Tamoghna Ojha, *PhD*

Contact Information

Department of Mathematics and Computing
Indian Institute of Technology (ISM) Dhanbad
Jharkhand, 826004, India
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Research Interest

AI/ML for Internet of Things, Future Networks, Non-terrestrial Networks, Wirelessly Powered Networks, Sensor-cloud, Resource Management.

Work Experience

Sept 2024 – till date	Assistant Professor, IIT (ISM) Dhanbad, India *Department of Mathematics and Computing*
Apr 2024 – Sept 2024	Assistant Professor, BITS Pilani, Hyderabad, India *Department of Computer Science and Information Systems*
Feb 2023 – Apr 2024	Assistant Professor, SRM University-AP, India *Department of Computer Science and Enginnering*

Research Experience

Sept 2022 – Jan 2023 Oct 2021 – Jul 2022	ERCIM Post-Doctoral Research Fellow *Institute for Informatics and Telematics (IIT)* *National Research Council (CNR), Pisa 56124, Italy*
Oct 2022 – Jan 2023 (3 months)	Research Consultant *Department of Information Engineering* *University of Pisa, Pisa 56122, Italy*
Jan 2021 – Sept 2021	Post-Doctoral Research Fellow *Institute for Informatics and Telematics (IIT)* *National Research Council (CNR), Pisa 56124, Italy*
Nov 2013 – Jul 2017	Senior Research Fellow *Sponsored Research and Industrial Consultancy* *Indian Institute of Technology Kharagpur, West Bengal 721302, India*
Nov 2010 – Mar 2013	Junior Project Assistant *Sponsored Research and Industrial Consultancy* *Indian Institute of Technology Kharagpur, West Bengal 721302, India*

Teaching Experience

- *Faculty Instructor:*
    - Computing Lab; for UG, IIT (ISM) Dhanbad, Autumn 2025
    - Database Management Systems (Lab); for UG/PG, IIT (ISM) Dhanbad, Spring 2025
    - Advanced DBMS (Lab); for PG, IIT (ISM) Dhanbad, Spring 2025
    - Software Engineering (Lab); for UG, IIT (ISM) Dhanbad, Spring 2025
    - Advanced Operating Systems (Theory and Lab); for UG, BITS Pilani, Hyderabad, Autumn 2024
    - Operating Systems (Theory); for UG, BITS Pilani, Hyderabad, Summer 2024

- Data Structures (Theory and Lab); for UG, SRM University-AP, Spring 2024

- IoT Design Protocols (Theory); for UG, SRM University-AP, Spring 2024

- Computer Networks (Theory and Lab); for UG, SRM University-AP, Autumn 2023

- Service Oriented Computing (Theory and Lab); for UG, SRM University-AP, Autumn 2023

- Data Structures (Theory and Lab); for UG, SRM University-AP, Spring 2023

EDUCATION

Jul 2014 – Feb 2021	Doctor of Philosophy in COMPUTER SCIENCE AND ENGINEERING **Indian Institute of Technology Kharagpur**, India Thesis Title: *Provisioning Sensors-as-a-Service in Sensor-cloud-based Internet of Things* Advisors: Prof. Sudip Misra (FIEEE, FACM, FNAE, FNASc) and Prof. Narendra Singh Raghuwanshi (FNAE, FNAAS) CGPA: 8.05/10 | Thesis defended: 13-Nov-2020
Dec 2010 – Jul 2014	Master of Science by Research in INFORMATION TECHNOLOGY **Indian Institute of Technology Kharagpur**, India Thesis Title: *Architecture and Localization for Underwater Sensor Networks* Advisor: Prof. Sudip Misra (FIEEE, FACM, FNAE, FNASc) CGPA: 9.6/10
Sept 2008 – Feb 2009	Post Graduate Diploma in EMBEDDED SYSTEMS DESIGN **Center for Development of Advanced Computing, Mohali**, India Project Topic: *A Real-time application for peripheral controlling and monitoring* Advisor: Ms. Sonia Dosanjh Marks: 80.50%
Aug 2004 – Aug 2008	Bachelor of Technology in ELECTRONICS AND COMMUNICATION ENGINEERING **West Bengal University of Technology, Kolkata**, India Institute: Haldia Institute of Technology, Haldia Thesis Title: *Microcontroller based Infra-Red Tracking Robot* Advisor: Dr. Mousiki Kar DGPA: 7.89/10
Jul 2004	Higher Secondary (Board: WBCHSE) Institute: Vidyasagar Vidyapith, Midnapore, West Bengal, India Subjects: Physics, Chemistry, Mathematics, Biology, Bengali, English Marks: 71.60%
May 2002	Secondary (Board: WBBSE) Institute: Pirakata High School, Paschim Medinipur, West Bengal, India Subjects: Bengali, English, Mathematics, Physical Science, Life Science, History, Geography Marks: 83.38%

