

Dr. LIZY ABRAHAM

Assistant Professor



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[Scholar link](#)

Qualifications:

- B. Tech – Electronics and Communication Engg. (Mahatma Gandhi University)
- M. Tech – Communication Systems (Anna University)
- Ph.D – Image-Signal Processing (University of Kerala)
- Post Doctoral Fellowship – Wireless Sensor Networks (Tyndall National Institute, University College Cork, Ireland)
- Post Doctoral Fellowship – Edge Analytics (Walton Institute, South East Technological University, Ireland)

Professional Experience:

- Assistant Professor, LBSITW, Trivandrum (2008 -Till date)
- Research Associate, Walton Institute, South East Technological University, Ireland (2021–2022)
- Dean Research, LBSITW, Trivndrum (2017 – 2018)
- Research Engineer, Tyndall National Institute, University College Cork, Ireland (2016 – 2017)

Recently Taught Courses:

- Programming in C
- Python Programming
- Microprocessor based System Design

- Logic Circuit Design
- Logic Circuit Design Lab
- Microwave and Radar Engineering
- Microcontroller Lab
- Pattern Recognition

Other Responsibilities:

- Space Club Coordinator (Jun 2018 -Till date)
- Member of Curriculum Committee of the APJ Abdul Kalam Technological University (2018 – 2020)
- Member of Audit Team of the APJ Abdul Kalam Technological University (2018 - 2020)
- Staff Advisor (2018-2022 ECE)
- Staff Advisor (2022-2026 ECE)
- Staff Advisor (2008 – 2012 ECE)
- PG Coordinator (2012 – 2014, 2013 – 2015, 2014 – 2016)
- Member of Question Paper Setting and Scrutiny committee of B.Tech courses of the University of Kerala and APJ Abdul Kalam Technological university
- Coordinator of Research & Enhanced education (R&Ee) Forum (2012 – 2015)
- Chief Editor of the Technical Magazine of the Department of ECE '*FUSION – Running Beyond Limits*' (2012 – 2016)

Important Publications:

- **Lizy Abraham** et al., "Preliminary Classification of Selected Farmland Habitats in Ireland Using Deep Neural Networks", *Sensors*, 22(6):2190, 2022.
- **Lizy Abraham** et al., "Hand Tracking and Gesture Recognition using Lensless Smart Sensor", *Sensors Journal*, ISSN: 1424-8220, pp. 118 – 127, vol.18, no.9, 2834, August 2018.
- Sabeena, M., **Lizy Abraham**. Digital image forensic using deep flower pollination with adaptive Harris hawk optimization. *Springer Multimedia Tools and Appl.*, 80, 26333–26355, 2021.
- **Lizy Abraham** et al., 'Forecasting Atmospheric PM2.5 Concentration in Thiruvananthapuram City using LSTM Model', 5th *International Conference on Image Information Processing, IEEE*, Nov. 2019, Himachal Pradesh, India.
- N.Normani, **Lizy Abraham** et al., 'A Machine Learning Approach for Gesture Recognition with a Lensless Smart Sensor System', *IEEE Body Sensor Networks (BSN 2018)*, March 2018, Las Vegas, USA, pp.1-4.
- **Lizy Abraham** et al., 'Point Tracking with Lensless Smart Sensors', *IEEE Sensors 2017*, October 2017, Scotland, UK, pp. 1-3.
- **Lizy Abraham** et al., '3D Ranging and Tracking using Lensless Smart Sensors', *International Conference on Smart Systems Integration (SSI 2017)*, March 2017, Cork, Ireland, pp. 1-8.
- Renjith Das, **Lizy Abraham** et al., "Vibration Monitoring and Analysis of Sophisticated Items Transported by Road", *IEEE International Conference on Sensors & Nanotechnology*, July 2019, **Pulau Pinang**, Malaysia.
- **Lizy Abraham**, M. Sasikumar, 'Vehicle Detection and Classification from High Resolution Satellite Images', *ISPRS International Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, ISSN: 2194-9042, Denver, Colorado, USA, Nov.2014, vol.2, no.1,

pp.1-8.

