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Academic and Professional Qualifications

2007 – 2011	University College Cork (UCC) & Tyndall National Institute (TNI).
	Degree PhD in Physics and Optical Communication
	Thesis Title <i>Data Retiming for Multi-Wavelength Regeneration</i>
2006 – 2007	University of Nottingham, United Kingdom.
	Degree MSc in Photonics Communication – Distinction
	Thesis Title <i>Waveform Replicator for Optical Sampling</i>
1998 – 2002	University of Moratuwa, Sri Lanka.
	Degree BSc.Eng in Electronics and Telecommunication
	Grade Second class upper division –Overall GPA – 3.73/4.0
2005 – 2005	University of Colombo, Sri Lanka.
	Degree Diploma in Linux/Unix System & Network administration
	Grade Pass
1999 – 2000	Australian Computer Society, Australia.
	Degree Diploma in Information Technology
	Grade Pass
1999 – 2000	London Business School, Sri Lanka Branch.
	Degree Diploma in computer hardware
	Grade pass
1982 – 1996	St/Aloysius College, Galle, Sri Lanka
	G.C.E.(A/L)-1996 2 Distinctions and 2 Credits (Aggregate – 292/400)
	G.C.E.(A/L)-1992 4 Distinctions, 3 Credit and a simple pass

Research Experience & Projects

2021 - Ongoing	Visible Light Communication – Investigation of applicability and performance of higher order modulation schemes with scrambling techniques. <ul style="list-style-type: none">➤ VLC is generally known to be a communication between a transmitter and a receiver using the visible light spectrum by deployment of LEDs or Laser diodes as light sources and Photodiodes or image sensors as light sensors. Several application areas such as indoor, outdoor, vehicle-to-vehicle, underwater, medical, indoor positioning and navigation has been under research due to the fact that different performance metrics are important for different applications. As the typical modulation bandwidth of the commercially available LEDs ranges in few MHz, a fundamental limitation on achieving the required high data rates and spectral efficiency in VLC have been identified. This is the root cause for the researchers to come up with a vast range of modulation schemes classified under single carrier, multi-carrier and colour domain categories. This research is focusing on the application and investigation of about the capabilities of higher order modulation schemes in conduction with scrambling techniques for secure communication.
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2018 - Ongoing	<p>Visible Light Communication architectures for data transfer and power transfer</p> <ul style="list-style-type: none"> ➤ Visible Light Communication (VLC) is a neoteric technology and aroused great attention in the last decade due to the rapid developments in Light Emitting Diodes (LEDs) fabrication. Bandwidth, efficiency, availability, and security of VLC make them promise residential lighting equipment as well as an alternative cheap and fast data transfer equipment together with power harnessing. An interesting application of VLC is Simultaneous Lightwave Information and Power Transfer (SLIPT). Harvesting energy from the surrounding environment is important and practical solution for the Internet of Things (IoT) devices. The energy can be harvested while decoding the information carries in VLC. SLIPT and SWIPT technologies are used power splitting receiver architecture for harvest the energy. This research is envisaged to investigate the performance and efficiencies of the two receiver technologies.
2018 - 2021	<p>Optical injection locking and characterization for direct modulation in optical communication. (Research grant provided by National Science Foundation, Sri Lanka (NSF))</p> <ul style="list-style-type: none"> ➤ The project was basically investigated about the properties of injection locking, its locking range and bandwidth of the injection locked laser. Further research was carried to identify how an injection locked laser behaves under the amplitude and phase noise with respect to the locking range and bandwidth.
2015 - 2019	<p>Polarization Insensitive Phase Sensitive Amplifier for Phase Regeneration (Research grant provided by National Research Council, Sri Lanka (NRC))</p> <ul style="list-style-type: none"> ➤ The research project investigates about the options of designing a phase sensitive amplification scheme and options of making it polarization independent using various configurations. Further investigation was carried out on increasing the amplifier gain both in in-phase and quadratic regimes. Also, it investigated ways of mitigating the non-linear noise effects which limits the gain of the amplifier.
2007 – 2010	<p>Research work carried out in the European projects and Science foundation Ireland (SFI)</p> <ul style="list-style-type: none"> ➤ <i>TRIUMPH</i> – Design and implementation of 42.7 Gb/s dual-gate “Asynchronous digital optical regenerator (ADORE)”. Collaborative works including field trials on WDM to OTDM converter and Transmultiplexing switch enabling OTDM mesh networking. ➤ <i>Euro-fos</i> – ADORE data interoperability and OTDM experiments with field trial. <p><i>PHASORS</i> – Design and implementation of simultaneous carrier recovery and synchronized pump generation scheme form a carrier-less BPSK data. Collaborative experiments with successful implementation of first black-box regenerative, dual-pump degenerate phase sensitive amplifier (PSA) which regenerate phase and amplitude simultaneously in addition to amplification of 42.7 Gb/s DPSK incoming data.</p>
2006 – 2007	Design and implementation of an “Optical waveform replicator” used for optical sampling, which will be used in optical monitoring systems in high speed optical/photonic networks.
2002 – 2006	<i>NMS (Network Monitoring System)</i> – Design and implementation of NMS for microwave transmission network equipment distributed in a mesh network running on different propriety communication protocols.
2001	Implementation of an in-house programme of retrieving customer details using the designated flags in the telecommunication switch during industrial training at SLT.
1998 – 2002	Second and final year project – “ <i>Grain detector</i> ” and “ <i>Programmable security alarm</i> ”.

