

CURRICULUM VITAE

H.M. Vijitha R. Herath BScEng, MS, Dr. -Ing, CEng, SMIEEE, SMOptica



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D.o.B: 05/06/1972
Citizenship: Sri Lankan

I am a researcher and educator in Electrical and Electronic Engineering. My life's objective is to find solutions to societal and civilizational challenges through technology and use my experiences and knowledge to inspire the younger generation in particular.

Education

- **Dr.-Ing** (2004 – 2009), Electrical Engineering, University of Paderborn, Germany

Thesis: High-speed MOS ICs for a signal processor input interface of an optical synchronous QPSK receiver and related clock distribution issues

DAAD doctoral scholar
- **M.S.** (2000 – 2002), Electrical and Computer Engineering, University of Miami, USA

Thesis: Stability of Distributed Sensor Networks

Award of academic merit
- **B.Sc. Eng.** (1994 – 1998), Electrical and Electronic Engineering, University of Peradeniya, Sri Lanka

1st class honours

R.H. Paul Prize for the best performance in electrical power and energy

Professional Experience

- **2020 - Professor**, Department of Electrical & Electronic Engineering, University of Peradeniya, Sri Lanka
- **2021 - Co-founder, Farbe Technologies Private Limited**, AI and Machine Vision Solution provider
- **2/2023 – 4/2023 - Visiting Professor**, Department of Mapping and Geoinformation Engineering, Technion, Israel
- **2017 – 2020 - Senior Lecturer (Grade I)**, Department of Electrical & Electronic Engineering, University of Peradeniya, Sri Lanka
- **2011 – 2017 - Senior Lecturer (Grade II)**, Department of Electrical & Electronic Engineering, University of Peradeniya, Sri Lanka
- **2009 – 2011 - Temporary Senior Lecturer**, Department of Electrical & Electronic Engineering, University of Peradeniya, Sri Lanka
- **10/2014 – 12/2014 - Consultant**, Sri Lanka Technological Campus, Sri Lanka
- **2004 – 2009 - Doctoral Researcher**, University of Paderborn, Germany
- **2000 – 2001 - Research Assistant**, Department of Electrical and Computer Engineering, University of Miami, USA,
- **1999 – 2007 - Lecturer**, Department of Electrical & Electronic Engineering, University of Peradeniya

Memberships of Professional Bodies

- Senior Member, IEEE
- Senior Member, Optica
- Chartered Engineer, Sri Lanka

Fellowships, Awards, Prizes, and Scholarships

- Lady Davis visiting professors' fellowship (2023)
- Presidential award for scientific publications, Sri Lanka (2013, 2020)
- Faculty Research Excellence Award, Faculty of Engineering, University of Peradeniya (2020)
- DAAD doctoral scholarship (2004 – 2008)
- Award of Academic Merit, University of Miami (2002)
- R.H.Paul Prize for the best performance in subjects which include Electrical Power, Control and Electrical Machines (1998)
- Best paper award, ICTer 2017, Colombo, Sri Lanka (2017)

Teaching & Supervision

Following courses have been taught by me

- Electricity
- Network analysis
- Signals and Systems
- Automatic control
- Applied Electromagnetics
- Electronic Product Design and Manufacturing
- Digital Signal Processing
- Integrated Analog Electronic Circuits
- Telecommunication and Wireless Systems
- Data Communications
- Fibre-optic communication systems – Postgraduate
- Advanced Technologies in Telecommunications – Postgraduate

Undergraduate Project Supervision (since 2017)

- Interference Mitigation for co-working wireless LANs (2017).
- Hyperspectral Image Analysis for Feature Detection (2018).
- Design of a Multispectral Imaging System for Industrial Applications (2019) – Recipient of the awards for the
 - best undergraduate project in Electrical and Electronic Engineering.
 - best electrical engineering undergraduate project of the year of Sri Lanka.
 - best engineering undergraduate project of the year of Sri Lanka.
- Hyperspectral image analysis for feature recognition (2019).
- Affective signal processing for facial and expression recognition (2019).
- Development of Internet of Things (IoT) based applications for Smart Home (2019).
- Autonomous Real-Time Traffic Data Acquisition System Based on Video Processing Techniques (2020).
- Hyperspectral Imaging for Remote Sensing and Agricultural Applications (2020).
 - best undergraduate project in Electrical and Electronic Engineering.
- Low Light Image Enhancement (2020).
- IoT Based Multispectral Imaging for Agricultural Applications (2021).
- HSI and MSI applications for Remote Sensing (2021).
- Modelling and Forecasting the Propagation of Infectious Disease Using AI techniques (2021).
- AI based IoT Road Safety and Traffic Management (2021).
- Modulation Classification in Communication Systems with CNN (2021).
 - best undergraduate project in terms of mathematical content.
- Computer Vision Based Smart Surveillance for Disease Control (2022).
- Hyperspectral Imaging for Remote Sensing (2022)
- Multispectral Imaging for Condition Monitoring (2022)
- Spectral Image based approach for condition assessment of power transformer insulation (2022).
- Machine Learning based Modulation Classification for Wireless Communication Signals (2022).
- Mobile Traffic Prediction in Wireless Networks based on Deep Learning (2022).