AWARDS AND SCHOLARSHIPS

- Dec 2024: **Best Paper Award** in IEEE Proceeding on 22nd OITS International Conference on Information Technology.

- Jun 2023: Elevated to **IEEE Senior Member** grade.

- Oct 2022 - Jan 2023: *Research Consultancy* at the Dept. of Information Engineering, University of Pisa, Italy.

- Oct 2021 - Jul 2022, Sept 2022 - Jan 2023: **"Alain Bensoussan" Post-Doctoral Research Fellowship** from European Research Consortium for Informatics and Mathematics (ERCIM).

- Jan 2021 - Sept 2021: **Post-Doctoral Research Fellowship** from National Research Council (CNR) Italy.

- Aug 2019 - May 2020: **Research Assistantship** from Indian Institute of Technology Kharagpur.

- Aug 2017 - Jul 2019: **Senior Research Fellowship** from MHRD, Govt. of India.

- Dec 2016: **Richard E Merwin Student Scholarship** from IEEE Computer Society. (Award: USD 1,000)

- Nov 2013 - Jul 2017: **Senior Research Fellowship** from ITRA, Govt. of India.

- Dec 2013: **Winner of GE Edison Challenge 2013**, GE John F. Welch Technology Center, Bangalore. (**Award INR 10.00 Lakhs**)

- Oct 2002: "Ardhendu Sekhar Sarkar Memorial Prize" for securing 1st **position at Block** (Salboni, Paschim Medinipur) level in Secondary (Madhyamik) exam 2002.

- 2000–2004: **Scholarship** from Foundation for Excellence Inc., USA.

SPONSORED RESEARCH PROJECTS

- **Title:** Revolutionizing Autonomous Navigation through Occlusion-Resilient Autonomous Driving Using Intelligent Perception Systems, **Sponsoring Agency:** IIT (ISM) Dhanbad (Collaborative Grant), **Amount:** INR 60.00 Lakhs, **Duration:** 2025-27, **PI:** Sukanta Halder, **Co-PI: Tamoghna Ojha**, Subhrangsu Mandal

- **Title:** Improving The Performance of IEEE 802.11ah UAV Networks In Mission-Critical Defense Environments, **Sponsoring Agency:** NMICPS TiHAN-IIT Hyderabad, **Amount:** INR 21.91 Lakhs, **Duration:** 2025-26, **PI:** Alakesh Kalita, **Co-PI: Tamoghna Ojha**

- **Title:** Energy-Efficient Federated Deep Reinforcement Learning for Multi-UAV Edge Intelligence Using Tiny Models, **Sponsoring Agency:** IIT (ISM) Dhanbad (FRS Grant), **Amount:** INR 19.998 Lakhs, **Duration:** 2025-27, **PI: Tamoghna Ojha**

- **Title:** AI-Powered Vision Systems for Low-light and Low-visibility Underground Mining Environments, **Sponsoring Agency:** TEXMiN Foundation (DST TIH), **Amount:** INR 17.35 Lakhs, **Duration:** March 2025 - September 2026 (18 months), **PI:** Sudhakar Kumawat, **Co-PIs:** Manisha Verma, **Tamoghna Ojha**, Ankush Galav

- **Title:** Special Lab Setup Grant: Computing for Secure and Intelligent Networks (COSINE), **Sponsoring Agency:** IIT (ISM) Dhanbad (Special grant), **Amount:** INR 29.97 Lakhs, **PI: Tamoghna Ojha**