Work Experience

2011- Now	Department of Electronic and Telecommunication Engineering, University of Moratuwa	
	Position/s held	Professor
	Nature of Duty	<ul style="list-style-type: none"> ✚ Member of University Senate and other senior academic entities at University of Moratuwa ✚ Undergraduate Lecturing ✚ Postgraduate lecturing ✚ Research in Optical Communication (Photonic Systems) ✚ Postgraduate (MSc/MPhil/PhD) supervision ✚ Department/Faculty/University Administrative duties ✚ Student mentoring

2018- Now	<p>Postgraduate Division, Faculty of Engineering, University of Moratuwa</p> <p>Position/s held Director</p> <ul style="list-style-type: none"> ✚ Managing the administration duties of MSc, MPhil, and PhD research students in ten departments. ✚ Managing the administration duties of Taught MSc programs (30 programs). ✚ Coordinate with Faculty of Graduate studies for streamline the By-Laws and procedures. ✚ Coordinate with Quality assurance Cell in the University for ensure the quality of the programs and procedures.
2016- 2018	<p>Postgraduate Division, Faculty of Engineering, University of Moratuwa</p> <p>Position/s held Convener</p> <ul style="list-style-type: none"> ✚ Arranging and participating for Research and Taught Postgraduate administration meetings. ✚ Coordination with the Director -PG (FoE), UoM ✚ Preparing minutes and academic recommendations of student matters.
2014-2018	<p>Engineering Research Unit, Faculty of Engineering, University of Moratuwa</p> <p>Position/s held Convener</p> <ul style="list-style-type: none"> ✚ Arranging and participating for ERU meetings. ✚ Coordination with the Director -ERU (FoE), UoM. ✚ Making arrangement and coordinating all the functions of annual research conference (MERCon) and IEEE conference. ✚ Preparing minutes and academic recommendations.
2011-2018	<p>Department of Electronic and Telecommunication Engineering, University of Moratuwa</p> <p>Position/s held Senior Lecturer</p> <ul style="list-style-type: none"> ✚ Undergraduate Lecturing ✚ Postgraduate lecturing ✚ Research in Optical Communication (Photonic Systems) ✚ Postgraduate (MSc/MPhill) supervision ✚ PhD Supervision ✚ Department/Faculty/University Administrative duties ✚ Student mentoring
2014-2018	<p>Department of Electronic and Telecommunication Engineering, University of Moratuwa</p> <p>Position/s held Department Research Coordinator</p> <ul style="list-style-type: none"> ✚ Managing the administration duties of MSc, MPhil, and PhD research students in the department. ✚ Coordinate with Faculty Post graduate division. ✚ Participation of monthly PG meetings for ensuring the procedures have been adopted. ✚ Help for PG division functions.
2011-2014	<p>Department of Electronic and Telecommunication Engineering, University of Moratuwa</p> <p>Position/s held Department Training coordinator</p> <ul style="list-style-type: none"> ✚ Managing the administration duties of undergraduates in the department for arranging the industrial training. ✚ Coordinate with Faculty Industrial Training division. ✚ Participation of training evaluation for ensuring the procedures have been adopted and followed properly.
2011-now	<p>Consultant/Resource person to Government and Private institutions</p> <p>Position/s held Consultant</p> <p>Projects Involved Technical/Evaluation Committee (TEC) Chairman/member</p> <ul style="list-style-type: none"> ✚ CCTV system design and installation for Southern Expressway (STDP)

- ✚ CCTV system design and installation for Sri Lanka Railway (SLR)
- ✚ CCTV system design and installation for Outer Circular Highway (OCH)
- ✚ Resource person for evaluating the performance of the CCTV and toll collection network IN Colombo Katunayaka Expressway (CKE)
- ✚ Resource person for communication network redesign for Sri Lanka Police and lecturing in police officer academy on mobile and CCTV forensic analysis.
- ✚ Resource person for communication network design and implementation monitoring for Coconut cultivation board, Sri Lanka
- ✚ Resource person for Industrial Development board (TEC), Sri Lanka
- ✚ Resource person for Ministry of Mass Media and Information for Digital broadcasting systems, Sri Lanka
- ✚ Consultant for optical fibre network design activities telecom service providers and vendors specially for optical networks
- ✚ Consultant for communication solutions for the Disaster Management Centre, Sri Lanka
- ✚ Consultant for communication solutions for the Open University, Sri Lanka