Postgraduate Research Supervision (completed)

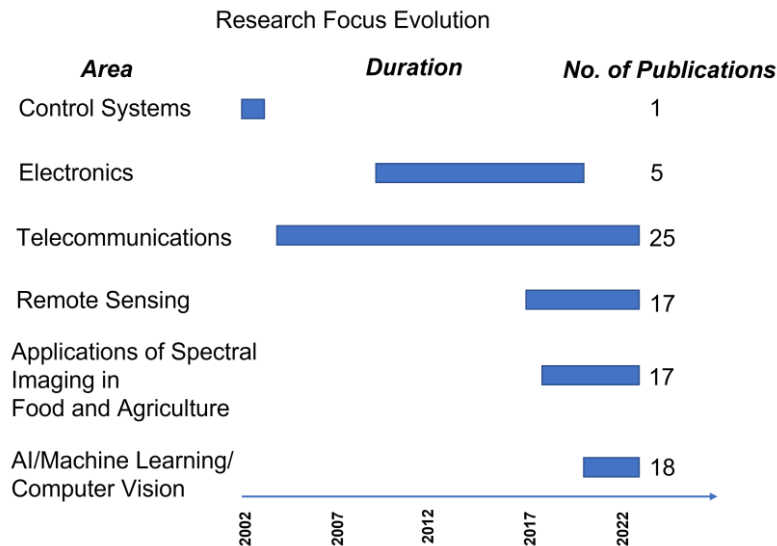
- Kapila W. S. Palitharathna, PhD 2022
Design and Analysis of Indoor and Underwater Visible Light Communication Systems
- Nalin Manorathna, M.Sc. Eng. 2011
Performance Analysis Between Two 16-QAM Star Constallations (Regular & Modified Pattern) for a Given Laser Phase Noise Profile
- Rajeeva Weragama, M.Sc. Eng., 2016
How to Select the Optimal Broadband Access Method by a Fixed Line Operator for the Central Region of Sri Lanka
- Suranga Pothuwila, M.Sc. Eng., 2018
A Class Based Scheduling Algorithm for Optical Burst Switching
- H.W.R.D. Wanniarachchi, M.Sc. Eng., 2020
A Comparative Cost Study for the Development of FTTH in Sri Lanka
- K.G.C. Kandapahala, M.Sc. Eng., 2021
Modelling of a QPSK Optical Coherent Transmission System with Linear Impairments and Performance Measurements
- G.W.K. Prabath, M.Sc.Eng., 2021
Condition Assessments of Algal Contaminated HV Insulation: A Near Ultraviolet Spectral Imaging Technique
- E.M.S.L.B. Ekanayake, M.Sc.Eng., 2021
Black Tea Adulteration Detection using Multispectral Imaging
- H.C.M. Herath, M.Sc.Eng., 2022
Classification of Hyperspectral Remote Sensing Images with Machine Learning

Visiting Appointments

- Technion, Israel Institute of Technology
- University of Moratuwa, Sri Lanka
- South Eastern University of Sri Lanka
- Postgraduate Institute of Science, University of Peradeniya

Research

I have published in the areas of integrated circuit design, optical fiber communication, visible light communication, remote sensing, spectral imaging for food and agriculture applications, AI/ML and machine vision, control systems



Collaborations

I have research collaborations with researchers from Malaysia, UK, Israel, USA, Australia, and number of institutions of Sri Lanka

