Dr. Maneesha V Ramesh

Amrita Vishwa Vidyapeetham



Designation

Responsible for Strategic Initiatives, International, Research & Innova-Provost

> tion, and AI + X Amrita Vishwa Vidyapeetham

School for Sustainable Futures Dean Amrita Vishwa Vidyapeetham

Dean **International Programs** Amrita Vishwa Vidyapeetham

Address

UNESCO Chair

Experiential Learning for Sustainable Innovation & Development Amrita

Vishwa Vidyapeetham

Director Center for Wireless Networks & Applications (AmritaWNA) Amrita Vishwa

Vidyapeetham

Amrita Vishwa Vidyapeetham Kerala, 690525, India

> **1** Profile **G** Google Scholar ResearchGate

> > Scopus Orcid in LinkedIn X Twitter

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Education

June 2009 Ph.D. Computer Science

Wireless Sensor Network to detect rainfall induced landslides

The research work was instrumental in deploying the world's first Wireless Sensor Network system capable of issuing landslide warnings. The first landslide warning was issued on July 22, 2009 during the torrential rainfall season.

Amrita Vishwa Vidyapeetham

http://www.amrita.edu/awna/news.php

Master of Business Administration April 2003 Amrita Vishwa Vidyapeetham

Specialization: Systems Management and Financial Management

Bachelor of Technology May 2000 Kerala University

Specialization: Production Engineering

maneesha@amrita.edu maneeshasud-

Present positions

Research Statistics

heer@gmail.com

Citations: 3587

La h-index: 31 Q i10-index: 82

World Center of Excellence on Landslide Risk Reduction Head

International Scientific Committee - World Center of Excellence on Member

Landslide Risk Reduction

Nodal **ICL IPL World Centre of Excellence**

Coordinator Professor **Department of Computer Science & Engineering**

Symposium Chair Amrita Research & Innovation Symposium for Excellence (ARISE)

'Jivamritam', a purified clean drinking water Program

Head solution in 5,000 villages to over 10 million people, India

Program 'Live-in-Labs®', a multidisciplinary experiential learning

Head program, for 108 + communities Secretary **ACM-W India Council**

Frontiers in Water - Water and Human Systems Associate

Editor Editor Ad Hoc Networks Journal, Elsevier Editor **CSI Transactions on ICT, Springer**

Reviewer **International Journal of Digital Earth**

Senior **IEEE and ACM**

Member

Positions held

2023	3 1	and Resilient Communities (SRC) - 2023
2020	Civil 20 India (C20) Speaker India Universities Forum 2020, New Delhi, India The globalisation of higher education in India: History and prospects for 21st	
2019	century. Program Chair The 1st ACM International Workshop on Tec Applications for Smart Cities and Communi	0,
2019	_ 1 1	dian Smart Grid Forum, New Delhi, India
2017	Convenor Tech4Dev 2018 Conference session, Ljubljana, Slovenia People-centered Early Warning Systems for Natural Hazards. Co-Chair Int. Workshop on Sensors & Small Satellite Tech. for Disaster Management, Amrita Vishwa Vidyapeetham	
2016		
2015	Vice Chair, IEEE Kerala Section	[Communication Society Chapter]
2013	Secretary	ACM, Indian Council
2011	Program Chair, International Conference for Wireless Technologies for Humanitarian Relief ACWR 2011 Conference	
2011	Technical Program Committee member	ISCI 2011
2010	Editorial Board & Advisory Committee M Computing, New Delhi	lember International Conference on
2010	Technical Committee - SENSORCOMM 2010, ICCAIE 2010	
2010	Technical Program Committee member	SENSORCOMM, ICCAIE, ICOS
2004-2006	Head	Computer Science Department
2006	WINSOC Principal Investigator	Amrita Vishwa Vidyapeetham

Honors & Awards

- 2023 Averted Disaster Award Winner for the premier recognition of successful disaster mitigation interventions in the 11th Global Dialogue Platform Germany
- Author of the book "Embrace of Compassion", "2004 Indian Ocean Tsunami-Swift Transformation & Community Resilience"
- "One among the Top 2% Scientists in the World" in the field of networking, telecom-

munications, artificial intelligence, and image processing, identified by Stanford University, 2019, 2020, 2021, 2023.

- IPL-KLC Award for Success from 2021-2023, World Landslide Forum
- 2020 Phase II and Phase I Winner of 5G Hackathon conducted by DoT, Govt of India
- Chancellor's Research Excellence Award (AIRA 2021), Amrita Vishwa Vidyapeetham.
- Conferred with Elets Water Innovation Awards, instituted in joint partnership with the Ministry of Jal Shakti & National Mission for Clean Ganga, Government of India.
- Invited panellists at the "Internationalisation in India: experience and opportunity" session.
- Mentioned as young researcher and leader in October 2019 Outlook Spotlight issue.
- Signed for the "First Group of Signatories of the Kyoto Landslide Commitment 2020" and presented her work on "IoT for Landslide Disaster Risk Reduction" and "Landslide Early Warning System for Enhancing Disaster Resilience of the Community".
- Amrita Vishwa Vidyapeetham won the 'World Centre of Excellence on Landslide Disaster Reduction' from the International Program on Landslides (IPL) at the fourth World Landslide Forum in Ljubljna, Slovenia. The title will be held by the University till 2023.
- Selected for the prestigious 'Young Faculty Research Fellowship' under the Visveswaraya PhD Scheme for Electronics and IT of Deity for 2015-19.
- Honored as one of the top 100 researchers in India with the title "India's Most Prolific Paper Publishers" in a survey conducted by Careers 360, India's leading career planning consultancy services organization. Article published in the Careers 360 magazine in April/May 2014.
- Principal Investigator of 7 Funded Research Projects and Principal Co-Investigator of 10 funded research projects.
- NABARD AWARD for Rural Innovations 2012, 2nd Prize, received from Shri. P. Chidambaram, Hon'ble Union Minister of Finance, Govt. of India.
- Honorable mention in the Indian parliament on 21st May 2012 for a project on monitoring the detection of heavy rainfall-induced landslides.
- Awarded the ACM-Women Scholarship 2008 by the Association of Computer Machinery headquartered in New York.
- Presented 'Wireless Communication for Disaster Management' at UNAI-Amrita Conference at UN in July 2015.
- Presented 'Enhancement of the existing Real-time Landslide Monitoring and Early Warning System in Western Ghats & Himalayas, India' at ICL-IPL UNESCO Conference in November 2016.
- Presented poster 'Wireless Sensor Networks for Real-Time Monitoring & Early Warning of Landslides: A Real World Deployment in Western Ghats & Himalayas in India' at 'UNISDR Science and Technology Conference on the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in January 2016.
- Best Poster award 'An Adaptive Energy Management Scheme for Real-time Landslide Detection' in ACM SenSys November 2014 at Italy.
- · Best Paper award 'Wireless Sensor Network Security: Real-Time Detection and Pre-