2007 – 2010	Department of Physics, University College Cork, Ireland
Position/s held	Visiting instructor
Nature of Duty	Demonstrating lab experiments to the undergraduates
2002 – 2006	Dialog Telekom Ltd, Sri Lanka
Position/s held	Engineer (2002-2004), Specialist (2004-2006) –Transmission Operations
Nature of Duty	<ul style="list-style-type: none"> ➤ Maintenance and upgrading of the microwave transmission network (PDH & SDH) ➤ Maintenance and upgrading of the Satellite Earth Station. ➤ New circuit planning for international transmission. ➤ Microwave network planning and new site acquisition. ➤ Participate in designing the island wide optical transport network and technical evaluation. ➤ Redesign the Optimum Transmission Paths and PCM (E1) Routing and Re- routing. ➤ Implementing the Network monitoring system (Project Leader) for the Island wide microwave network. ➤ Customer Complaint management. ➤ Management Information Systems. ➤ Business Planning, ➤ Budget planning activities. ➤ Cross functional activities with coordination of non-engineering departments.
2002	Department of Electronics and Telecom., University of Moratuwa, Sri Lanka
Position/s held	Visiting instructor (2001/Jan- 2001/Aug)
Nature of Duty	<ul style="list-style-type: none"> ➤ Demonstrating lab experiments to the undergraduates ➤ Carrying out tutorial classes for undergraduates. ➤
2001	Sri Lanka Telecom Ltd.
Position/s held	Apprentice (Industrial training) - 2001
Nature of Duty	<ul style="list-style-type: none"> ➤ International & local Transmission system ➤ International & local Switching system ➤ Maritime Transmission Systems ➤ Power and Air Conditioning

		<ul style="list-style-type: none"> ➤ Database design for identification of routing paths for EI between OSP/transmission and Switch. ➤ Customer database preparation.
1996 – 1998	D. Samson Industries Ltd, Sri Lanka	
	Position/s held	Management trainee.
	Nature of Duty	<ul style="list-style-type: none"> ➤ Accounting, costing and management related activities. ➤ Coordinate with the factory production staff for increasing their daily productivity. ➤ Research on new methods to find out minimising the faults of rubber products.

Training Courses

2009	<ul style="list-style-type: none"> ➤ Finisar Israel Ltd – Fibre optic transmission systems and modules. (Israel) ➤ Agilent – Vector Network Analyser (VNA) training course (Ireland) ➤ UCC – Manual handling course and fire extinguishing (Ireland)
2008	<ul style="list-style-type: none"> ❖ Bioptica – Laser safety course, (Ireland) ❖ National Instruments – NI LabVIEW one day course, (Ireland) ❖ Fujikura – Fusion splicer course, (Ireland) ❖ Agilent – RF connector care course, (Ireland)
2004	Telekom Malaysia– Fibre optic & Satellite Transmission (Malaysia)
2004	Harris Microwave Systems – Microwave Transmission & NMS (Canada)
2003	Ericsson AB – Microwave transmission & NMS (Sweden)

Extra Curricular Activities

2008 – 2010	Vice president of the OSA, Cork Chapter, Ireland.
1988 – 1996	<ul style="list-style-type: none"> ➤ Member of rugby football team. ➤ Member of swimming team. ➤ Member of soccer team. ➤ Held senior ranks in School societies. ➤ Participated in track events at school sport meet and achieved colours.

Special Achievements and Awards

2011	Best Paper Prize Award of Tyndall National Institute for a publication in OFC 2009. Awarded in 2011.
2008 – 2010	European Union (EU) PhD Scholarship. Science Foundation Ireland (SFI) PhD Scholarship. Excellence Scholarships (PhD) from University College Cork (UCC)
2006 – 2007	Developing Solutions Taught Masters Scholarship ,University of Nottingham
1996-1998	Mahapola Higher Educational Scholarship (Merit)

Professional Memberships

2021 - now	Senior Member of the Optical Society of America (OSA), USA
2017 – now	Senior Member of the Institution of Electrical and Electronic Engineers (IEEE), USA
2011-2017	Member of the Institution of Electrical and Electronic Engineers (IEEE), USA
2016 – 2021	Member of the Optical Society of America (OSA), USA
2008 - 2016	Student Member of the Optical Society of America (OSA), USA
2003 – 2004	Member of the Institution of Electrical and Electronic Engineers (IEEE), USA
2000 – 2008	Member of the Institution of Engineering and Technology (IET), UK
2004 – 2006	Member of the Institution of Engineers, Sri Lanka (IESL)

Personal Details

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Date of Birth 27th October 1976
Gender Male
Nationality Sri Lankan
Languages
English Good - Wide Knowledge
Sinhala Fluent - Full Knowledge
Fields of Interest Optical/Photonics Communication Systems,
Terrestrial and Satellite Communication,
Network Monitoring Systems,
Data Networking

Referees

Prof. Andrew D. Ellis Professor of Optical Communications, Aston Institute of Photonic Technologies (AIPT), Room: NW711, Aston University, Birmingham, B4 7ET, UK. Phone: +44(0)1212043075 Email: andrew.ellis@aston.ac.uk	Dr. Ajith Asela Pasqual Head- Dept. of Electronic and Telecommunication Engineering, University of Moratuwa, Katubedda, 10400, Colombo, Sri Lanka. Phone: +94 (0) 112 650055 Res : +94 (0) 112 816850 Mobile: +94 (0) 777 413099 E-mail: pasqual@ent.mrt.ac.lk	Prof. Dileeka Dias Dean- Faculty of Graduate Studies, University of Moratuwa, Katubedda, 10400, Colombo, Sri Lanka. Phone: +94 (0) 112 650055 Mobile: +94 (0) 777 688861 E-mail: dileeka@ent.mrt.ac.lk
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I declare that the particulars mentioned above are True and Accurate.

