DR. Chetan Barde

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ACADEMIC QUALIFICATIONS:

Degree	Year	Institution	CGPA/Percentage
Ph.D. Electronics & Communication Engineering	2018-2021	National Institute of Technology Jamshedpur	8.2
MTech Electronics & Communication Engineering (Nanotechnology)	2011-2013	Vellore Institute of Technology-Vellore.	7.55/10
B.E Electronics & Communication Engineering	2004-2008	Rajiv Gandhi Proudyogiki Vishwavidyalaya – Bhopal.	67.4/100

Thesis Title: - Metamaterial Based Structure for Zeroth Order Resonator (ZOR) Antenna and Absorber in Microwave Applications**.**

Research Area: - Metamaterial Absorbers, ZOR Antenna, Metamaterial Cross Polarizers, Metamaterial Sensors, Monolithic Microwave Integrated Circuit (MMIC).

PROFESSIONALBACKGROUND:

Designation	Year	Organization
Assistant professor	June 2023 to till date	Indian Institute of Information Technology Bhagalpur, Bihar.
Assistant professor	July 2013 to Dec 2017	TRUBA Institute of Engineering & Information Technology, Bhopal, Madhya Pradesh.
Assistant professor	Mar-2009 to Apr-2011	VISHVESHWARYA Institute of Engineering & Technology, Greater Noida, Uttar Pradesh.

PUBLICATIONS:

Patent:

1. **Chetan Barde**, Debolina Das, Prakash Ranjan, Arvind Choubey, Rashmi Sinha, Komal Roy and Sanjay Kumar. “Multifunctioning Metamaterial Absorber Used for Medical Applications”. Application number: 202231060699 (Grant).
2. Arvind Choubey, Prakash Ranjan, **Chetan Barde**, Santosh Kumar Mahto, and Rashmi Sinha. “Zeroth Order Resonator (ZOR) Antenna using slotted Metamaterial structure”, Ref. NO. 202031026590, App. Number TEMP/E-1/29503/2020-KOL. 2020. **(Published)**.

International Journals:

1. **Barde, Chetan**, Arvind Choubey, Rashmi Sinha, Santosh Kumar Mahto, and Prakash Ranjan. "A compact wideband metamaterial absorber for Ku band applications." Journal of Materials Science: Materials in Electronics 31, no. 19 (2020): 16898-16906.
2. **Barde, Chetan**, Arvind Choubey, and Rashmi Sinha. "Wide band metamaterial absorber for Ku and K band applications." Journal of Applied Physics 126, no. 17 (2019).

3. Ranjan, Prakash, Arvind Choubey, Santosh Kumar Mahto, Rashmi Sinha, and **Chetan Barde**. "A novel ultrathin wideband metamaterial absorber for X-band applications." Journal of Electromagnetic Waves and Applications 33, no. 17 (2019): 2341-2353.
4. **Barde, Chetan**, Arvind Choubey, and Rashmi Sinha. "A set square design metamaterial absorber for X-band applications." Journal of Electromagnetic Waves and Applications 34, no. 10 (2020): 1430-1443.
5. Heraza-Vázquez, Hernán, Adrián Peña-Delgado, Prakash Ranjan, **Chetan Barde**, Arvind Choubey, and Ana Beatriz Morales-Cepeda. "A bio-inspired method for mathematical optimization inspired by arachnida salticidade." Mathematics 10, no. 1 (2021): 102.
6. Roy, Komal, Rashmi Sinha, and **Chetan Barde**. "Linear-to-linear polarization conversion using metasurface for X, Ku and K band applications." Frequenz 76, no. 7-8 (2022): 461-470.
7. Ranjan, Prakash, **Chetan Barde**, Arvind Choubey, Rashmi Sinha, and Santosh Kumar Mahto. "Wide band polarization insensitive metamaterial absorber using lumped resistors." SN Applied Sciences 2, no. 6 (2020): 1061.
8. Ranjan, Prakash, **Chetan Barde**, Arvind Choubey, Rashmi Sinha, Anubhav Jain, and Komal Roy. "A wideband metamaterial cross polarizer conversion for C and X band applications." Frequenz 76, no. 1-2 (2022): 63-74.
9. Ranjan, Prakash, Santosh Kumar Mahato, Arvind Choubey, Rashmi Sinha, Hernán Peraza-Vázquez, **Chetan Barde**, Adrián Peña-Delgado, and Komal Roy. "The synthesis of a pixelated metamaterial cross-polarizer using the binary wind-driven optimization algorithm." Journal of Computational Electronics 21, no. 2 (2022): 453-470.
10. Roy, Komal, **Chetan Barde**, Prakash Ranjan, Rashmi Sinha, and Debolina Das. "A wide angle polarization insensitive multi-band metamaterial absorber for L, C, S and X band applications." Multimedia Tools and Applications 82, no. 6 (2023): 9399-9411.
11. Roy, Komal, Rashmi Sinha, Debolina Das, Arvind Choubey, **Chetan Barde**, Prakash Ranjan, and Sanjay Kumar. "A recent survey on zeroth-order resonant (ZOR) antennas." Analog Integrated Circuits and Signal Processing 112, no. 1 (2022): 65-82.
12. **Barde, Chetan**, Prakash Ranjan, Arvind Choubey, Rashmi Sinha, Debolina Das, and Komal Roy. "Wideband polarization-insensitive metamaterial microwave absorber for S and C band application." (2022).
13. Kumar, Sanjay, Sushma Verma, Binod Kumar Singh, Vinay Kumar, Subhash Chandra, and **Chetan Barde**. "Entropy based adaptive color image watermarking technique in YC b C r color space." Multimedia Tools and Applications (2023): 1-27.
14. **Barde, Chetan**, Neelesh Kumar Gupta, Prakash Ranjan, Komal Roy, and Rashmi Sinha. "Angle-independent wideband metamaterial microwave absorber for C and X band application." International Journal of Microwave and Wireless Technologies (2023): 1-9.
15. Komal Roy, Rashmi Sinha and **Chetan Barde.** "A Novel Ultrathin Pixelated Wideband Metamaterial Cross Polarizer using Wind Driven Optimization Algorithm". Microsystem Technologies (2022).
16. Ruchi Saxena, Neelesh Gupta, and **Chetan Barde**. "Performance of LDPC Codes in OFDM System with QAM Modulation." IJIRMPS-International Journal of Innovative Research in Engineering & Multidisciplinary Physical Sciences (2014).
17. Sunil Raghuvanshi, and **Chetan Barde**. "A Survey of Cognitive Radio Network Techniques and Architecture." IJIRMPS-International Journal of Innovative Research in Engineering & Multidisciplinary Physical Sciences (2013).

