workshop** on Control Systems, from 2nd – 12th Dec, 2014, conducted by IIT Kharagpur under the NMEICT (MHRD), attended at St. Francis Institute of Technology, Mumbai.
-  **Two-weeks workshop** on Signals and Systems, from 2nd – 12th Jan, 2014, conducted by IIT Kharagpur under the NMEICT (MHRD), attended at St. Francis Institute of Technology, Mumbai.
- 2013  **One-week STTP** on 'Advances in Antenna and RFIC/MMIC Design' from 24th – 28th June 2013 at K. J. Somaiya College of Engineering, Mumbai.
-  **Two-weeks workshop** on Analog Electronics, from 4nd – 14th Jun, 2013, conducted by IIT Kharagpur under the NMEICT (MHRD), attended at St. Francis Institute of Technology, Mumbai.

Programs organized/ Outreach activities

- 2025  **Resource person** for a One Day Workshop on Report Writing in LATEX at PVPPCOE. Mumbai.
- 2018  **Organizer** of One-week ISTE approved STTP on 'Commercial Trends in Antennas and Microwave Technologies: Inclination toward Start-ups' from 25th – 29th June 2018 at St. Francis Institute of Technology, Mumbai.
- 2015  **Resource person** for the STTP on 'Microwave Antennas for Wireless Communication' from 23rd – 27th Nov. 2015 at Sardar Patel Institute of Technology, Mumbai.
-  **Invited talk** on 'RF Filter Design using Hyperlynx 3D EM' on 21st September 2015 at St. John College of Engineering & Management, Palghar.
- 2014  **Resource person** for the workshop on RF Filter Design on 24/09/2014 and 01/10/2014 at St. Francis Institute of Technology.
- 2013  **Invited talk** on 'OFDM Technology' in one week STTP on Advanced Communication Techniques in July 2013 at Shah & Anchor Kutchhi Engineering College, Mumbai.
- 2012  **Invited talk** on 'Digital Filter Design' in one week STTP on Signal Processing with Image Processing in July 2012 at Shah & Anchor Kutchhi Engineering College, Mumbai.

Personal Information

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