vention of Attacks' in the 4th International Conference on Advanced Computer Control (ICACC) in November, 2012 held at Shanghai, China.

- CREATE UNAOC Challenge Award: 'Sanskar', an interactive Android app developed by Prof. Maneesha, was shortlisted among the top five finalist applications in the 2012 Create UNAOC Challenge, an international competition for app developers that sought to introduce new avenues for intercultural dialogue.
- Best Paper award at SENSORCOMM 2010 in July 2010 at Venice, Italy.
- Best Paper award at SENSORCOMM 2009 in June 2009 at Athens, Greece.

Sustainable Development Forums

Prof. Maneesha V. Ramesh has represented the UNESCO Chair at various national and international events, delivering distinguished lectures and keynote addresses. She provides expert opinions in the areas of UN SDGs.

- Distinguished Lecture at SPASHT 2021, Amrita Institute of Medical Sciences
- International Symposium on Educational Pedagogies and Technologies for Sustainable Development
- · Sustainability & Beyond Colloquium Series
- International Symposium on IoT and ML for Ecosystem Restoration and Multi Hazard Resilience
- International Symposium on Water Sustainability (IWSS 2021)
- Speaker at NSOIM (National Social Organization and Institutions Meet) 2021
- Distinguished Lecture Colloquium Series, UPC, Spain
- · Keynote Speaker for W36 Summit
- International Symposium on Tsunami Risk Reduction & Community Resilience
- UNESCO Asia-Pacific Regional Technical Consultation on the Revision of the 1974 Recommendation
- Environmental Friendly Technologies of Urbanised Territories

Research Areas

- · Droughts, Avalanches, Floods
- Compassion Driven Research
- · Sustainable societies
- Collaborative Context Aware Disaster Response & Recovery
- Mobile Computing
- Remote Triggered Laboratory for Wireless Networks
- Wearable Wireless Sensors for Health Care applications

- · Wireless Network Design for Rural Health
- · Wireless Networks for Water Quality Monitoring
- Wireless Sensor Network Algorithm Design
- Wireless Sensor Network for Real-Time Monitoring of Natural Disasters such as Landslides

Patents

2023	Indian Patent No - 459006 Systems and Methods for Remote Health Monitoring and Management	
2023	US-2023046111-A1 Multilevel Rapid Warning System for Landslide Detection	
2022	US-2022051353-A1 Optimal Communication Architecture for Smart Distribution Power Grid	
2022	US-11343273-B2 Method of reducing DoS attacks using voice response in IoT systems	
2021	US-11138678-B2 Optimal communication architecture for smart distribution power grid	
2020	US-10542889-B2 Systems, methods, and devices for remote health monitoring and management	
2019	US-10433726-B2 Systems, methods, and devices for remote health monitoring and management using internet of things sensors	
2019	US-2019192086-A1 Spectroscopic monitoring for the measurement of multiple physiological parameters	
2019	US-10446905-B2 Automatic antenna orientation and stabilization system and method	
2018	US-10045227-B2 Mobile infrastructure for coastal region offshore communications and networks	
2018	US-2015301619-A1 Wearable wireless tongue controlled devices	
2014	US-8692668-B2 Network-based system for predicting landslides and providing early warnings	

Projects and Grants

• "Enabling energy efficient community through Context Aware IoT framework and Sustainable Software (E-CAISS)"

Role: CO-PI Funding Agency: MoE Start Date: Jul 2023 End Date: Jul 2025 Amount: ₹ INR 4747626

• "GEL-IoT Geospatially Enabled Learning approaches for Intelligent IoT based water

quality monitoring"

Role: CO-PI Funding Agency: DST Start Date: 2023 End Date: 2026

Amount: ₹ INR 2600000

• Fast forward to SDG6: Acceptable and affordable water in secondary Indian cities (4WARD)

Role: CO-PI Funding Agency: DST Start Date: 2019 End Date: 2024

Amount: ₹ 17883360

 "An observational prospective study to assess the impact of Internet-of-Things connected remote patient monitoring system for patients with high risk of rapid deterioration and its integration to the rapid response team in preventing Out-of-ICU ward crashes"

Role: PI Funding Agency: ICMR Start Date: 2022 End Date: 2024

Amount: ₹ INR 1880000

MAKARA

Role: CO-PI Funding Agency: Solidaridad Asia Pvt Ltd Start Date: 2023 End Date:

2024

Amount: ₹ INR 3800000

· Establishing 14 COVID resilient communities across India CCRRC

Role: PI Funding Agency: DST Start Date: 2020 End Date: 2023

Amount: ₹ INR 240000000

 Landslide -Multi hazard risk Assessment, preparedness, and early warning in south Asia: Integrating meteorology, landscape and society (LANDSLIP)