Projects

- **Co-investigator:** Artificial Intelligence framework for threat assessment and containment for COVID-19 and future epidemics while mitigating the socio-economic impact to women, children, and underprivileged groups; **Global South AI4COVID Program, IDRC, Canada; budget 115,072,731 LKR, ongoing** (<https://covid.eng.pdn.ac.lk>)
- **Principle investigator:** High Voltage Insulation Pollution Monitoring Using a Multispectral Imaging System; **University Research Grant URG/2017/26/E; budget 542, 549 LKR, Completed**
- **Co-investigator:** A Wearable Device for Real-Time Monitoring of Biometric Signals of Pregnant Women, Athletes, and Other Persons; **Peradeniya University Multidisciplinary Research Grant 2022; budget 1,147,250 LKR, ongoing**

Patents

- **A Multispectral imaging system for both transmittance and reflectance measurements of liquid and solid specimens.** (Sri Lanka patent application on progress)

List of Publications: [Scholar](#)

Peer Reviewed Journals

- **Neural Network-Based Blockage Prediction and Optimization in Lightwave Power Transfer-Enabled Hybrid VLC/RF Systems**, K. W. S. Palitharathna, H. A. Suraweera, R. I. Godaliyadda, V. R. Herath and Z. Ding, in IEEE Internet of Things Journal, doi: 10.1109/JIOT.2023.3306434. **SCIE, IF: 10.6**
- **Pandemic Simulator: An Agent-Based Framework with Human Behavior Modeling for Pandemic-Impact Assessment to Build Sustainable Communities.** Weligampola, H.; Ramanayake, L.; Ranasinghe, Y.; Ilangarathna, G.; Senarath, N.; Samarakoon, B.;

Godaliyadda, R.; Herath, V.; Ekanayake, P.; Ekanayake, J.; et al. *Sustainability* **2023**, *15*, 11120. <https://doi.org/10.3390/su151411120> **SCIE, IF: 3.9**

- **Deep learning for automated fish grading**, J.M.V.D.B. Jayasundara, R.M.L.S. Ramanayake, H.M.N.B. Senarath, H.M.S.L. Herath, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, H.M.V.R. Herath, S. Ariyawansa, *Journal of Agriculture and Food Research*, 2023, 100711, ISSN 2666-1543, <https://doi.org/10.1016/j.jafr.2023.100711>. **ESCI, IF: 3.8**
- **Quantitative assessment of adulteration of coconut oil using transmittance multispectral imaging**; Sanjaya Herath, Hashan Kavinga Weerasooriya, Don Yasiru Lakshan Ranasinghe, Wele Gedara Chaminda Bandara, Vijitha Rohana Herath, Roshan Indika Godaliyadda, Mervyn Parakrama Bandara Ekanayake, Terrence Madhujith, *Journal of Food Science and Technology* volume 60, pages1551–1559 (2023) **SCIE, IF: 3.117**
- **Holistic interpretation of public scenes using computer vision and temporal graphs to identify social distancing violations**; Gihan Jayatilaka, Jameel Hassan, Suren Sriharan, Janith Bandara Senanayaka, Harshana Weligampola, Roshan Godaliyadda, Parakrama Ekanayake, Vijitha Herath, Janaka Ekanayake, Samath Dharmaratne, *Appl. Sci.* 2022, 12(17), 8428; <https://doi.org/10.3390/app12178428> **SCIE, IF: 2.838**
- **Artificial intelligence framework for threat assessment and containment for covid-19 and future epidemics while mitigating the socioeconomic impact to women, children, and underprivileged group**; G Ilangarathna, H Weligampola, Y Ranasinghe, E Attygalla, R Godaliyaddha, V Herath, P Ekanayake, SY Ekanayake, M Pinnawela, S Dharmaratne, G Tilakaratne and J Ekanayake, *J.Natn.Sci.Foundation Sri Lanka* 2022 50 (Special): 81 – 92 DOI: <http://dx.doi.org/10.227/jnfsr.v50i0.11242> **SCIE, IF: 0.505**
- **Constrained Nonnegative Matrix Factorization for Blind Hyperspectral Unmixing Incorporating Endmember Independence**; E.M.M.B. Ekanayake, H.M.H.K. Weerasooriya, D.Y.L. Ranasinghe, S. Herath, B. Rathnayake, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, H.M.V.R. Herath; *IEEE journal of selected topics in applied earth observations and remote sensing*, 2021. **SCIE, IF: 3.83**
- **Graph-Based Blind Hyperspectral Unmixing via Nonnegative Matrix Factorization**; Bhatthiya Rathnayake, E.M.M.B. Ekanayake, Kasun Weerakoon, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, and H.M.V.R. Herath; *IEEE Transactions on Geoscience and Remote Sensing*, 2020. **SCIE, IF: 6.87**
- **Mapping Ilmenite Deposit in Pulmudai, Sri Lanka using Hyperspectral Imaging Based Surface Mineral Mapping Method**; E.M.M.B. Ekanayake, S.S.P. Vithana, E.M.H.E.B. Ekanayake, A.R.M.A.N. Rathnayake, A.M.R. Abeysekara, T.S.J. Oorloff, H.M.V.R. Herath, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, A. Senarathne; *Journal of The National Science Foundation Sri Lanka*, 2019. **SCIE, IF: 0.52**
- **Transmittance Multispectral Imaging for Reheated Coconut Oil Differentiation**, DYL Ranasinghe, HK Weerasooriya, S Herath, MP Bandara Ekanayake, HMVR Herath, GMRI Godaliyadda, Terrence Madhujith, **IEEE Access** **2022**, 10, 12530-12547. **SCIE, IF: 3.367**
- **Validation of multispectral imaging for the detection of selected adulterants in turmeric samples**; Wele Gedara Chaminda Bandara, Gode Withanage Kasun Prabhath, Dissanayake Walawwe Sahan Chinthana Bandara Dissanayake, Vijitha Rohana Herath, Gunawath Mudiyanseelage Roshan Indika Godaliyadda, Marvyn Parakrama Bandara Ekanayake, Dhanushika Demini, and Terrence Madhujith; *Journal of Food Engineering*, 266 (2020)109700 **SCIE, IF: 5.35**