Conferences:

1. Komal Roy, Debolina Das, Rashmi Sinha, **Chetan Barde**, Prakash Ranjan and Sanjay Kumar, "Compact Wideband Metamaterial Cross Polarizer Conversion For Ku And K Band Applications", ICSEAPT 2021 - International Conference on Smart Energy and Advancement in Power Technologies. (2022).

2. Prakash Ranjan, **Chetan Barde**, Komal Roy, Rashmi Sinha, Sanjay Kumar and Debolina Das "Pixelated Wideband Metamaterial Absorber For X-Band Applications", ICSEAPT 2021 - International Conference on Smart Energy and Advancement in Power Technologies. (2022).
3. **Chetan Barde**, Arvind Choubey, Rashmi Sinha Santosh Kumar Mahto and Ranjan Prakash. "A Novel Circular Shape ZOR Antenna for X-Band Application." Available at SSRN 3572560, (2020).
4. Rashmi Sinha, Arvind Choubey, **Chetan Barde**, Santosh Kumar Mahto and Ranjan Prakash. "A Compact Wideband Metamaterial Absorber for Various Application of Ku Band." Available at SSRN 3573495, (2020).
5. **Chetan Barde**, Arvind Choubey, Rashmi Sinha Santosh Kumar Mahto and Ranjan Prakash. "A Low Profile Pentagonal Shape Zeroth Order Resonator Antenna for Ka Band Applications." Photon Ics & Electromagnetics Research Symposium-Spring (PIERS-Spring). IEEE, (2019).
6. Rashmi Sinha, Arvind Choubey, Santosh Kumar Mahto, Ranjan Prakash and **Chetan Barde**. "Synthesis of Linear Array Antenna using Hybrid IWO/WDO Algorithm." PhotonIcs & Electromagnetics Research Symposium-Spring (PIERS-Spring). IEEE, (2019).
7. Priyanka Dongardive, Neelesh Gupta, and **Chetan Barde**. "Improved security color grace steganography with grace to text encoding and LSB." 4th International Conference on Reliability, Infocom Technologies and Optimization (ICRITO) (Trends and Future Directions). IEEE, (2015).

Book Chapter:

1. Ranjan, Prakash, Chetan Barde, Komal Roy, Rashmi Sinha, Sanjay Kumar, and Debolina Das. "Pixelated wideband metamaterial absorber for X-band applications." In Smart Energy and Advancement in Power Technologies: Select Proceedings of ICSEAPT 2021, Volume 2, pp. 553-562. Singapore: Springer Nature Singapore, 2022.
2. Ranjan, Prakash, Chetan Barde, Arvind Choubey, Santosh Kumar Mahto, and Hernan Peraza Vazquez. "A Novel Pixelated Approach for Synthesis of Wideband Metamaterial Cross Polarizer Using Wind-Driven Optimization Algorithm." In Soft Computing: Theories and Applications: Proceedings of SoCTA 2021, pp. 651-659. Singapore: Springer Nature Singapore, 2022.
3. Roy, Komal, Rashmi Sinha, **Chetan Barde**, Sanjay Kumar, Prakash Ranjan, and Anubhav Jain. "Omni-Directional Zeroth Order Resonator (ZOR) Antenna for L-Band Applications." In Machine Vision and Augmented Intelligence—Theory and Applications, pp. 443-451. Springer, Singapore, (2021).
4. **Chetan Barde**, Arvind Choubey, Rashmi Sinha Santosh Kumar Mahto and Ranjan Prakash. "A novel ZOR-inspired patch antenna for vehicle mounting application." Ambient Communications and Computer Systems. Springer, Singapore, 47-53, (2019).