Role: PI Funding Agency: NERC, UK Start Date: MISSING End Date: 2021

Amount: £ 136447.09

An AR based Immersive experience of Indian Heritage Sites

Role: CO-PI Funding Agency: DST Start Date: 2019 End Date: 2020

Amount: ₹ 7700611

Smart services and Optimization for Microgrinds(SSOM)

Role: CO-PI Funding Agency: DST Start Date: 2019 End Date: 2020

Amount: ₹ 885200

Characterizing and modelling the impact of soil moisture heterogeneity on convective processes over the Indian subcontinent,

Role: CO-PI Funding Agency: SERB Start Date: 2017 End Date: 2018

Amount: ₹ 3606400

 Affordable system for early detection of breast cancer using novel infrared imaging and real time diagnosis

Role: CO-PI Funding Agency: DST Start Date: 2017 End Date: 2018

Amount: ₹ 2497000

 Dynamical Downscaling of Regional Climate: Simulation of Extreme Rainfall Events and their impacts over the State of Kerala in the near-future,

Role: CO-PI Funding Agency: KSDMA Start Date: 2017 End Date: 2018

Amount: ₹ 1000000

IoT Framework for Modeling, Monitoring and Damage Detection of Natural and Historical Heritage Structures

Role: CO-PI Funding Agency: DST Start Date: 2017 End Date: 2018

Amount: ₹ 380000

Monitoring and Management of Urban Flooding using a Crowd-Sourcing Technique
 Role: PI Funding Agency: DST Start Date: 2015 End Date: 2016

Amount: ₹ 9212000

Micronet-Mobile Infrastructure for Coastal Region Offshore Communications & Networks

Role: PI Funding Agency: ITRA Start Date: 2014 End Date: 2015

Amount: ₹ 18420000

· Stabiliz-Energy Stabiliz-e

Role: PI Funding Agency: DST Start Date: 2014 End Date: 2015

Amount: ₹ 2913600

Advancing Integrated Wireless Sensor Networks for Real Time Monitoring and Detection of Disasters

Role: PI Funding Agency: MOES Start Date: 2013 End Date: 2014

Amount: ₹ 51405000

Publications

2024

Journal Articles

- Mukhopadhyay, A.; Remanidevi Devidas, A.; Rangan, V.P.; Ramesh, M.V. A QoS-Aware IoT Edge Network for Mobile Telemedicine Enabling In-Transit Monitoring of Emergency Patients. Future Internet 2024, 16, 52. doi
- Velayudhan, N.K.; S, A.; Devidas, A.R.; Ramesh, M.V. Delay and Energy Efficient Offloading Strategies for an IoT Integrated Water Distribution System in Smart Cities. Smart Cities 2024, 7, 179-207. doi
- Sai Shibu N B, Dr. Aryadevi Remanidevi Devidas, Dr. S Balamurugan, Dr. Seshaiah Ponnekanti, Dr. Maneesha Vinodini Ramesh, "Optimising Microgrid Resilience: Integrating IoT, Blockchain, and Smart Contracts for Power Outage Management," IEEE Access. doi.
- Mojtaba Enayati, Sudha Arlikatti, Maneesha Vinodini Ramesh, A qualitative analysis of rural fishermen: Potential for blockchain-enabled framework for livelihood sustainability, Heliyon, Volume 10, Issue 2, 2024 doi
- G. D. H. Niranga, A. R. Devidas and M. V. Ramesh, "NeoCommLight: A Visible Light Communication System for RF-Restricted NICUs," in IEEE Access, vol. 12, pp. 12827-12842, 2024.doi

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Journal Articles

- Ramesh, M.V., Thirugnanam, H., Mohanan, N.K., Singh, B., Ekkirala, H.C., Guntha, R. (2023). Community Scale Landslide Resilience: A Citizen-Science Approach. In: Alcántara-Ayala, I., et al. Progress in Landslide Research and Technology, Volume 2 Issue 2, 2023. Progress in Landslide Research and Technology. Springer, Cham. doi
- Prasad G, Ramesh M.V, Siddik A M, T R, Thomas G.M., "Changing profile of natural organic matter in groundwater of a ramsar site in Kerala implications for sustainability,"

- Ajith V, Fishman R, Yosef E, Edris S, Ramesh R, Alookaran Suresh R, Pras A, Rahim V, Rajendran S, Yanko M, Amit A, Bhavani R.R, Vinodini Ramesh M, Mamane H., "An integrated methodology for assessment of drinking-water quality in low-income settings," vol. 46, 2023.doi link
- Wadhawan S.K, Singh B, Kumar M.N, Vasudevan N, Ramesh M.V., "A Novel Application of Catchment Approach to Assessment of 2021 Rockfall and Landslides Vulnerabilities in Tirumala Hills, Andhra Pradesh, India," vol. 99, no. 5, pp. 599.0-606.0, 2023. doi link
- Watlet A, Thirugnanam H, Singh B, Kumar M N, Brahmanandan D, Inauen C, Swift R, Meldrum P, Uhlemann S, Wilkinson P, Chambers J, Ramesh M.V., "4D electrical resistivity to monitor unstable slopes in mountainous tropical regions: an example from Munnar, India," vol. 20, no. 5, pp. 1031.0-1044.0, 2023. https://doi.org/10.1007/s10346-023-02029-3
- Padil V.V.T, Ramesh M.V, Cheong J.Y., "Comprehensive review on gum-based electrolytes for energy applications: current status and future projection," vol. 28, pp., 2023.

https://doi.org/10.1016/j.mtchem.2022.101373

• Surendran S, **Ramesh M.V**, Montresor A, Montag M.J., "Link Characterization and Edge-Centric Predictive Modeling in an Ocean Network," vol. 11, pp. 5031.0-5046.0, 2023.

https://doi.org/10.1109/ACCESS.2023.3235387

 Gopal L.S, Prabha R, Ramesh M.V., "Developing Information Extraction System for Disaster Impact Factor Retrieval from Web News Data," vol. 401, pp. 357.0-365.0, 2023.