- **A Comprehensive Overview of Education during Three COVID-19 Pandemic Periods: Impact on Engineering Students in Sri Lanka.** Ilangarathna, G.A.; Ranasinghe, Y.; Weligampola, H.; Attygalla, E.; Ekanayake, J.; Yatigammana, S.; Pinnawala, M.; Godaliyadda, R.; Herath, V.; Ekanayake, P.; Thilakarathne, G.; Dharmarathne, S. *Educ. Sci.* **2022**, *12*, 197. <https://doi.org/10.3390/educsci12030197> **ESCI, IF: 3.0**
- **Neural Network-Based Channel Estimation and Detection in Spatial Modulation VLC Systems,** Kapila WS Palitharathna, Himal A Suraweera, Roshan I Godaliyadda, Vijitha R Herath, John S Thompson; *IEEE Communications Letters*; 2022 **SCIE, IF: 3.45**
- **Lightwave Power Transfer in Full-Duplex NOMA Underwater Optical Wireless Communication Systems;** Kapila WS Palitharathna, Himal A Suraweera, Roshan I Godaliyadda, Vijitha R Herath, Zhiguo Ding; *IEEE Communications Letters*; 2022 **SCIE, IF: 3.45**
- **Average Rate Analysis of Cooperative NOMA aided Underwater Optical Wireless Systems** KWS Palitharathna, HA Suraweera, RI Godaliyadda, VR Herath; *IEEE Open Journal of the Communications Society*, 2021 **ESCI IF: 7.9**
- **Effect of Nonlinear Phase noise on the Performance of M-ary PSK in Optical Fiber Links;** N.Ekanayake, H.M.V.R. Herath; *IEEE/OSA Journal of Lightwave Technology*, Vol. 31 No. 3, pp 447-454, 2013 **SCIE, IF: 4.14**
- **Coherent Optical Communication: Towards Realtime Systems at 40 Gbit/s and Beyond;** T. Pfau, S. Hoffmann, O. Adamczyk, R. Peveling, V. Herath, M. Pormann, and R. Noé; *Optics Express*, Jan. 2008 **SCIE, IF: 3.89**
- **An Eight-Octant bipolar junction transistor analog multiplier circuit and its applications,** H. M. V. R. Herath, G. H. I. Wimalarathna; *Ceylon Journal of Science* (47) 2, 2018