- **Title:** Using Edge Intelligence for Resource Allocation in Wirelessly Powered UAV-IoT Network, **Sponsoring Agency:** SRM University-AP (Seed grant), **Amount:** INR 15.24 Lakhs, **Duration:** Oct 2023 - Sept 2025 (24 months), **PI: Tamoghna Ojha**, **Co-PIs:** Md Muzakkir Hussain, Priyanka Singh

- **Title:** Breaking the Barriers of Skin Disease Diagnosis with Computational Imaging and Artificial Intelligence, **Sponsoring Agency:** SINE, IIT Bombay and Intel Inc. (Plugin 2 Startup Cohort), **Amount:** INR 10.00 Lakhs, **Duration:** Oct 2018 - Jun 2019 (9 months), **PI:** Debdoot Sheet, **Co-PIs:** Kausik Basak, **Tamoghna Ojha**, Sri Phani Krishna Karri

- **Title:** Multispectral Optical Imaging and Computing Technologies for Realtime in-situ Functional Characterization and Monitoring of Cutaneous Wound Healing Progression, **Sponsoring Agency:** BIRAC, DBT, Govt. of India (BIG grant), **Amount:** INR 41.79 Lakhs, **Duration:** Aug 2015 - Jan 2017 (18 months), **PI:** Debdoot Sheet, **Co-PIs:** Kausik Basak, **Tamoghna Ojha**, Sri Phani Krishna Karri

TRAVEL GRANTS

- December 2018: **Best Conference Travel Grant** support from IIT Kharagpur for presenting my paper at IEEE GLOBECOM 2018 in Abu Dhabi, UAE.

- December 2014: **International Travel Grant** from DST (SERB), Govt. of India for attending IEEE CloudCom, Singapore.

- December 2014: **Conference Travel Grant** from IEEE CloudCom 2014. (Award: SGD 1,000)

OTHER AWARDS

- October 2017: *IEEE TechSym 2016* (I served as Organizing Chair) was selected for **2017 Darrel Chong student activity award** in *GOLD category*.

STUDENT GUIDANCE

- PhD Student:

  JULY 2025– | A. De (2025 –), Dept. of M&C, IIT (ISM) Dhanbad

Jun 2023–	C. Amala (2023 –), Dept. of ECE, SRM University-AP, India (jointly with Dr. Saswat Kumar Ram)

- Masters:

2025–26	Kimsie Phan, *M.Sc. thesis*, Dept. of M&C, IIT (ISM) Dhanbad, India
	Scaria P Anil, *M.Sc. thesis*, Dept. of M&C, IIT (ISM) Dhanbad, India
	Shrish Jadhav, *M.Tech. thesis*, Dept. of M&C, IIT (ISM) Dhanbad, India

- Other: 30+ B. Tech and M. Tech Students

Patents

- D. Sheet, K. Basak, **T. Ojha**, S. P. K. Karri, "Multispectral Optical Imaging Device and Computational Techniques for Contactless Functional Imaging of Skin", *Indian Patent Published*, Application No. 201731022695, Published: 4 January 2019, Applicant: SkinCurate Research Private Limited, Filed: 28 June 2017.

- S. Misra, A. Roy, P. Kar, S. Goswami, **T. Ojha**, "An Adverse Environmental Effect Resistant Seamless Wireless Sensor Network System", *Indian Patent No. 480946*, **Granted: 12 December 2023**.

Books

- **T. Ojha**, M. M. Hussain, S. Bera, N. Ahmed, S. Misra (eds.), "Edge-enabled 6G Networking - Foundations, Technologies, and Applications", Springer Nature, 2025. [In final preparation]

Journal Publications

- C. Amala, B. Subbarao, M. Sivaji, **T. Ojha**, B. B. Das, S. P. Mohanty, S. K. Ram, "Everything You Wanted to Know about Secure Energy Harvesting Techniques for IoT Devices-A Review", *IEEE Sensors Journal*, vol. 25, no. 22, pp. 41027 - 41039, 2025. [DOI: 10.1109/JSEN.2025.3614640]