Date : 14 September 2021

Signature: L.W.P. Ruwan Udayanga

LIST OF PUBLICATIONS

Journals

- [1] Sachinthani Alahakoon, Dushani Munasinghe, Gresha S Samarakkody, **Ruwan Weerasuriya**, “OSNR and dispersion tolerance of FWM based optical carrier recovery scheme”, Journal of Physics Communications, Vol. 4, Issue 9, pp. 095004 (2020)
- [2] Selwan K. Ibrahim, Stylianos Sygletos, Danish Rafique, John A. O’Dowd, **Ruwan Weerasuriya**, and Andrew D. Ellis, “*Novel synchronous DPSK optical regenerator based on a feed-forward based carrier extraction scheme*”, Optics Express, Vol. 19, Issue 10, pp. 9445-9452 (2011)
- [3] Selwan K. Ibrahim, Stylianos Sygletos, **Ruwan Weerasuriya**, and Andrew D. Ellis, “*Novel real-time homodyne coherent receiver using a feed-forward based carrier extraction scheme for phase modulated signals*”, Optics Express, Vol. 19, Issue 9, pp. 8320-8326 (2011)
- [4] Stylianos Sygletos, Selwan K. Ibrahim, **Ruwan Weerasuriya**, Richard Phelan, L. Gruner Nielsen, Adonis Bogris, Dimitris Syvridis, James O’Gorman, and Andrew D. Ellis, “*Phase synchronization scheme for a practical phase sensitive amplifier of ASK-NRZ signals*”, Optics Express, Vol. 19, Issue 13, pp. 12384-12391 (2011)
- [5] P. Frascella, S. Sygletos, F.G.C. Gunning, **R. Weerasuriya**, L. Gruner-Nielsen, R. Phelan, J. O’Gorman, A.D. Ellis, “*DPSK Signal Regeneration With a Dual-Pump Nondegenerate Phase-Sensitive Amplifier*”, PTL, Vol 23, Issue 08, 2011.
- [6] **R. Weerasuriya**, S. Sygletos, S. K. Ibrahim, F. Gunning, R. J. Manning, R. Phelan, J. O’Carroll, B. Kelly, J. O’Gorman, A. D. Ellis, “*Comparison of frequency symmetric signal generation from a BPSK input using fiber and semiconductor based non-linear elements*”, PTL, Vol 23, Issue 10, 2011.
- [7] **R. Weerasuriya**, S.K. Ibrahim, G. Zarris, D. Simeonidou, A.D. Ellis and D. Cotter, “*Performance characterisation of 42.65 Gbit/s dual-gate asynchronous digital optical regenerator using single MZM*”, Elect.Lett, Vol 45, Issue 12, June 4 2009 Page(s):642 – 643
- [8] R. Slavík, F. Parmigiani, J. Kakande, C. Lundström , M. Sjödin, P. A. Andrekson, **R. Weerasuriya**, S. Sygletos, A. D. Ellis, L. Gruner-Nielsen, D. Jakobsen, S. Herstrøm, R. Phelan, J. O’Gorman, A. Bogris, D. Syvridis, S. Dasgupta, P. Petropoulos, D. J. Richardson, “*All-optical phase and amplitude regenerator for next-generation telecommunications systems*”, Nature Photonics, DOI: 10.1038/NPHOTON.2010.203, (2010).
- [9] R. Bonk, P. Vorreau, D. Hillerkuss, W. Freude, G. Zarris, F. Parmigiani, P. Petropoulos, **R. Weerasuriya**, S. Ibrahim, A. D. Ellis, I. Tomkos, J. Leuthold, “*An All-Optical Grooming Switch for Interconnecting Access and Metro Ring Networks*”, JOCN, Vol. 3 Issue 3, pp.206-214, 2011.
- [10] G. Zarris, E. Hugues-Salas, N. Amaya Gonzalez, **R. Weerasuriya**, F. Parmigiani, D. Hillerkuss, P. Vorreau, M. Spyropoulou, S. K. Ibrahim, A. D. Ellis, R. Morais, P. Monteiro, P. Petropoulos, D. J. Richardson, I. Tomkos, J. Leuthold, and D. Simeonidou,

“Field Experiments with a Grooming Switch for OTDM Meshed Networking”, Journal of Lightwave Technology, Vol 28, Issue 4,316-327,(2010).