International Peer Reviewed Conferences

- **Spectral Imaging based Condition Assessment of Field Aged Power Transformers,** Mohammad Zumri et. al. *Optica Imaging Congress 2023*, Boston Massachusetts, USA
- **Real-Time Multiple Dyadic Interaction Detection in Surveillance Videos in the Wild,** Avishka Perera et. al., *ICIIS 2023*, Kandy, Sri Lanka
- **Endmember Abundance Prediction in Hyperspectral Unmixing: The Impact of Endmember Extraction Algorithms and Self-Attention in Autoencoders,** Kavindu Wickamathilaka et. al., *ICIIS 2023*, Kandy, Sri Lanka
- **Hands Off: A Handshake Interaction Detection and Localization Model for COVID-19 Threat Control,** S. Jameel Hassan *et al.*, *2021 IEEE 16th International Conference on Industrial and Information Systems (ICIIS)*, Kandy, Sri Lanka, 2021, pp. 197-202, doi: 10.1109/ICIIS53135.2021.9660699.
- **Integrated Video Based Crowdedness Forecasting Framework with a Review of Crowd Counting Models,** L. B. I. P. Thilakasiri *et al* *2021 IEEE 16th International Conference on Industrial and Information Systems (ICIIS)*, Kandy, Sri Lanka, 2021, pp. 29-34, doi: 10.1109/ICIIS53135.2021.9660701.
- **Intruder Detection System Through Walking Pattern Analysis for Home Security,** R. C. P. D. Peiris, R. Tharmikka, H. M. V. R. Herath, M. B. Dissanayake and U. S. Navaratne, *2021 IEEE*

16th International Conference on Industrial and Information Systems (ICIIS), Kandy, Sri Lanka, 2021, pp. 301-305, doi: 10.1109/ICIIS53135.2021.9660685.

- **Global Horizontal Irradiance Modeling from Sky Images Using ResNet Architectures**, M. Insaf *et al.*, 2021 IEEE 16th International Conference on Industrial and Information Systems (ICIIS), Kandy, Sri Lanka, 2021, pp. 239-244, doi: 10.1109/ICIIS53135.2021.9660664.
- **Multispectral Imaging System to Estimate Sugar Adulteration Level of Black Tea**, E. M. S. L. B. Ekanayake *et al.*, 2021 IEEE 16th International Conference on Industrial and Information Systems (ICIIS), Kandy, Sri Lanka, 2021, pp. 17-22, doi: 10.1109/ICIIS53135.2021.9660707.
- **Transmittance Multispectral Imaging for Adulteration Assessment of Coconut Oil**, N. Senarath *et al.*, 2021 IEEE 16th International Conference on Industrial and Information Systems (ICIIS), Kandy, Sri Lanka, 2021, pp. 180-184, doi: 10.1109/ICIIS53135.2021.9660746.
- **Transmittance Multispectral Imaging System to Estimate Potable Water Quality Parameters**, A.D. Wijesinghe, W.A.N.D. Wickramasinghe, M.A.C.S. Wijedasa, D.Y.L. Ranasinghe, H.M.V.R. Herath, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, K.B.S.N. Jinadasa, OSA Optical Sensors and Sensing Congress 2021 HTh2B.3 (HS)
- **Reflectance Multispectral Imaging for Identification of Algae Contamination in High Voltage Insulators**, R.M.L.S. Ramanayake, H.M.N.B. Senarath, J.M.V.D.B. Jayasundara, G.W.K. Prabhath, H.M.H.K. Weerasooriya, M.A.R.M. Fernando, S. Kumara, H.M.V.R. Herath, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, S. Athukoralaasa, OSA Imaging and Applied Optics Congress 2021 ITh1B.6 (HS)
- **Spatial analysis of COVID-19 and socio-economic factors in Sri Lanka**, R. Perera *et al.*, 2021 Moratuwa Engineering Research Conference (MERCon), 2021, pp. 444-449, doi: 10.1109/MERCon52712.2021.9525771.
- **Impact of Receiver Orientation on Full-Duplex Relay Aided NOMA Underwater Optical Wireless Systems**, Kapila W S Palitharathna, Himal A Suraweera, Gunawath Mudiyanseleage Roshan Indika Godaliyadda, Vijitha R Herath, Zhiguo Ding, IEEE International Conference on Communication 2020, Dublin, Ireland ONS3.
- **Transmittance Multispectral Imaging for Edible Oil Quality Assessment**, H. Weerasooriya, H. Lakmal, Y. Ranasinghe, W. Bandara, V. Herath, R. Godaliyadda, P. Ekanayake, T. Madhujith, Optical Sensors and Sensing Congress 2020 JW5C.8. (HS)
- **Hyperspectral Imaging Based Method to Identify Potential Limestone Deposit**, Ranasinghe D.Y.L, Lakmal, H.M.S., Weerasooriya, H.M.H.K, Ekanayake, E.M.M.B., Godaliyadda, G.M.R.I., H.M.V.R. Herath, Ekanayake, M.P.B., 2019 IEEE International Conference on Industrial and Information Systems (ICIIS). Dec. 2019, Kandy, Sri Lanka. (HS)
- **Feature Extraction Using Minor Scatter Directions of Data to Distinguish Between Classes with Minute Differences of a Hyperspectral Image**, E. M. M. B. Ekanayake, W. G. C. Bandara, G. W. K. Prabhath, G. M. R. I. Godaliyadda, H. M. V. R. Herath, and M. P. B. Ekanayake, 2019 IEEE International Conference on Industrial and Information Systems (ICIIS). Dec. 2019, Kandy, Sri Lanka.
- **Effectiveness of Methods Practiced to Clean Biological Growth on MV Porcelain Insulators – A Case Study**, A.D. De Silva, J.R.S.S. Kumara, H.M.V.R. Herath, M.A.R.M. Fernando, A.D.S.N.P. Athukorala, 2019 IEEE International Conference on Industrial and Information Systems (ICIIS). Dec. 2019, Kandy, Sri Lanka.