- **T. Ojha**, T.P. Raptis, A. Passarella, M. Conti, "Wireless Power Transfer with Unmanned Aerial Vehicles: State of the Art and Open Challenges", *Pervasive and Mobile Computing (Elsevier)*, vol. 93, pp. 101820, 2023. [DOI: 10.1016/j.pmcj.2023.101820] (SCI – Q1, Impact Factor – 3.848)

- **T. Ojha**, T. P. Raptis, M. Conti, A. Passarella, "Balanced Wireless Crowd Charging with Mobility Prediction and Social Awareness", *Computer Networks (Elsevier)*, vol. 211, pages 108989, 2022. [DOI: 10.1016/j.comnet.2022.108989] (Invited Submission) (SCI – Q1, , Impact factor – 5.493)

- S. Misra, M. Tiwari, **T. Ojha**, Y. Raj, "PANDA: Preference-based Bandwidth Allocation in Fog-enabled Internet of Underground-Mine Things", *IEEE Systems Journal*, vol. 15, no. 4, pp. 5144 - 5151, 2021. [DOI: 10.1109/JSYST.2021.3086150] (SCI – Q1, Impact factor – 4.802)

- **T. Ojha**, S. Misra, N. S. Raghuwanshi, "Internet of Things for Agricultural Applications: The State of the Art", *IEEE Internet of Things Journal*, vol. 8, no. 14, pp. 10973 - 10997, 2021. [DOI: 10.1109/JIOT.2021.3051418] (SCI – Q1, Impact factor – 10.238)

- S. Misra, **T. Ojha**, P. Madhusoodhanan, "SecRET: Secure Range-Based Localization with Evidence Theory for Underwater Sensor Networks", *ACM Transactions on Autonomous and Adaptive Systems*, vol. 15, no. 1, pp. 1 - 26, 2021. [DOI: 10.1145/3431390] (SCI – Q2, Impact factor – 1.913)

- **T. Ojha**, S. Misra, M. S. Obaidat, "SEAL: Self-adaptive AUV-based Localization for Sparsely Deployed Underwater Sensor Networks", *Computer Communications (Elsevier)*, vol. 154, pp. 204 - 215, 2020. [DOI: 10.1016/j.comcom.2020.02.050] (SCI – Q1, Impact factor – 5.047)

- **T. Ojha**, S. Misra, N. S. Raghuwanshi, H. Poddar, "DVSP: Dynamic Virtual Sensor Provisioning in Sensor-Cloud based Internet of Things", *IEEE Internet of Things Journal*, vol. 6, no. 3, pp. 5265 - 5272, 2019. [DOI: 10.1109/JIOT.2019.28999498] (SCI – Q1, Impact factor – 10.238)

- **T. Ojha**, S. Misra, N. S. Raghuwanshi, "Sensing-cloud: Leveraging the Benefits for Agricultural Applications", *Computers and Electronics in Agriculture*, vol. 135, pp. 97 - 106, 2017. [DOI: 10.1016/j.compag.2017.01.026] (SCI – Q1, Impact factor – 6.757)

- A. K. Mandal, S. Misra, **T. Ojha**, M. K. Dash, and M. S. Obaidat, "Oceanic Forces and their Impact on the Performance of Mobile Underwater Acoustic Sensor Networks," *International Journal of Communication Systems (Wiley)*, vol. 30, no. 1, pp. e2882, 2017. [DOI: 10.1002/dac.2882] (SCI – Q2, Impact factor – 1.882)

- S. Misra, S. Bera, **T. Ojha**, H. Mouftah, A. Anpalagan, "ENTRUST: Energy Trading Under Uncertainty in Smart Grid Systems", *Computer Networks (Elsevier)*, vol. 110, pp. 232 - 242, 2016. [DOI: 10.1016/j.comnet.2016.09.021] (SCI – Q1, Impact factor – 5.493)