- [11] P. Vorreau, S. Sygletos, F. Parmigiani, D. Hillerkuss, R. Bonk, P. Petropoulos, D. J. Richardson, G. Zarris, D. Simeonidou, D. Klondis, I. Tomkos, **R. Weerasuriya**, S. Ibrahim, A. D. Ellis, D. Cotter, R. Morais, P. Monteiro, S. Ben Ezra, S. Tsadka, W. Freude, J. Leuthold, *“Optical Grooming Switch with Regenerative Functionality for Transparent Interconnection of Networks”*, Optics express, Vol. 17, Issue 17, pp. 15173-15185, (2009).
- [12] A. D. Ellis, D. Cotter, S. Ibrahim, **R. Weerasuriya**, C. W. Chow, J. Leuthold, W. Freude, S. Sygletos, P. Vorreau, R. Bonk, D. Hillerkuss, I. Tomkos, A. Tzanakaki, C. Kouloumentas, D. J. Richardson, P. Petropoulos, F. Parmigiani, G. Zarris, and D. Simeonidou, *“Optical interconnection of core and metro networks”*, (Invited), Journal of Optical Networking, Vol 7, Issue 11, 928–935 (2008)

Conference

- [1] Dushani R Munasinghe, Gresha S Samarakkody, Sachinthani Alahakoon, **Ruwan Weerasuriya**, *“Gain Performance of Single-Pump Phase Sensitive Amplifier in the Quadratic Gain Regime”*, Moratuwa Engineering Research Conference (MERCon), pp 236-241, IEEE 2020
- [2] Sumali S Morapitiya, Mohammad Furqan Ali, Samikkannu Rajkumar, Sanika K Wijayasekara, Dushantha Nalin K Jayakody, **RU Weerasuriya**, *“A SLIPT-assisted Visible Light Communication Scheme”*, 16th International Conference on Distributed Computing in Sensor Systems (DCOSS), pp 368-375, IEEE 2020.
- [3] Gresha S Samarakkody, Dushani Munasinghe, Sachinthani Alahakoon, Ajith Kumarayapa, **Ruwan Weerasuriya**, *“The Behavioral Study of an Optical Injection-Locked Semiconductor Laser under the Influence of Intensity and Phase Noise”*, IEEE 5th International Conference on Wireless and Telematics (ICWT), pp. 1-6, IEEE 2019
- [4] Dulanja Samudika, Lahiru Jayasinghe, Kasun E Gunathilaka, Y Rumes, **Ruwan Weerasuriya**, Dileeka Dias, *“Stereo audio streaming via Visible Light”*, Moratuwa Engineering Research Conference (MERCon), pp. 132-136, IEEE 2016
- [5] Stylianos Sygletos, Selwan Ibrahim, **Ruwan Weerasuriya**, Richard Phelan, Lars Grüner-Nielsen, *“Dual pump wave generation from NRZ-ASK signal enabling a “black-box phase sensitive amplifier”*, Toggle navigation TEI Of Athens. 2015
- [6] Lakmini Malasinghe, **Ruwan Weerasuriya**, *“Modeling of Optical Carrier Recovery using Four Wave Mixing Technique for Binary Phase Shift Keying Systems”*, Moratuwa Engineering Research Conference (MERCon), pp. 251-254, IEEE 2015,
- [7] S.K.Ibrahim, S.Sygletos, **R. Weerasuriya**, A.D. Ellis, *“Real-time self-homodyne coherent receiver for BPSK signals using feed-forward carrier extraction”*, CLEO, JWA15, 2011