- **Effects of Biological Growth on MV Porcelain Insulators – A Case Study at Ampara**, A.D. De Silva, J.R.S.S. Kumara, H.M.V.R. Herath, M.A.R.M. Fernando, A.D.S.N.P. Athukorala, Transactions of the Institution of Engineers Sri Lanka, 2019.
- **Multispectral Imaging for Detection of Adulterants in Turmeric Powder**; G.W.K. Prabhath, W.G.C. Bandara, D.W.S.C.B. Dissanayake, H.M.V. Herath, G.M.R. Godaliyadda, M.P.B. Ekanayake, D. Demini, T. Madhujith; OSA Optical Sensors and Sensing Congress, San Jose, CA, USA, 2019. (HS)
- **Enhanced Hyperspectral Unmixing Via Non-Negative Matrix Factorization Incorporating End Member Independence**; Mevan Ekanayake, Bhatiya Rathnayake, Hasantha Ekanayake, Anusha Rathnayake, Vijitha Herath, Roshan Godaliyadda, Parakrama Ekanayake; 2019 IEEE International Geoscience and Remote Sensing Symposium, Kyoto, Japan. (HS) **Flagship conference**
- **Relay-assisted optical wireless communications in turbid water**; Kapila WS Palitharathna, Roshan I Godaliyadda, Vijitha R Herath, Himal A Suraweera; Proceedings of the Thirteenth ACM International Conference on Underwater Networks & Systems, 2018
- **A Multispectral Imaging System to Assess Meat Quality**, W.G.C Bandara, K. Prabhath, D. W. S. C. B. Dissanayake, V.R. Herath, G.M.R.I. Godaliyadda, M.P.B. Ekanayake, S. Vithana, D. Demini and T. Madhujith ; IEEE R10 Humanitarian Conference 2018.
- **A SEMI-SUPERVISED ALGORITHM TO MAP MAJOR VEGETATION ZONES USING SATELLITE HYPERSPECTRAL DATA**, E.M.M.B. Ekanayake, E.M.H.E.B. Ekanayake, A.R.M.A.N. Rathnayake, S.S.P. Vithana, H.M.V.R. Herath, G.M.R.I. Godaliyadda, M.P.B. Ekanayake; 10th Workshop on Hyperspectral Imaging and Signal Processing 2018, Amsaterdam.
- **Spectral-spatial hybrid mechanism for feature detection using spectral correlation**, TSJ Oorloff, AMR Abeysekara, SSP Vithana, RAA Rupasinghe, HMVR Herath, GMRI Godaliyadda, MPB Ekanayake, ICIS 2017.
- **Hyperspectral imaging based land cover mapping using data obtained by the Hyperion sensor**, SSP Vithana, AMR Abeysekara, TSJ Oorloff, RAA Rupasinghe, HMVR Herath, GMRI Godaliyadda, MPB Ekanayake; Seventeenth International Conference on Advances in ICT for Emerging Regions (ICTer), 2017. **Received Best Paper Award**
- **Land Cover Classification and Sub Component Analysis using Hyperspectral Imagery**, M.P.B. Ekanayake A.M.R. Abeysekara, T.S.J. Oorloff, S.S.P. Vithana, H.M.V.R. Herath. G.M.R.I. Godaliyadda; Annual Sessions of IESL 2017.
- **Performance improvement of a 16-QAM Coherent Optical Transmission System**, V.R. Herath; S. Perera, S.Perera, D. Priyankara; ICIS 2014, Gwalior, India, Dec 2014
- **Performance of QAM Signals in Optical Fiber Links in the Presence of Nonlinear Phase Noise**; N.Ekanayake, H.M.V.R. Herath; ICIS 2013, Kandy, Sri Lanka, Dec 2013
- **An Adaptive Modified Decision-Directed Algorithm for Electronic Polarization Control in Coherent QPSK Optical Transmission**; G. Tharshini, A. Pathmanathan, T. Vaishnavy, M.P.B.Ekanayake, G.M.R.I. Godaliyadda, H.M.V.R. Herath; ICIS 2013, Kandy, Sri Lanka, Dec 2013
- **A study of Possible Modifications in 16 QAM Modulation Scheme to Compensate the Nonlinear Phase Noise in Long-haul Optical Communication System**; S.Tharranetharan,