- A. K. Mandal, S. Misra, M. K. Dash, and **T. Ojha**, "Performance Analysis of Distributed Underwater Wireless Acoustic Sensor Networks in the Presence of Internal Solitons," *International Journal of Communication Systems (Wiley)*, vol. 29, no. 13, pp 1940 - 1955, 2016. [DOI: 10.1002/dac.2843] (SCI – Q2, Impact factor – 1.882)

- **T. Ojha**, S. Misra, N. S. Raghuwanshi, "Wireless Sensor Networks for Agriculture: The State-of-the-Art in Practice and Future Challenges", *Computers and Electronics in Agriculture*, vol. 118, pp. 66 - 84, 2015. (Was listed as the **most cited** and among **most downloaded** papers of this journal during 2016–19.) [DOI: 10.1016/j.compag.2015.08.011] (SCI – Q1, Impact factor – 6.757)

- A. K. Mandal, S. Misra, **T. Ojha**, M. K. Dash, and M. S. Obaidat, "Effects of Wind-induced Near-surface Bubble Plumes on the Performance of Underwater Wireless Acoustic Sensor Networks", *IEEE Sensors Journal*, vol. 16, no. 11, pp. 4092 - 4099, 2015. [DOI: 10.1109/JSEN.2015.2443012] (SCI – Q1, Impact factor – 4.325)

- S. Misra, S. Bera, **T. Ojha**, L. Zhou, "ENTICE: Agent-Based Energy Trading with Incomplete Information in the Smart Grid", *Journal of Network and Computer Applications*, vol. 55, pp. 202 - 212, 2015. [DOI: 10.1016/j.jnca.2015.05.008] (SCI – Q1, Impact factor – 7.574)

- S. Misra, **T. Ojha**, and A. Mondal, "Game-theoretic Topology Control for Opportunistic Localization in Sparse Underwater Sensor Networks," *IEEE Transactions on Mobile Computing*, vol. 14, no. 5, pp. 990 - 1003, 2015. [DOI: 10.1109/TMC.2014.2338293] (SCI – Q1, Impact factor – 6.075)

- S. Misra, S. Bera, and **T. Ojha**, "D2P: Distributed Dynamic Pricing Policy in Smart Grid for PHEVs Management," *IEEE Transactions on Parallel and Distributed Systems*, vol. 26, no. 3, pp. 702 - 712, 2014. [DOI: 10.1109/TPDS.2014.2315195] (SCI – Q1, Impact factor – 3.757)

- **T. Ojha**, M. Khatua, and S. Misra, "Tic-Tac-Toe-Arch: A Self-organizing Virtual Architecture for Underwater Sensor Networks," *IET Wireless Sensor Systems*, vol. 3, no. 4, pp. 307 - 316 , 2013. [DOI: 10.1049/iet-wss.2012.0139] (SCI – Q2, Impact factor – 2.51)

Conference Publications

- T. Das, **T. Ojha**, N. Choudhury, A. Kaushik and K. Gupta, "QoS-aware Joint Optimization of Task Offloading and Resource Allocation in Integrated Terrestrial Non-Terrestrial Network", in *Proceedings of IEEE ANTS*, December 2025.

- S. Anand, A. Gorrela, R. Rahman, N. Choudhury, A. Hazarika, D. Choudhury, **T. Ojha**, "Delay-Bounded Adaptive MAC for IEEE 802.15.4e DSME Networks: Enhancing Resilience under Bursty and Dynamic IoT Traffic", in *Proceedings of IEEE ANTS*, December 2025.

- M. Vaiyata, **T. Ojha**, N. Choudhury, J. Dave and P. Lorenz, "Distributed RL-Based UAV Selection for Reliable Task Execution in Aerial IoT Edge Networks", in *Proceedings of IEEE GLOBECOM Workshops*, December 2025.

- R. Rahman, N. Choudhury, W. Xiang and **T. Ojha**,"FlexiFrame: Adaptive Slotframe Scheduling for 6TiSCH-Based Smart City IoT Networks", in *Proceedings of IEEE GLOBECOM Workshops*, December 2025.

- N. Roshni, S. Prabhugari, R. Soni, A. S. Manish Reddy, A. Soni, J. Dave and **T. Ojha**, "SDN Security Enhancement through Machine Learning based Packet Detection and Rate-Limiting", in *IEEE INDISCON*, Rourkela, India, August 2025.