https://doi.org/10.1007/978-981-19-0098-3 35

Conference Papers

- Anand S, Raj D, Sai A.M.A, Rao S.N, Vinodini Ramesh M., "Techno-Social Synergy for Disaster Resilience in Coastal Communities: A Sustainable Approach," 2023. https://doi.org/10.1145/3571306.3571437
- Ekkirala H.C, Brahma D, Amritesh A.R, Imada de Lima F, Ramesh M.V, Singh B, Samaila M, Ugo P.D., "Identification of Community-Level Sustainability Indicators: A Climate Change and Risk Management Perspective," 2023. https://doi.org/10.1007/978-3-031-26365-1_4
- Panicker S.V, Chandana E.H, Ramesh M.V., "Spatiotemporal Mapping of Agroforestry Degradation of Five Districts of Uttarakhand, India with Spectral Indices," 2023. https://doi.org/10.1007/978-3-031-26365-1 6

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 Ajith V, Reshma A.S, Mohan R, Vinodini Ramesh M., "Empowering communities in addressing drinking water challenges using a systematic, participatory and adaptive approach and sustainable PPP model," vol. 185, 2022. https://doi.org/10.1016/j.techfore.2022.121970

- Devidas A.R, Ramesh M.V., "Cost Optimal Hybrid Communication Model for Smart Distribution Grid," vol. 13, no. 6, pp. 4931.0-4942.0, 2022. https://doi.org/10.1109/TSG.2022.3185740
- Kumar M N, Ramesh M.V., "Accurate IoT Based Slope Instability Sensing System for Landslide Detection," vol. 22, no. 17, pp. 17151.0-17161.0, 2022. https://doi.org/10.1109/JSEN.2022.3189903
- Prasad G, Mamane H, Ramesh M.V., "Geogenic and anthropogenic contamination of groundwater in a fragile eco-friendly region of southern Kerala, India," vol. 20, no. Special Issue I, pp. 1072.0-1089.0, 2022. https://doi.org/10.15159/AR.22.010
- Narayanan S, Madhuri S.S, Ramesh M.V, Rangan P.V, Rajan S.P., "Deep contextual multi-task feature fusion for enhanced concept, negation and speculation detection from clinical notes," vol. 34,pp., 2022. https://doi.org/10.1016/j.imu.2022.101109
- Velayudhan N.K, Pradeep P, Rao S.N, Devidas A.R, Ramesh M.V., "loT-Enabled Water Distribution Systems A Comparative Technological Review," vol. 10, pp. 101042.0-101070.0, 2022. https://doi.org/10.1109/ACCESS.2022.3208142
- Thirugnanam H, Uhlemann S, Reghunadh R, Ramesh M.V, Rangan V.P., "Review of Landslide Monitoring Techniques With IoT Integration Opportunities," vol. 15, pp. 5317.0-5338.0, 2022. https://doi.org/10.1109/JSTARS.2022.3183684
- Ramesh M.V, Muir A, Nandanan K, Bhavani R.R, Mohan R., "HCI Curricula for Sustainable Innovation the Humanitarian Focus at Amrita Vishwa Vidyapeetham," vol. 29, no. 1, pp. 55.0-57.0, 2022. https://doi.org/10.1145/3506564
- Narayanan S, Mannam K, Achan P, Ramesh M.V, Rangan P.V, Rajan S.P., "A contextual multi-task neural approach to medication and adverse events identification from clinical text," vol. 125, 2022. https://doi.org/10.1016/j.jbi.2021.103960

- Nibi K.V, Kumar M.N, Devidas A.R, Ramesh M.V, Thadathil S.P., "GIS based Urban Water Distribution Network Analysis: A Case Study in Kochi, India," 2022. https://doi.org/10.1109/ICCCIS56430.2022.10037629
- Gopika K.V, Nitin Kumar M, Ramesh M.V., "IoT based Ocean Acidification monitoring system with ML based Edge Analytics," 2022. https://doi.org/10.1109/ICIRCA54612.2022.9985728
- Valsan V, Sai A.M.A, Devidas A.R, Ramesh M.V., "Regression based Prediction of Rainfall for Energy Management in a Rural Islanded Micro-Hydro Grid in Kerala," 2022. https://doi.org/10.1109/GlobConPT57482.2022.9938353
- Adithya K, Ajith V, Nibi K.V, Vinodini Ramesh M., "Design of IoT and ML enabled Framework for Water Quality Monitoring," 2022. https://doi.org/10.1109/ICESC54411.2022.9885279
- Baudouin-Van Os A.C, Ramesh M.V., "Analysis of Long-Term Sustainability Challenges & Optimization of Solar Thermal Lemongrass Essential Oil Extraction Systems," 2022. https://doi.org/10.1109/SusTech53338.2022.9794167
- Aswathy A, Prabha R, Gopal L.S, Pullarkatt D, Ramesh M.V., "An efficient twitter data collection and analytics framework for effective disaster management," 2022. https://doi.org/10.1109/DELCON54057.2022.9753627
- Ramesh M.V., Sudarshan V.C., Harilal G.T., Singh B, Sudheer A, Ekkirala H.C., "Ker-

Journal Articles

- Varma D.S, Nandanan K, P C V.R, B S, Pérez M.L, K A S, Ramesh M.V., "Participatory design approach to address water crisis in the village of Karkatta, Jharkhand, India," vol. 172, 2021. https://doi.org/10.1016/j.techfore.2021.121002
- Guntha R, Rao S.N, Muccini H, Vinodini Ramesh M., "Rapid Yet Robust Continuous Delivery of Software for Disaster Management Scenarios," vol. 38, no. 4, pp. 104.0-113.0, 2021. https://doi.org/10.1109/MS.2020.3023171
- Phengsuwan J, Shah T, Thekkummal N.B, Wen Z, Sun R, Pullarkatt D, Thirugnanam H, Ramesh M.V, Morgan G, James P, Ranjan R., "Use of social media data in disaster management: A survey," vol. 13, no. 2, pp. 1.0-24.0, 2021. https://doi.org/10.3390/fi13020046
- Angom J, Viswanathan P.K, Ramesh M.V., "The dynamics of climate change adaptation in India: A review of climate smart agricultural practices among smallholder farmers in Aravalli district, Gujarat, India," vol. 3, 2021. https://doi.org/10.1016/j.crsust.2021.100039