- [8] S.Sygletos, S.K. Ibrahim, **R. Weerasuriya**, R. Phelan, L.G. Nielsen, A. Bogris, J. O’Gorman, A.D. Ellis, "Dual pump wave generation from NRZ-ASK signal enabling a “black-box” phase sensitive amplifier", OFC, OWL7, 2011
- [9] **R. Weerasuriya**, Stylianos Sygletos, Selwan K. Ibrahim, Andrew D. Ellis, Richard Phelan, James O’Gorman, John O’Carroll, Brian Kelly, “*Generation of frequency symmetric signals from a BPSK input for Phase Sensitive Amplification*”, OFC’10, OWT6,(2010).
- [10] F. Parmigiani¹, R. Slavík, J. Kakande, C.Lundström , M. Sjödin, P. Andrekson, **R. Weerasuriya**, S. Sygletos, A.D. Ellis, L. Grüner-Nielsen, D. Jakobsen, S. Herstrøm, R. Phelan, J. O’Gorman, A. Bogris, D. Syvridis, S. Dasgupta, P. Petropoulos, D.J. Richardson,"*All-optical phase regeneration of 40Gbit/s DPSK signals in a black-box phase sensitive amplifier*", Proc. OFC’10, PDPC3 (2010).
- [11] F. Parmigiani, R. Slavik, J. Kakande, L. Gruner-Nielsen, D. Jakobsen, S. Herstrom, R. Weerasuriya, S. Sygletos, A.D. Ellis, P. Petropoulos, D.J. Richardson,"*All-optical signal processing in highly nonlinear fibres,*" OECC (invited), 2010, pp. 486-487.
- [12] S. Sygletos, **R. Weerasuriya**, S. Ibrahim, F. Gunning, A. Ellis,R. Phelan, J. O’Gorman, J. O’Carroll, B. Kelly, "*A novel method of pump and idler signal generation for nondegenerate FWM based phase sensitive amplification*", CLEO 2010
- [13] F. Parmigiani, R. Slavík, J. Kakande, L. Grüner-Nielsen, D. Jakobsen, S. Herstrøm, **R. Weerasuriya**, S. Sygletos, A. D. Ellis, P. Petropoulos, D. J. Richardson, "*All-Optical Phase and Amplitude Regeneration of a 40Gbit/s DPSK Black-Box Phase Sensitive Amplifier*", ECOC 2010, pp. 116-118.
- [14] Stylianos Sygletos, **Ruwan Weerasuriya**, Selwan K. Ibrahim, Fatima Gunning, Richard Phelan, James O’Gorman, John O’Carroll, Brian Kelly, Antonis Bogris, Dimitris Syvridis, Carl Lundström, Peter Andrekson, Francesca Parmigiani, David J. Richardson, Andrew D. Ellis, “*Phase Locking and Carrier Extraction Schemes for Phase Sensitive Amplification*”, ICTON 2010, MO.C1.3 (Invited)
- [15] S. K. Ibrahim, S. Sygletos, **R. Weerasuriya**, A. D. Ellis,"*Novel Carrier Extraction Scheme for Phase Modulated Signals Using Feed-Forward Based Modulation Stripping*", ECOC 2010, pp. 661-663.
- [16] A.D. Ellis, F.C.Garcia Gunning, J. Zhao, S.K. Ibrahim, P. Frascella, N. MacSuihbne, F. Parmigiani, R. Slavík, J. Kakande, C. Lundström , M. Sjödin, P. Andrekson, **R. Weerasuriya**, S. Sygletos, L. Grüner-Nielsen, D. Jakobsen, S. Herstrøm, R. Phelan, J. O’Gorman, A. Bogris, D. Syvridis, S. Dasgupta, P. Petropoulos, and D.J. Richardson, “*Future Directions to Realize Ultra-High Bit-Rate Transmission Systems*”, Proceedings of Opto-Electronics and Communications Conference, OECC 2010, Sapporo, Japan, 5-9 July 2010, Invited paper 8B3-1.
- [17] J. Leuthold, R. Bonk, P. Vorreau, S. Sygletos, D. Hillerkuss, W. Freude, G. Zarris, D. Simeonidou, C. Kouloumentas, M. Spyropoulou, I. Tomkos, F. Parmigiani, P. Petropoulos, D.J. Richardson, **R. Weerasuriya**, S. Ibrahim, A.D. Ellis, R. Morais, P. Monteiro, S. Ben Ezra, S. Tsadka, “*All-Optical Grooming for 100 Gbit/s Ethernet*”,

SPIE Photonics West Conference, 23 - 28 January 2010, The Moscone Center, San Francisco, California, United States, Invited Paper 7621-7.

- [18] **R. Weerasuriya**, S.K. Ibrahim, A.D.Ellis, D.Hillerkuss and D. Cotter, “*Chromatic Dispersion Tolerance of 42.65Gbit/s Dual Gate Asynchronous Digital Optical Regenerator*”, Photonics Ireland, A44, (2009)
- [19] G. Zarris, F. Parmigiani, E. Hugues-Salas, **R. Weerasuriya**, D. Hillerkuss, N.A. Gonzalez, M. Spyropoulou, P. Vorreau, R. Morais, S.K. Ibrahim, D. Klondis, P. Petropoulos, A.D. Ellis, P. Monteiro, A. Tzanakaki, D. Richardson, I. Tomkos, R. Bonk, W. Freude, J. Leuthold, D. Simeonidou, “*Field Trial of WDM/OTDM Transmultiplexing Employing Photonic Switch Fabric-Based Buffer-less Bit-Interleaved Data Grooming and All-Optical Regeneration*”, OFC’09 , PDPC10, (2009)
- [20] G. Zarris, P. Vorreau, D. Hillerkuss, S. K. Ibrahim, **R. Weerasuriya**, A. D. Ellis, J. Leuthold, D. Simeonidou, “*WDM-to-OTDM Traffic Grooming by Means of Asynchronous Retiming*”, OFC , OThJ6 (2009)
- [21] J. Leuthold, R. Bonk, P. Vorreau, S. Sygletos, D. Hillerkuss, W. Freude, G. Zarris, D. Simeonidou, C. Kouloumentas, M. Spyropoulou, I. Tomkos, F. Parmigiani, P. Petropoulos, D.J. Richardson, **R. Weerasuriya**, S. Ibrahim, A.D. Ellis, C. Meuer, D. Bimberg, R. Morais, P. Monteiro, S. Ben-Ezra, S. Tsadka, “*An all-optical grooming switch with regenerative capabilities*”, ICTON,2009, Page(s):1 – 4
- [22] P. Vorreau, D. Hillerkuss, S. Sygletos, R. Bonk, F. Parmigiani, P. Petropoulos, D. Richardson, G. Zarris, D. Simeonidou, D. Klondis, I. Tomkos, **R. Weerasuriya**, S. Ibrahim, A. Ellis, R. Morais, P. Monteiro, S. Ben Ezra, S. Tsadka, W. Freude, J. Leuthold, “*2R/3R optical grooming switch with time-slot interchange*”, ECOC, Th.3.F.4, (2008)
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- [24] S. K. Ibrahim, **R. Weerasuriya**, D. Hillerkuss, G. Zarris, D. Simeonidou, J. Leuthold, D. Cotter, A. Ellis, “*Experimental Demonstration of 42.6 Gbit/s Asynchronous Digital Optical Regenerators*”, ICTON, Paper We.C3.3, 22-26 June 2008 (Invited)
- [25] J. Leuthold, W. Freude, S. Sygletos, P. Vorreau, R. Bonk, D. Hillerkuss, I. Tomkos, A. Tzanakaki, C. Kouloumentas, D.J. Richardson, P. Petropoulos, F. Parmigiani, A. Ellis, D. Cotter, S. Ibrahim, **R. Weerasuriya**, “*An all-optical grooming switch to interconnect access and metro ring networks*”, Proc ICTON’08, Athens, Greece, Invited Paper We.C3.4, (2008).