- S. Ravikanti, J. Dave, H. Dong, I. Gondal, N. Choudhury, **T. Ojha** and T. P. Raptis, "Avatar-Centric Gait Authentication Framework for Secure Metaverse", in *15th Workshop on Management of Cloud and Smart City Systems (with IEEE ISCC 2025)*, Bologna, Italy, July 2025.

- S. Reddy, N. Choudhury, A. Hazarika and **T. Ojha**, "DyHSARW: A Dynamic GTS Scheduling Mechanism for Large IEEE 802.15.4 DSME-Based IoT Networks", in *Proceedings of IEEE WCNC*, Milan, Italy, March 2025.

- S. Anand, N. Choudhury, **T. Ojha**, A. Hazarika, J. Dave, "Improving Network Efficiency in Clustered Tree Topology through PSO Optimization in IEEE 802.15.4-DSME based IoT Networks", in *Proceedings of IEEE ANTS*, Guwahati, India, December 2024.

- C. Amala, B. Subbarao, **T Ojha**, B. B. Das. S. K. Ram, and S. P. Mohanty, "An Off-chip Based PUF for Robust Security in FPGA Based IoT Systems", in *IEEE Proceeding on 22nd OITS International Conference on Information Technology*, Guntur, India, Dated: 12-14 December, 2024. (**Best Paper Award**)

- **T. Ojha**, T. P. Raptis, M. Conti, A. Passarella, "Heterogeneity-aware P2P Wireless Energy Transfer for Balanced Energy Distribution", in *Proceedings of IEEE GLOBECOM*, pp. 4123-4128, Rio de Janeiro, Brazil, 2022.

- **T. Ojha**, T. P. Raptis, M. Conti, A. Passarella, "Wireless Crowd Charging with Battery Aging Mitigation", in *Proceedings of IEEE SmartComp*, pp. 142 - 149, Helsinki, Finland, 2022.

- **T. Ojha**, T. P. Raptis, M. Conti, A. Passarella, "MobiWEB: Mobility-Aware Energy Balancing for P2P Wireless Power Transfer", in *Proceedings of IEEE ISCC*, pp. 1 - 6, Athens, Greece, 2021. (Among **best papers** & Invited for extended version)

- **T. Ojha**, S. Misra, N. S. Raghuwanshi, M. S. Obaidat, "iDVSP: Intelligent Dynamic Virtual Sensor Provisioning in Sensor-Cloud Infrastructure", in *Proceedings of IEEE GLOBECOM*, pp. 1 - 6, Abu Dhabi, UAE, 2018.

- S. Bera, **T. Ojha**, S. Misra, M. S. Obaidat, "Cloud-based Optimal Energy Forecasting for Enabling Green Smart Grid Communication", in *Proceedings of IEEE GLOBECOM*, pp. 1 - 6, San Diego, CA, USA, 2015.

- **T. Ojha**, S. Bera, S. Misra and N. S. Raghuwanshi, "Dynamic Duty Scheduling for Green Sensor-Cloud Applications," in *Proceedings of 6th IEEE International Conference on Cloud Computing Technologies and Science(CloudCom) Workshops*, pp. 841 - 846, Singapore, Dec. 2014.

- **T. Ojha** and S. Misra, "MobiL: A 3-Dimensional Localization Scheme for Mobile Underwater Sensor Networks," in *Proceedings of 19th National Conference on Communications (NCC)*, pp. 1 - 5, New Delhi, India, IEEE, Feb. 2013.

- **T. Ojha** and S. Misra, "HASL: High-Speed AUV-Based Silent Localization for Underwater Sensor Networks," in *Proceedings of the 9th International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QShine)*, LNICST 115, pp. 128 - 140, Greater Noida, India, Springer, Jan. 2013.