- Surendran S, **Ramesh M.V**, Montresor A., "Predictive analytics integrated multi-level optimization of offshore connectivity in ocean network," vol. 2021-October, pp. 621.0-628.0, 2021. https://doi.org/10.1109/LCN52139.2021.9525021
- Venkatesh S, Arora B, Dwivedi D, Vezhapperambu S, Ramesh M.V., "Temporal Variability of Water Quality Parameters at the Elkhorn Slough Estuary using Wavelets," 2021. https://doi.org/10.1109/I2CT51068.2021.9418159
- Anand S, Ramesh M.V., "Multi-Layer Architecture and Routing for Internet of Everything (IoE) in Smart Cities," 2021. https://doi.org/10.1109/WiSPNET51692.2021.9419428
- Anand S, Vinodini Ramesh M., "An IoT Based Disaster Response Solution for Ocean Environment," 2021.
 https://doi.org/10.1145/3427477.3429273
- Adithya Narayan K.A, Rakesh A, Alok V, Ananthu M.P, Anand S, Ramesh M.V., "Consensus Agreement for Secure Transactions in Self Help Groups," 2021. https://doi.org/10.1109/ICCCNT51525.2021.9580076
- Pathinarupothi R.K, Sathyapalan D.T, Moni M, Menon K.A.U, Ramesh M.V., "RE-WOC: Remote Early Warning of Out-of-ICU Crashes in COVID Care Areas using IoT Device," 2021.
 - https://doi.org/10.1109/BIBM52615.2021.9669464
- Shaji S, Pathinarupothi R.K, Rangan E.S, Menon K.A.U, Ramesh M.V., "Heart Lung Health Monitor: Remote At-Home Patient Surveillance for Pandemic Management," 2021.
 - https://doi.org/10.1109/GHTC53159.2021.9612511

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 Wadhawan S.K, Singh B, Ramesh M.V., "Causative factors of landslides 2019: case study in Malappuram and Wayanad districts of Kerala, India," vol. 17, no. 11, pp. 2689.0-2697.0, 2020.

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- Surendran S, Ramesh M.V, Montag M.J, Montresor A., "Modelling communication capability and node reorientation in offshore communication network," vol. 87, 2020. https://doi.org/10.1016/j.compeleceng.2020.106781
- Thirugnanam H, Ramesh M.V, Rangan V.P., "Enhancing the reliability of landslide early warning systems by machine learning," vol. 17, no. 9, pp. 2231.0-2246.0, 2020. https://doi.org/10.1007/s10346-020-01453-z
- Kumar S, Duttagupta S, Rangan V.P, Ramesh M.V., "Reliable network connectivity in wireless sensor networks for remote monitoring of landslides," vol. 26, no. 3, pp. 2137.0-2152.0, 2020.

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- Vezhapparambu S, Madhusoodanan M.S, Sharma T.B.V, Ramesh M.V., "Characterizing satellite-derived soil moisture and its relationship with rainfall over India," vol. 40, no. 3, pp. 1909.0-1918.0, 2020. https://doi.org/10.1002/joc.6281
- Prasad G, Muramthookil Thomas G, Vinodini Ramesh M., "Trace metal analysis of pre-flood and post-flood drinking water at Alappuzha District, Southern Kerala, India," vol. 46, pp. 2911.0-2918.0, 2020. https://doi.org/10.1016/j.matpr.2020.10.958
- Prasad G, Reshma A.S, Vinodini Ramesh M., "Assessment of drinking water quality on public health at Alappuzha district, southern Kerala, India," vol. 46, pp. 3030.0-3036.0, 2020.

https://doi.org/10.1016/j.matpr.2021.01.302

 Guntha R, Rao S.N, Ramesh M.V., "Deployment Experiences with Amrita Kripa: A User-Friendly Feature Rich Crowdsourced Humanitarian Application," vol. 171, pp. 302.0-311.0, 2020.

https://doi.org/10.1016/j.procs.2020.04.314

- Prasad G, Kentilitisca J.Y, Ramesh M.V, Rohit K., "Factors Influencing Trihalomethane Formation and Methods of Reduction—A Review," vol. 601, pp. 1395.0-1406.0, 2020. https://doi.org/10.1007/978-981-15-1420-3_149
- Prasad G, Kentilitisca J.Y, Ramesh M.V, Suresh N., "An Overview of Natural Organic Matter," vol. 601, pp. 1407.0-1416.0, 2020. https://doi.org/10.1007/978-981-15-1420-3 150
- Simi S, **Ramesh M.V**, Ushakumari P.V., "Queue size estimation of nodes in a heterogeneous ocean network with multiple priority traffic," vol. 5, no. 1, pp. 26.0-40.0, 2020.

https://doi.org/10.1504/IJVICS.2020.107180

Sreeraj S.S, Unnikrishnan A, Vishnu K, Kennith N.E, Anand S, Ramesh M.V., "Empowerment of Women Self Help Groups: Human Centered Design of a Participatory IoT solution," 2020.

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Gopal L.S, Prabha R, Pullarkatt D, Ramesh M.V., "Machine Learning based Classification of Online News Data for Disaster Management," 2020.