- **Lizy Abraham**, M. Sasikumar, 'Automatic Building Extraction from Satellite Images using Artificial Neural Networks', *International Conference on Advances Science and Contemporary Engineering 2012 (ICASCE 2012)*, Elsevier, October 24 - 25, 2012, Jakarta, Indonesia, ISSN 1877-7058, vol.50, pp. 893-903
- **Lizy Abraham** et al., 'A Low Cost Automated Medicine Unit', *5th International Conference on Computing, Communication and Networking Technologies*, IEEE, July 2019, IIT Kanpur, India.
- **Lizy Abraham** et al., '3D Ranging and Tracking using an Improved Lensless Smart Sensors', *14th International Conference on Information Processing*, IEEE, Dec. 2018, Bangalore, India.
- **Lizy Abraham**, M.Sasikumar, "Analysis of Satellite Images for the Extraction of Structural Features", *IETE Journal of Technical Review*, ISSN: 0256-4602, pp. 118 – 127, vol.31, no.2, April 2014.
- **Lizy Abraham**, M. Sasikumar, 'An Automatic Shadow Segmentation Method for High Resolution Satellite Images', *AMSE Journal of Signal Processing and Pattern Recognition*, ISSN: 1240-4543, vol.56, no.4, 2013.
- **Lizy Abraham**, Shayama Subair, 'LabVIEW based Modelling and Analysis of Temperature Sensors', *IEEE International Conference on Computational Systems and Communications*, Trivandrum, Kerala, ISBN: 978-1-4799-6012-5, pp. 277 - 281.
- **Lizy Abraham**, Aarathy Babu. M, 'Analysis of MEMS gyro sensors ADXRS 450 and ADXRS 649 Using LabVIEW', *IEEE International Conference on Computational Systems and Communications*, Trivandrum, Kerala, ISBN: 978-1-4799-6012-5, pp.144-149.
- **Lizy Abraham**, M. Sasikumar, 'An Efficient Shadow Detection method for High Resolution Satellite Images', *IEEE International Conference on Computing, Communication & Networking Technologies (ICCCNT 2012)*, July 26 – 28, 2012, Coimbatore, India, ISBN: 978-1-46735-693-0, pp. 1 - 5.
- **Lizy Abraham**, M. Sasikumar, 'A Fuzzy based Road Network Extraction from Degraded Satellite Images', *IEEE International Symposium on Women in Computing and Informatics (WCI-2013)*, August 23-24, 2013 in Mysore, India, ISBN: 978-1-4799-2432-5, pp. 2032 - 2036.
- **Lizy Abraham**, M. Sasikumar, 'Unsupervised Building Extraction from High Resolution Satellite Images Irrespective of Rooftop Structures', *International Journal of Image Processing (IJIP)*, ISSN: 1985-2304, vol.6, no.4, pp. 219-232, August 2012. (IF: 0.32,
- **Lizy Abraham**, M. Sasikumar, 'Detection of Bridges using different types of High Resolution Images', *International Journal on Recent Trends in Engineering & Technology (ACEEE)*, vol.10, no.2, pp. 107-112, Jan. 2014.

Research & Consultancy:

- HeartSense: Pediatric Heart Disease Diagnosis using Wireless Phonocardiogram – CERD, KTU
- Decentralized intelligent ensemble approach for early diagnosis of lung cancer using CT images – KSCSTE
- WESAT - Women Engineered Satellite: Development of a Payload for the Comparison of Solar Radiation Intensity and UV Index Measurements in Space with respect to the Monitoring Station at the LBSITW Campus in Thiruvananthapuram City
- Monitoring & Analysis of Simulated Spacecraft Parameters for Satellite Launch Vehicles - TEQIP II (Spet. 2013 – Dec. 2014)

Membership in Professional Organizations

- Life member IETE
- IEEE Member

Conference/Paper Presentation:

SESSION CHAIR

- ‘3D Rendering Techniques for AR/ VR Applications’ for the *5th Int. Conf. on Image Information Processing (IEEE)*, Nov.15 – 17, 2019 (ICIIP 2019) at Jaypee University, Shimla, Himachal Pradesh, India (https://www.juit.ac.in/ICIIP_2019/special_sessions.php)
 - ‘Machine Intelligence for IoT & Robotic Applications’ for the *Int. Conf. on Machine Intelligence and Smart Systems (Springer)*, Sept. 24 – 25, 2020 (MISS 2020) at RJIT BSF Academy, Gwalior, Madhya Pradesh, India (<http://miss2020.acors.org/ACORSSpecialSession.html>)
 - ‘Machine Learning & Deep Learning Models for Computer Vision’ for the *Int. Conf. on Smart Technologies in Computing, Electrical and Electronics (IEEE)*, Sept. 9 – 10, 2020 (ICSTCEE 2020) at Reva University, Bangalore, India
 - Plenary session speaker for the International Conference on Advanced Research (INSIGHT 2022) at MES Keeveyam College, Valanchery, Malappuram, Kerala on the topic ‘AI in Robotic Technology’, 12 January 2022.
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- *Organizing Secretary* of First IEEE International Conference on Computational Systems and Communications, sponsored by IEEE Kerala Section, Trivandrum, Kerala, 17-18 December 2014 which is the first IEEE conference organized by the institution
 - *Advisory Board Member* of IEEE ICTIMEMIC2018, Trivandrum, Kerala, India
 - Conference Chair, NCETE 2014, St.Thomas Institute for Science & Tech., Kerala, India
 - Convenor of Second National Conference on Computational Intelligence and Communication Technologies organizing by the Institution which is the first conference organized by the institution.
 - Reviewer - Technical papers - NCACSI-2023 [National Conference On Communication signal Processing and Instrumentation NCACSI-2023]
 - Reviewer - Technical Papers – ICCSC 2014 and ICCSC-23 [International Conference on Computational Systems and Communication]
 - Included in the Reviewer database of *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* and *IEEE Sensors Journal* and reviewed papers of many other conferences.