DETAILS OF START-UP

Name: SkinCurate Research Pvt. Ltd.
Role: Co-founder and Director
Associated Duration: 2014–2021
Location: Kharagpur, India
Other Co-founders: Dr. Debdoot Sheet, Dr. Kausik Basak, Dr. Sri Phani Krishna Karri
Grants Received:

- BIRAC, DBT, Govt. of India (BIG grant): 41.79 Lakhs INR (Aug. 2015 - Jan. 2017)

- SINE, IIT Bombay and Intel Inc. (Plugin 2 Startup Cohort): 10.00 Lakhs INR (Oct. 2018 - Jun 2019)

Employment Generated: 4 (technical), 3 (non-technical)
Awards/Recognitions:

- 2018: 1st Runner-Up, CII Healthcare Innovation Summit

- 2018: Among Top 10 teams, Western Digital Innovation Bootcamp (along with Start-up India)

- 2018: Nominated for Economic Times Start-up Awards

- 2019: Indian Patent Published

- 2014: Selected for CAMTech Final round

PRODUCTS DEVELOPED

- "A mobile app-powered portable multi-spectral imaging prototype for skin disease detection", at Indian Institute of Technology Kharagpur and SkinCurate Research Pvt. Ltd., 2013-16.

- "Jaltarang: A NS-3 based Underwater Sensor Network Simulator", at Indian Institute of Technology Kharagpur, 2011-13. [URL: https://cse.iitkgp.ac.in/smisra/swan/tre/doc/Jaltarang.zip]

- "MAcoSim: Matlab-based Acoustic Underwater Simulator", at Indian Institute of Technology Kharagpur, 2011-13. [URL: https://cse.iitkgp.ac.in/smisra/swan/tre/doc/MAcoSim.zip]

INVITED TALKS (SELECTED)

- November 2025: *Invited Talk* on "The Next Evolution in Future IoT Networks" at EPCI 2025, international conference organized by NIT Delhi and EICT, IIT Roorkee.

- September 2025: *Invited Talk* on "The Next Evolution in Future IoT Networks" at ACM ROCS organized by Chitkara University, Punjab.

- September 2025: *Invited Talk* on "Federated Learning Platforms Addressing Security and Privacy" at FDP organized by NIT Delhi and EICT, IIT Roorkee.

- July 2025: *Invited talk* on "On the Edge of Future IoT Networks: Sensing, Communication and Computation" at FDP organized by NIT Delhi and EICT, NIT Warangal.

- June 2025: *Invited talks* on "Sensing, Actuation, and Microcontroller/SBC" and "Machine Learning on Edge" at Workshop organized by iHUB Data, IIIT Hyderabad.

- July 2025: *Expert lectures* on "Energy Aspects of Future IoT Networks" and "Communication and Computing in Future IoT networks" at STP organized by MMTTC, IIT Patna at BIT Mesra.

- June 2025: *Invited talk* on "Future IoT Networks – Communication, Computation and Energy" at FDP organized by IIIT Kottayam and EICT, NIT Warangal.

- June 2025: *Expert lecture* on "Wirelessly Powered Future IoT Networks" and "Resource Management in 6G IoT networks" at STP organized by Malaviya Mission Teacher Training Centre (MMTTC), IIT Patna.

- May 2025: *Invited talk* on "Resource Management in Future IoT Networks" organized by IEEE CS Student Branch Chapter IIT Kharagpur and IEEE India Council.

- May 2025: *Invited talks* on "Energy aspects of Future IoT Networks" and "Communication and Computation in Future IoT Networks" at FDP organized by EICT, IIT Roorkee and Brainware University, Kolkata.

- April 2025: *Invited talks* on "Rise of the Edge Devices: Distributed Computing and Communication for 6G Networks" and "Are we really Empowered? Wireless-powered IoT for Futuristic Networks" at FDP organized by EICT, IIITDM Jabalpur and SRM University-AP.

- April 2025: *Expert lecture* on "Wirelessly Powered IoT Networks" and "Resource Management in 6G IoT networks" at STP organized by MMTTC, IIT Patna at K. K. Group of Institutes, Dhanbad.

- November 2024: *Guest lecture* on "Recent Trends and Future Directions in Internet of Things" at the IoT Course (UG), Dept. of EEE, BITS Pilani, Hyderabad campus.

- December 2023: *Invited talk* on "IoT and Edge Computing for Smart Agriculture" at webinar organized by Centurion University of Technology and Management, Odisha.