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- Kunnath A.T, Ramesh M.V., "Wireless Geophone Network for remote monitoring and detection of landslides," 2011. https://doi.org/10.1109/ICCSP.2011.5739283

2010

Journal Articles

Kumar S, Ramesh M.V., "Lightweight Management Framework (LMF) for a heterogeneous wireless network for landslide detection," vol. 90 CCIS, pp. 457.0-471.0, 2010. https://doi.org/10.1007/978-3-642-14493-6

- Kunnath A.T, Ramesh M.V, Selvan V., "Signal processing for Wireless Geophone Network to detect landslides," 2010 . https://doi.org/10.1109/ICCAIE.2010.5735049
- Kunnath A.T, Ramesh M.V., "Integrating Geophone Network to real-time wireless sensor network system for landslide detection," 2010.
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- Jisha R.C, Ramesh M.V, Lekshmi G.S., "Intruder tracking using wireless sensor network," 2010.
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- Simi S, **Ramesh M.V.**, "Wireless sensor network for remote monitoring and detection of explosives (W-ReMADE)," 2010 .
- Simi S, **Ramesh M.V.**, "Real-time monitoring of explosives using wireless sensor networks," 2010 .
 - https://doi.org/10.1145/1858378.1858422
- Devidas A.R, Ramesh M.V., "Wireless smart grid design for monitoring and optimizing electric transmission in India," 2010 . https://doi.org/10.1109/SENSORCOMM.2010.100
- Kappiarukudil K.J, Ramesh M.V., "Real-time monitoring and detection of "Heart Attack" using wireless sensor networks," 2010.
 https://doi.org/10.1109/SENSORCOMM.2010.99

Conference Papers

 Ramesh M.V., "Real-time wireless sensor network for landslide detection," 2009. https://doi.org/10.1109/SENSORCOMM.2009.67

2008

Conference Papers

- Ramesh M.V, Ushakumari P.V., "Threshold based data aggregation algorithm to detect rainfall induced landslides," 2008.
- Raj T. R, Ramesh M.V, Sangeeth K., "Fault tolerant clustering approaches in wireless sensor network for landslide area monitoring," 2008.
- Freeman J, Ramesh M.V, Mohan A., "Biologically inspired data propagation and aggregation method for wireless sensor networks," 2008.

Teaching

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2021-2022 Odd Semester- ID811: Conceptual Foundations & Perspectives of Sustainable
                       Development
2021-2022 Even Semester- 21WN711: Machine Learning
2021-2022 Even Semester- 21GE613: Machine Learning
2021-2022 Even Semester- 21BI616: Machine Learning
2020-2021 Odd Semester- 18WN621: Principles of Wireless Communication Systems
2020-2021 Odd Semester- 19PR616: Intelligence & Communication in Smartgrid
2020-2021 Even Semester- 18WN707: Machine Learning
2020-2021 Even Semester- 19BI616: Machine Learning
2020-2021 Even Semester- 18WN623: Design of Wireless Sensor Networks
2020-2021 Even Semester- 19Gl614: Fundamentals of Earth System Modeling
2020-2021 Even Semester- 19GI615: Geodetic, Geotechnical and Geophysical Monitor-
                        ing Methods
2019-2020 Odd Semester- 18WN621: Principles of Wireless Communication Systems
2019-2020 Even Semester- 19GI615: Geodetic, Geotechnical and Geophysical Monitor-
                        ing Methods
2019-2020 Even Semester- 19Gl604: IOT for Earth Monitoring System
2018-2019 Odd Semester- 16WN717: Cloud Computing and Internet of Things
2018-2019 Odd Semester- 16WN605: Object Oriented Programming
2018-2019 Odd Semester- 16WN796 : Live-in-Labs-III
2018-2019 Odd Semester- 18WN621: Principles of Wireless Communication Systems
2018-2019 Even Semester- 18RM602: Research Methodology
2018-2019 Even Semester- 18WN707: Machine Learning
2018-2019 Even Semester- 18WN604: Design and Analysis of Algorithms
2017-2018 Odd Semester- 16WN605: Object Oriented Programming
2017-2018 Odd Semester- 16WN712: Security in Wireless Networks
2017-2018 Odd Semester- 16WN601: Basics of Digital Signal Processing
2017-2018 Odd Semester- 16WN602: Advanced Computer Networks
2017-2018 Odd Semester- 16WN794 : Live-in-Labs-I
2017-2018 Odd Semester- 16WN621: Fundamentals of Wireless Communications
```

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2017-2018 Even Semester- 16WN702: Distributed Systems
2017-2018 Even Semester- 16WN623: Wireless Sensor Networks
2017-2018 Even Semester- 16WN625: Research Learning and Problem Formulation
2017-2018 Even Semester- 16WN795 : Live-In-Labs II
2017-2018 Even Semester- 16EN600: Technical Writing
2017-2018 Even Semester- OLWN101: Comprehensive Disaster Risk Management
                        Framework
2016-2017 Odd Semester- WN601: Basics of Digital Signal Processing
2016-2017 Odd Semester- WN621. : Fundamentals of Wireless Communications
2016-2017 Odd Semester- 16WN601: Basics of Digital Signal Processing
2016-2017 Odd Semester- 16WN621: Fundamentals of Wireless Communications
2016-2017 Even Semester- 16WN623: Wireless Sensor Networks
2016-2017 Even Semester- 16WN705: Mobile Computing and Networking
2016-2017 Even Semester- 16WN707: Machine Learning
2016-2017 Even Semester- 16EN600: Technical Writing
2016-2017 Even Semester- WN622: Wireless Sensor Networks
2016-2017 Even Semester- 28012: Network Modeling and Design
2016-2017 Even Semester- 31029: Statistical Methods, Experimental Design and Infer-
2015-2016 Odd Semester- WN714: Computational Optimization
2015-2016 Odd Semester- WN716: Machine Learning
2015-2016 Odd Semester- WN720: Mobile Computing and Networking
2015-2016 Odd Semester- WN621. : Fundamentals of Wireless Communications
2015-2016 Odd Semester- WN801: Empirical Research Methods In Operations Manage-
                       ment
2015-2016 Even Semester- WN622: Wireless Sensor Networks
2015-2016 Even Semester- WN625: Research Learning and Problem Formulation
2015-2016 Even Semester- WN701: Advanced Signal Processing
2014-2015 Odd Semester- WN621.: Fundamentals of Wireless Communications
2014-2015 Odd Semester- WN799: Dissertation
2014-2015 Even Semester- WN622: Wireless Sensor Networks
2014-2015 Even Semester- WN625: Research Learning and Problem Formulation
2014-2015 Even Semester- WN701: Advanced Signal Processing
2014-2015 Even Semester- MA705: Matrix Analysis and Applied Linear Algebra
2013-2014 Odd Semester- WN629: Mobile Communication Networks
2013-2014 Odd Semester- WN602: Basics of Digital Signal Processing
2013-2014 Odd Semester- WN629: Mobile Communication Networks
2013-2014 Odd Semester- WN621. : Fundamentals of Wireless Communications
2013-2014 Even Semester- WN623.: Wireless Sensor Networks
2012-2013 Odd Semester- WN621.: Fundamentals of Wireless Communications
2012-2013 Even Semester- WN627: Seminar
2012-2013 Even Semester- WN623: Wireless Sensor Networks
2011-2012 Odd Semester- WN628: Advanced Wireless Networks
2011-2012 Odd Semester- WN621: Fundamentals of Wireless Communications
2011-2012 Even Semester- WN623: Wireless Sensor Networks
2011-2012 Even Semester- WN626: Wireless Sensor Networks Laboratory
2011-2012 Even Semester- WN799: Dissertation
2010-2011 Odd Semester- WN631: Advanced Wireless Networks
2010-2011 Odd Semester- WN798: Minor Project
2010-2011 Odd Semester- WN621: Fundamentals of Wireless Communications
2010-2011 Odd Semester- WN709: Security in Wireless Networks
2010-2011 Even Semester- WN623: Wireless Sensor Networks
2010-2011 Even Semester- WN626: Wireless Sensor Networks Laboratory
2010-2011 Even Semester- WN627 : Seminar
2009-2010 Odd Semester- WN605: Fundamentals Of Wireless Communication
```