Patent Application

Patent No/Date: EP10175752.4, filed on 8 September 2010.

Inventors: Andrew D. Ellis, Stylianos Sygletos, Fatima C. Garcia Gunning, Paola Frascella, Selwan K. Ibrahim, **Ruwan Weerasuriya**.

Title: “*Multi-carrier System and Method for use in an Optical Network*”.

Publication and Research Grant Reviewing

➤ **Reviewer Journal of Applied Optics: An International Journal (Science Citation Indexed)**

Manuscript IDs:

1. Design of Base Station for Sensor Node Localization in Optical Wireless Sensor Network
2. Line Width Analysis of a Tunable Optical Filter Based on Free-Space Optics

➤ **Reviewer – Optics Express Journal, An International Journal (Science Citation Indexed)**

Manuscript IDs: 180492, 214408, 228609

➤ **Reviewer – Journal of National Science Foundation, Sri Lanka.**

Manuscript IDs: Ref: Article entitled " A location Based duplex scheme for cross time slot interference reduction in IEEE 802.22 cognitive radio based wireless regional area networks"

➤ **Reviewer – MERCon, Sri Lanka.**

Reviewer for 2016, 2017, 2018, 2019 and 2020

➤ **Reviewer – ICIAFS, 2019 and 2021**

➤ **Reviewer – Competitive Grants, National Science Foundation, Sri Lanka**

➤ **Reviewer – Competitive Grants, National Research Council, Sri Lanka**

Published Magazine Articles

“Vidurawa”, a Science Magazine Published by National Science foundation Sri Lanka, Volume 32, Special Issue, November 2015

Title of the article: “**Light as a carrier of information**”

Supervised PG Students

P.L.D.N.M. De Silva (218047B)

Thesis: DFT-s OFDM Modulation Technique for Visible Light Communication in Indoor Application.

Degree: PhD (Ongoing)

S.S. Morapitiya (188111E)

Thesis: Visible Light Communications for Downhole Monitoring.

Degree: MPhil (**Ongoing**)

D.R. Munasinghe (188033P)

Thesis: Modelling of Polarization Insensitive Phase Sensitive Amplifier for Phase Regeneration

Degree: MPhil (**Ongoing**)

S.E. Alahakoon (178046A)

Thesis: Design and Characterization of Optical Carrier recovery scheme

Degree: MPhil (**Completed**)

G.S. Samarakkody (168051B)

Thesis: Optical Injection Locking and Characterization for Optical Communication

Degree: MPhil (**Completed**)

N. Manorathna (ID: 10/8020B)

Thesis: Performance Analysis between two 16-QAM star constellations (Regular and Modified Pattern) for a given Laser Phase noise profile.

Main Supervisor – Dr. Vijitha Herath (Dept. of EE-UoP), Co-supervisor- Dr. L.W.P.R. Udayanga

Degree: MSc (**Completed**)

L. Malasinghe, (ID: 09/8420)

Thesis: Modelling of Optical Carrier Recovery using Four Wave Mixing Technique for Phase Shift Keying Systems.

Degree: MSc (**Completed**)

G.T. Liyanage, (ID: 2013/MISM/40)

Thesis: An evaluation on Dengue surveillance system at national epidemiology unit of Sri Lanka.

Degree: MSc (**Completed**)

C.C.G. Rathnawibushana, (ID: MGIS/02/14/333)

Thesis: Nilwala Ganga Inbasin Development: Kiralakele Sector.

Degree: MSc (**Completed**)

S. Sonnadara, (ID: MGIS/02/14/336)

Thesis: Impact of Climate Change on Water Resources for Agriculture in Galle District.

Degree: MSc (**Completed**)

N.C.T. Perera, (ID: 2013/MISM/50)

Thesis: A study on evaluating Hyperion planning and budgeting tool in Sri Lanka.

Degree: MSc (**Completed**)

C.C.G. Godage, (ID: 2013/MISM/22)

Thesis: An evaluation of the e-learning pilot project: A case study in Sri Rahula Balika Vidyalaya, Battaramulla.

Degree: MSc (**Completed**)

D. Jayasinghe, (ID: 2013/MISM/31)

Thesis: A study on restructuring directives for and accurate transmission database: A case study on telecommunication company in Sri Lanka.