- December 2023: *Resource Person* at ATAL FDP on "Integrated IoT and Machine Learning Methods for Smart Sustainable Cities" organized by Vignan's University, Guntur.

- June 2023: *Resource Person* at FDP on "Applications of Machine Learning and the Internet of Things in Smart Cities" organized by EICT, NIT Warangal and Techno College of Engineering, Agartala.

- Dec. 2022: *Keynote Speaker* at ICACIE 2022 conference, Cuttack, India.

Professional Memberships

- *IEEE* [ComSoc, CompSoc]: Senior member (2023–present), Member (2021–2023), Student (2013–2020)

- *ACM*: Professional member (2021–present), Student member (2013–2020)

Administrative Responsibility

- *Faculty In-Charge* for 'Department Labs' at Dept. of Maths & Computing, IIT (ISM) Dhanbad (August 2025–).

- *Faculty In-Charge* for 'Branding of Departments' at IIT (ISM) Dhanbad (May 2025–).

- *Coordinator* for department website maintenance at IIT (ISM) Dhanbad (February 2025–).

- *Editor* for the department newsletter, GANANAM, at IIT (ISM) Dhanbad (October 2024–).

Volunteering Experience

- *Mentor*, ACM Anveshan Setu Fellowship program (2024–)

- *Member*, ACM India Research Facilitation Committee (RFC), (2024–)

- *Member*, IEEE India Council Awards Committee (2024)

- *Student Representative*, IEEE Computer Society India Council SAC (2017)

- *IEEE UPP Liaison*, IEEE Student Branch, IIT Kharagpur (2016–2017)

- *Chair* of Executive Committee, IEEE Student Branch, IIT Kharagpur (2015–2016)

Referee Service

- *Journal Editorial Board*:
    - Scientific Reports (Springer Nature)
- *Examiner / Reviewer*:
    - IEEE India Council Awards, 2023; 2024
- *Conference Organizing Committee member*:
    - *Chair*, 6DCIoT 2025 workshop (with IEEE ANTS 2025), New Delhi, India.
    - *Co-Chair*, Metaverse Futures workshop (with IEEE FNWF 2025), Bangalore, India.
    - *Chair*, 6DCIoT 2024 workshop (with IEEE ANTS 2024), Guwahati, Assam.
    - *Publicity Co-Chair*, IEEE DCOSS 2022, California, USA.
    - *General Chair*, WPSN 2021 (in conjunction with IEEE DCOSS), Pafos, Cyprus.
    - *Publicity Co-Chair*, IEEE DCOSS 2021, Pafos, Cyprus.
- *Technical Program Committee member* (Selected only):
    - *IEEE PIMRC*: 2025 (Istanbul, Turkey); 2024 (Valencia, Spain); 2023 (Toronto, Canada); 2022 (Virtual Conference); 2021 (Helsinki, Finland); 2020 (London, UK); 2019 (Istanbul, Turkey); 2018 (Bologna, Italy)
    - *IEEE GLOBECOM*: 2025 (Taipei, Taiwan), 2023 (Kuala Lumpur, Malaysia)
    - *IEEE VTC*: Spring 2025 (Oslo, Norway);
    - *IEEE ISCC*: 2024 (Paris, France); 2023 (Tunisia); 2022 (Rhodes Island, Greece); 2021 (Athens, Greece);
- *Journal reviewer*:
    - IEEE Transactions (TNSM, TMC, TSC, TVT)
    - IEEE Journals/Letters (IoT J., Systems J., Sensors J., Embedded System L., Access)
    - ACM Transactions (TOSN)
    - Elsevier (Ad Hoc Net., ComNet, ComCom, PMC, CompAg)
- *Conference reviewer* (Selected only):
    - IEEE PIMRC (2017–2025); IEEE ISCC (2021–2024); IEEE GLOBECOM (2023–25); IEEE CCNC (2021, 2023)
    - Others: IEEE LCN, IEEE DCOSS, IEEE ATC, COVI-COM (IEEE ICC), IEEE ICCCS, IEEE ANTS, IEEE NCC

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