2009-2010 Even Semester- WN626: Wireless Sensor Networks Laboratory

2009-2010 Even Semester- WN627: Seminar

2004-2005 Even Semester- *CS104 : Object Oriented Programming Lab* **2004-2005 Even Semester**- *CS102 : Object Oriented Programming*

Supervision

Current PhD Students - AmritaWNA

- 1. Adwithya Mukhopadyay
- 2. Sruthy Anand
- 3. Dhanesh Raj
- 4. Indukala P K
- 5. Anjana M S
- 6. Divya Pullarkatt
- 7. Dhivyya J P
- 8. Nitin Kumar M

Current PhD Students - E4Life - ASF

- 1. Vineeth Ajith
- 2. Harichandana Ekkala
- 3. Reshma A S
- 4. Balmukund Singh
- 5. Krishna Nandanan
- 6. Aroun (Clement Jules)
- 7. Shobana P
- 8. Sheeja Suresh

PhD students Co-advisor

- Durga P on going
- · Vipina Valsan
- · Rahul Krishnan completed

Past PhD Students

- · Dr. Simi Surendran
- · Dr. Hemalatha T
- · Dr Geena Prasad

- · Dr. Bhavani Rao R
- · Dr. Aryadevi R D
- · Prof. Prema Nedungadi
- · Dr Rekha P
- Prof. Raghu Raman

Past Masters Students

- Anjana M S
- Anulakshmi
- · Lakshmi Prasad
- · Radhika Madhu
- · Deekshith V M
- · Ebin K Thomas
- · Anjali P
- · Dhanesh Raj
- · Parvathy Rajan
- Keerthi S Mohan
- · Anjitha S
- Divya Pullarkatt
- Sruthy Anand
- Anoop Jacob
- Nisha M S
- · Anjana Krishnan H
- Riji N Das
- · Dr. Aryadevi R D

Events/Workshops/Conferences/Talks/Meetings

2024

Date: 7-10 January 2024

Event Name: ARISE 2024 - Amrita Research & Innovation Symposium for Excellence **Details:** *Symposium for Amrita's top researchers to collaborate and initiate interdisciplinary*

research initiatives
Role: Symposium Chair

Date: December 10, 2023 Event Name: COP28 Dubai, UAE

Details: Indigenous-Led Climate Action: Democratizing Space Data for Planetary Wellbe-

ing and Education Role: Keynote Speaker

Date: 17 November 2023

Event Name: 6th World Landslide Forum 2023, Florence

Details: MACHINE LEARNING APPLICATIONS IN LANDSLIDE SCIENCE (part I)

Role: Session Chair Date: 15 November 2023

Event Name: 6th World Landslide Forum 2023, Florence

Details: All enabled IoT based landslide early warning system integrating crowd sourcing

and community reslience

Role: Speaker

Date: 18 January 2023

Event Name: 14th South Asia Conference - Think20@G20: Towards a Resilient South

Asia

Details: Working Session - IV: Energy Transition, Climate Adaptability, Agricultural Pro-

duce, Water Resource and Disaster Management

Role: Invited Speaker

Date: 1-3 November 2023

Event Name: Ridge 2 Reef - SACAM - 10th South and Central Asian Biosphere Network

Meet at Chennai

Details: Biosphere Reserves: Captivating case study and triumph of success

Role: Invited Speaker

Date: 18 January 2023

Event Name: 14th South Asia Conference - Think20@G20: Towards a Resilient South

Asia

Details: Working Session - IV: Energy Transition, Climate Adaptability, Agricultural Pro-

duce, Water Resource and Disaster Management

Role: Invited Speaker

2022

Date: Dec 2, 2022

Event Name: IEEE International Humanitarian Technology Conference! 2022 - Invited

speaker (Online event)