M.Saranraj, S.Sathyaram, and V.R.Herath; Transactions of the Institute of Engineers Sri Lanka, Oct. 2012 (OC)

- **Optical transmission beyond 100 Gbps: techniques and challenges**; Vijitha R. Herath, S.Arulprasanth; Transactions of the Institute of Engineers Sri Lanka, 2011
- **Performance Comparison of Optical Receivers Using Different Filtering Algorithms and Modulation Schemes**; Arunprasanth Sakthivel, Herath, V.R.; ICIS 2011, Kandy, Sri Lanka, Aug 2011
- **Review of Spectrum Sensing in Cognitive Radio**; L.N.T. Perera, and V. R. Herath; ICIS 2011, Kandy, Sri Lanka, Aug 2011
- **Simulation based analysis of 16-QAM constellations with five circular shells in long haul optical links**; S. Tharranetharan, M. Saranaraj, S.Sathyaram and V.R.Herath ; Peradeniya University research sessions, December 2011
- **Performance Comparison of Nonlinear Phase Noise Tolerant Constellation Diagrams**; S.Tharranetharan, M.Saranraj, S.Sathyaram and, V. R. Herath; ICIS 2011, Kandy, Sri Lanka, Aug 2011
- **Noise suppression in optical coherent QPSK transmission systems using averaging filters**, S. Arulprasanth, H.M.N.D. Palapathwala, U.M. Amerasekara, V.R. Herath; Peradeniya University Research Sessions 2010, 16th December 2010, Peradeniya
- **A Simple Mean Clock Skew Estimation Algorithm for Clock Distribution Networks in Presence of Random Process Variations and Nonuniform Substrate Temperature**; Vijitha R. Herath, Reinhold Noé; ICIS 2010, Mangalore, India, Aug 2010
- **9.5 Gbit/s 20 Channel 1:8 DEMUX for a Coherent Optical Receiver DSPU ASIC Input Interface**; Vijitha R. Herath, Olaf Adamczyk, Ralf Peveling, Christian Wödehoff, Reinhold Noé; ICIS 2009, Peradeniya, Sri Lanka, Dec 2009
- **Chipset for a Coherent Polarization-Multiplex QPSK receiver**; V. Herath, R. Peveling, T. Pfau, S. Hoffmann, C. Wördehoff, M. Pormann, O. Adamczyk, R. Noé; **OFC 2009**, San Diego, USA (IC/OC) **Flagship conference**
- **Multiplier-Free Realtime Phase Tracking in Digital Synchronous QPSK Receiver for Coherent Optical Detection**; S. Hoffmann, V. Herath, M. El-Darawy, T. Pfau, C. Wördehoff, R. Peveling, U. Rückert, R. Noé; ICIS 2009, Peradeniya, Sri Lanka, Dec 2009
- **Analysis of an ASIC-based Coherent Polarization-Multiplexed QPSK Receiver and Different Receiver Frontends**; Mohamed El-Darawy, Vijitha Herath, Timo Pfau, Sebastian Hoffmann, Ralf Peveling, Olaf Adamczyk, Christian Wördehoff, Ulrich Rückert, Reinhold Noé; ITG workshop (photonic networks) 2009, Leipzig, Germany
- **Towards Real-Time Implementation of Coherent Optical Communication**; T. Pfau, R. Peveling, V. Herath, S. Hoffmann, C. Wördehoff, M. Pormann, O. Adamczyk; **OFC 2009**, San Diego, USA **Flagship conference**
- **Realtime Digital Polarization and Carrier Recovery in a Polarization-Multiplexed Optical QPSK Transmission**, R. Noé, S. Hoffmann, T. Pfau, O. Adamczyk, V. Herath, R. Peveling, M. Pormann, in Proc. IEEE-LEOS Summer Topicals 2008, July 21-23, 2008, Acapulco, Mexico