REASERCH EXPERIENCE:

M. Tech. Thesis Supervised: 02

S. No	Year	Student Name	Co-Supervisor	Topic of Dissertation
1.	2016	Priyanka Dongardive	Chetan Barde	Improved security colour grace steganography with grace to text encoding and LSB.
2.	2015	Ruchi Saxena	Chetan Barde.	Performance of LDPC Codes in OFDM System with QAM Modulation.

LABORATRY DEVELOPED AND SETUP

- Coordinated in set up of Antenna Simulation Lab at NIT Jamshedpur.

ADMINISTRATIVE POSITION AND ADDITIONAL RESPONSIBILITIES:

- Warden, New Boys Hostel, Indian Institute of Information Technology Bhagalpur (June 2023-Till Date).
- Faculty In-charge Training and Placement for, Electronics and Communication Department, TIEIT Bhopal (June 2015-Mar 2017).
- Faculty advisor, Electronics and Communication Department, TIEIT Bhopal (June 2013- May 2017).

TECHNICAL SKILLS:

- **Tools**: Ansys HFSS, Multi Sim, MATLAB.
- **Operating System:** Linux, MS windows.

OTHER TECHNICAL EXPERIENCE:

- Reviewer of research publications for Journal of Applied Physics.
- Reviewer of research publications for ETRI Journal.
- Reviewer of research publications for Journal of Materials Science: Materials in Electronics.
- Reviewer of research publications for Journal of Electronics Material.
- Reviewer of research publications for SN Applied Science.
- Reviewer of research publications Future Generation Computer Systems.
- Reviewer of research publications Scientific Reports.
- Reviewer of research publications Journal of Infrared, Millimeter, and Terahertz Waves.
- Reviewer of research publications Optical Materials.

SEMINAR ATTENDED:

- Participated in the QIP sponsored short term course on "Workshop on electromagnetic and antenna design" at Indian Institute of Technology (BHU) Varanasi, India during April 9th to 10th, 2018.
- Short term course on "Fundamental and applications of Metamaterials" at Indian Institute of Technology Kanpur during April 6th to 10th 2019.
- Participated in the TEQIP-II sponsored short term course on "Aesthetics of Technical Writing: LATEX" at National Institute of Technology Jamshedpur during 10th to 11th Jan 2019.
- Participated in one week Faculty Development Program on "IOT and Embedded System Designed" at Indian Institute of Information Technology Bhagalpur during 27th to 31st May 2019.
- Participated in one week Faculty Development Program on "DSP and Sensors" at National Institute of Technology Warangal during 10th to 14th Dec 2018.

LECTURE DELIVER:

- Guest Speaker under SAGE talk series on topic "Metamaterial Based Devices for Microwave Applications" Organised by SAGAR group of institute Bhopal, on 20th October 2021.
- Expert Lecture deliver on Five Days Online Hand-on Workshop on "Metamaterial and its Applications using HFSS (MAU-HFSS-2021)" Organised by Indian Institute of Information Technology Bhagalpur, 27th to 31st January 2021.

- Expert Lecture deliver on Five Days Online Short-Term Course "Recent Trends and Applications of RF and Microwave Engineering" Organised by Indian Institute of Information Technology Bhagalpur, 7th to 11th December 2021.

ACHIEVEMENTS:

- Selected as "**InSc Young Researcher Award**" for the year 2021.
- **Gate Qualified**: - 2011, 2012, 2013, 2015, 2017.

TECHNICAL SOCIETY MEMBERSHIP:

- Member of IEEE Technical Society.

PERSONAL DETAILS:

Name: Chetan Barde
Father's Name: G R Barde
Language: Hindi, English and Marathi
D.O.B.: 14th June 1986

REFERENCES:

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DR. Rashmi Sinha
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NIT Jamshedpur, Jharkhand, India
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DR. Santosh Kumar Mahto
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IIIT Ranchi, Jharkhand, India
Email:- skumar@iiitranchi.ac.in

DECLARATION:

I hereby declare that all the information furnished above are true to the best of my knowledge and belief.

Date: Dr. Chetan Barde