Details: Dr. Takahiro KATO Hongo Campus University of Tokyo India Office Director

Role: Invited Speaker

Date: 2022

Event Name: King - Invited speaker (Online event)

Details: Dr. Takahiro KATO Hongo Campus University of Tokyo India Office Director

Role: Invited Speaker

Date: Nov 25, 2022

Event Name: Landslide Early Warning Systems: Requirements & Solutions for Disaster

Risk Reduction - India (ICL event)

Details: Kyoto - Japan **Role:** Invited Speaker

Date: Nov 16, 2022

Event Name: EGCON 2022 Multihazard Disaster Rirsk Reduction & Resilience: Chal-

lenges, Framework & Technologies

Details: Kolkata **Role:** Keynote speaker

Date: Jul 6, 2022

Event Name: Invite to Higher Education event at the 2022 United Nations High-level Polit-

ical Forum, **Details:** Online **Role:** Invited Speaker

Date: Apr 29, 2022

Event Name: CME on Artificial Intelligence and Machine Learning in Medicine

Details: AIMS virtual meeting

Role: Invited Speaker

Date: Apr 20, 2022

Event Name: Event "Environmentally Friendly Technologies of Urbanized Territories" - UN-

ESCO Chair in NSUACE (Sibstrin) Russia Dr. Sineeva

Details: Online **Role:** Presenter

Date: Apr 7, 2022

Event Name: UNESCO Bangkok event Asia Pacific

Details: Bangkok **Role:** Presenter

Date: Mar 15, 2022

Event Name: UNESCO Chair - Presentation

Details: Delhi

Role: Keynote speaker

Date: Jan 24, 2022

Event Name: EPTS International Symposium

Details: Online **Role:** Keynote speaker

Date: Jan 21, 2022

Event Name: Mahindra and Mahindra - Annual Technology Symposium

Details: Online **Role:** Speaker

Date: Dec 12, 2021

Event Name: Invited Presentation: National Social Organisations and Institutions Meet

Details: DST Role: Speaker

Date: Nov 28, 2021

Event Name: Invitation for SPASHT 2021.

Details: Online **Role:** Speaker

Date: Nov 7, 2021

Event Name: Divinity of Motherhood & Women Empowerment - by Ayudh

Details: Youtube Live **Role:** Invited Speaker

Date: Nov 4, 2021

Event Name: KSCSTE - Honouring Scientists (Kerala Govt.)

Details: Role: Speaker

Date: Aug 19, 2021

Event Name: Global Summit Of UNESCO Gender-Related Chairs And Networks (W36)

Details: Online meetinh **Role:** Invited Speaker

Date: Jun 18, 2021

Event Name: Brain Storming Meet with WTPs for COVID Resilience

Details: MS Teams **Role:** Speaker

Date: Jun 16, 2021

Event Name: ESIC seminar: Geo-Hydrological Risk - University of Trento

Details: Zoom meeting

Role: Presenter

Date: June 15 2021

Event Name: COP26 virtual Science consultation workshop

Details: UK Science and Innovation Network in India

Role: Speaker

Date: May 29, 2021

Event Name: Importance of Experiencial and Hands-on Learning in Science, SRM-The

Hindu Plus

Details: Zoom meeting

Role: Writer

Date: 22 March 2021

Event Name: IWSS Details: AVP

Role: Keynote Speaker

Date: Mar 18, 2021

Event Name: 2nd Water and Sanitation Innovation Submit

Details: Panel discussion: Innovation and Technology in Water & Sanitation. 1 p.m. to 2

p.m.

Role: Panel Member

Date: Mar 15, 2021

Event Name: VCDRR Inaugural Session/Keynote Session

Details: Zoom meeting **Role:** Keynote Speaker

2020

Date: 25 Dec 2020

Event Name: TsunamiDRR Symposium

Details: Amrita WNA & ESRI **Role:** Keynote Speaker

Date: 25 Nov 2020

Event Name: Water Change Makers meet **Details:** Water ChangeMaker Awards Team

Role: Presenter

Date: 10-13 2020

Event Name: Research Workshop on Sustainable Water Management

Details: AmritaWNA-TU Delft **Role:** Keynote Speaker

2019

Date: 13th March 2019

Event Name: India Smart Grid Forum invitation to deliver a Keynote Address at the session on "INDUSTRIAL REVOLUTION 4.0" at the Workshop on "Future Skills 2030" at India

Smart Utility Week (ISUW) 2019 on Manekshaw Centre, New Delhi

Details: India Smart Grid Forum

Role: Keynote Speaker

Date: 1 March 2019

Event Name: European Union Ambassador's invitation to dinner on the occasion of the

visit of Mr. Jean-Eric Paquet, DG Research and Innovation, European Commission

Details: European Commission

Role: Guest

Date: 18th -22nd February 2019 **Event Name:** Landslip Annual meeting

Details: BGS

Role: Principal Investigator

Date: 21-Jan-19

Event Name: Meeting with Kochi Muncipality Mayor to Discuss Implementation of proposed

Indo Dutch proposal on water systems - Kochi as one pilot site

Details:

Role: Coordinator

Date: 10-Jan-19

Event Name: 2019 Mastermind Landslide Session

Details: NCESS

Role: Principal Investigator

2018

Date: 15th December 2018

Event Name: Round Table Consultation "Developing appropriate technologies and strate-

gies for housing in hilly terrains (Idukki and Wayanad)"

Details: UNDP Role: Speaker

Date: 4th September 2018

Event Name: MoES review in Sikkim

Details: MoES

Role: Principal Investigator

Date: 27th March 2018

Event Name: Program on Smartgrid awareness held at TVM on March 26th & 27th organ-

ised by KSEB **Details:** KSEB **Role:** Speaker

Date: 26th March 2018

Event Name: Workshop on Smartgrid Awareness for KSEB & Stakeholders held at TVM

on March 26th & 27th organised by KSEB

Details: KSEB Role: Speaker