- **Realtime Optical Synchronous QPSK Transmission with DFB lasers**; T. Pfau, O. Adamczyk, V. Herath, R. Peveling, S. Hoffmann, M. Pormmann and R. Noé; 2007 IEEE LEOS Summer Topicals
- **Real-time Digital Carrier & Data Recovery for a Synchronous Optical Quadrature Phase Shift Keying Transmission System**; R. Noé, T. Pfau, O. Adamczyk, R. Peveling, V. Herath, S. Hoffmann, M. Pormmann, S. Ibrahim, and S. Bhandare; 2007 IEEE MTT-S International Microwave Symposium Digest
- **A Review on the Recent Developments in WDM Based Optical Access Network**; P. Mookiah, and V. R. Herath; 2004 Annual Transactions of IESL
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- **Novel Performance Estimation Method for Optical Fiber Communication Links**, Hanthana, *Vision* Vol. 1, Issue 1, May 2015, p. 17.
- **3-D printing revolution: How Sri Lanka can get ahead of the curve**, Feature section, *Daily News Business*, 24/04/2017
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- **Multispectral Imaging for Food Quality Estimation**, *Hanthana Vision*, Vol. 5, Issue 2, January 2020.

Journal Reviewing

- Journal of the National Science Foundation, Sri Lanka
- Engineer, Institution of Engineers, Sri Lanka
- Optics Letters
- Frontiers of Information Technology and Electronic Engineering

Administrative Positions and Professional Activities

Administrative Positions Held

- **Director**, Centre for Engineering Research and Postgraduate Studies, University of Peradeniya, 2020 – 2023.
The centre is responsible for coordinating research activities and postgraduate studies in the Faculty of Engineering, including drafting various guidelines and regulations and curriculum management.
- **Member**, University Research Council, 2020-2023.
Liaising entity for all international exchanges and research activities of the university.
- **Member**, Senate Research Committee (SRC), University of Peradeniya, 2020-2023.
SRC is responsible for managing all the university level research grants.
- **Inaugural Chair**, Faculty Research Committee (FRC), Faculty of Engineering, 2022 –
FRC is responsible for processing and selecting applications for the university research grants. Furthermore, FRC monitors the progress of university research grants and participates in organizing university research sessions.

- **Director**, Computing Centre, Faculty of Engineering, University of Peradeniya, 2015-2017.
The centre is responsible for providing all the computing resources necessary for students, as well as managing the faculty e-learning system.
- **Faculty Co-ordinator**, International research Centre, University of Peradeniya
- **Faculty Co-ordinator**, Erasmus Mundus project of the University of Peradeniya
Coordinated the exchange of scholars between the Faculty of Engineering and University of Peradeniya
- **Senior Student Councillor**, Faculty of Engineering, University of Peradeniya, 2014-2018.
- **Senior Treasurer**, Electrical and Electronic Engineering Society, University of Peradeniya, 2014-2015.
- **Member**, University discipline board

Other Professional Activities

- **General Chair**, 8th IEEE International Conference in Industrial and Information Systems (ICIIS) 2013: An IEEE technically co-sponsored conference alternatively held in Sri Lanka and India. Proceedings appear in the IEEE *Xplore* database. 17th edition will be held in 2023.
- **Technical Program Committee chair**, iPURSE 2015 (Peradeniya University International Research Symposium).
- **Chair**, Department Curriculum Revision Committee of the Department of Electrical and Electronic Engineering.
- **Accreditation Manager**, Department of Electrical and Electronic Engineering, University of Peradeniya (2 accreditation cycles)
- **Executive committee member**, Sri Lanka Electronics Manufacturers and Exporters Association
- **Member**, WA/IESL accreditation of the Electrical Engineering Program of the University of Moratuwa
- **Chair**, IEEE Sri Lanka Central Region Subsection (2013-2014)
- **Chair**, IEEE MTT-S Sri Lanka Chapter, 2010-2012, 2015
- **Finance chair**, ICIIS 2011
- **TPC Co-chair**, ICIIS 2009, ICIIS 2017, ICIIS 2023
- **Publication Chair**, ICIIS 2021
- **Publicity chair**, ICIIS 2009
- **Member**, IESL recognition evaluation team for the Kothalawala Defense University and the Open University of Sri Lanka

Referees

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