Degree: MSc (**Completed**)

T.M.G.D.B. Weligalla, (ID: 2013/MISM/72)

Thesis: A study on GPS fleet tracking system adaptation to road transport service providers in Sri Lanka.

Degree: MSc (**Completed**)

Curriculum Development for Higher Education Institutes (HEI)

Subject Specialist/Consultant for University of Ruhuna, Faculty of Engineering

Curriculum for the subject “Optical Communication” for the University of Ruhuna.

Subject Specialist/Consultant for University of Sri Jayawardanapura, Faculty of Engineering

Curriculum for the subject “Optical Communication” for the University of Ruhuna.

Subject Specialist/Consultant for Kotalawala Defence University, Faculty of Engineering

Curriculum for the subject “Microwave, Optical and Radar Engineering” for the University of KDU.

Subject Specialist for Faculty of Engineering Technology, Open University of Sri Lanka

Curriculum for Master of Science in Computer & Communication Engineering.

Module Curriculum Development for University of Moratuwa

EN2052	Communication System (Old Curriculum) (UG)
EN2053	Communication Systems and Networks (OBE Curriculum) (UG)
EN2072	Communication I (Old Curriculum) (UG)
EN2073	Analog and Digital Communication (OBE Curriculum) (UG)
EN2852	Applied Electronics (Old Curriculum) (UG)
EN4322	Optical Fiber Communication (Old Curriculum) (UG)
EN4323	Optical Fiber Communication (OBE Curriculum) (UG)
EN4324	Photonic Communication Components (OBE Curriculum) (UG)
EN4670	Photonic Communication Networks (OBE Curriculum) (UG)
EN4530	Wireless and Mobile Communications (Old Curriculum) (UG)
EN2054	Communication Systems and Networks (UG)
EN4324	Photonic Communication Components (UG)
EN4670	Photonic Communication Networks (UG)
EN5680	Optical Communication and Networks (PG)
EN5650	Microwave Communications (PG)

Module Curriculum Development for Higher Education Institutes (HEI)

EE7211	Optical Fiber Communication (TE), Dept. of E&I, FoE, UoR
ET9123	Microwave, Optical & Radar Engineering, FGS, KDU

Lab Practical Development for University of Moratuwa

EN4323	UG	Study of optical fibers and their attenuation
EN4323	UG	Optical sources and their characteristics
EN4323	UG	Optical fiber splicing
EN4323	UG	Optical Time Domain Reflector (OTDR)
EN5680	PG	Hands on Experience for Optical fiber splicing
EN5680	PG	Measurement of Fiber loss, attenuation and connector cleanliness using Optical Time Domain Reflector (OTDR)
EN5680	PG	Familiarization to VPI transmission maker software
EN5680	PG	Effect of Multipath Interference (MPI) in a Multimode Fiber (MMF) Link

Inter University Teaching

Institution	Subject/s
Undergraduate Level, Dept. of Electronic & Information, Faculty of Engineering, University of Ruhuna	• Optical Fiber Communication (2015,2016,2017,2018)
Postgraduate Level, Faculty of Graduate Studies, Kotalawala Defence University	• Microwave, Optical & Radar Engineering (2016, 2017)

Other Contribution to Academic, Research and Industry

- Co-chair: Telecommunication Systems Track, Moratuwa Engineering Research Conference (MERCon 2015)
- Tutorial & Workshop Chair and Co-chair: Telecommunication Systems Track, Moratuwa Engineering Research Conference (MERCon 2016)
- Tutorial & Workshop Chair and Co-chair: Machine Vision and Image Processing Track, Moratuwa Engineering Research Conference (MERCon 2017)
- Member & Convener- Engineering Research Unit (2014 -2017)
- Member & Convener- Faculty PG Board of Studies (2017)
- Member & Convener– Faculty Higher Degrees Committee (2017)
- Member – Board of Graduate Studies
- Member of TEC- Establishing a Mobile Communication Solution for Field officers in Coconut Cultivation Board, Sri Lanka
- Member of TEC- Repair of Optical Emission Spectrometer for Industrial Development Board (IDB), Sri Lanka
- Member of TEC- Purchase and repair of radio equipment for Dept. of Fisheries & Aquatic Resources, Sri Lanka
- Chairman of TEC - Design of a CCTV system for Buddhist and Pali University, Sri Lanka
- Technical Expertise for the Upgrade of the PABX system for National Institute of Education, Sri Lanka
- Member of TEC- New Communication Solution for Open University Sri Lanka
- Member of the Design and Implementation team of the CCTV system for Outer Circular Highway - Phase I for Road Development Authority, Sri Lanka
- Member of the Design and Implementation team of the CCTV system to increase the security through surveillances in Kalutara City conducted by District Secretariat – Kalutara, Sri Lanka
- Member of the Design and Implementation team of the CCTV system for Outer Circular Highway - Phase II for Road Development Authority, Sri Lanka

- Member of TEC on Specifications - Maintenance and Upgrading of the Emergency Warning Towers for Disaster Management Center, Sri Lanka
- Member of TEC on Bid Evaluation – Multi-Hazard Early Warning system for Disaster Management Center, Sri Lanka
- Technical Working Committee for the Police Information and Communication System (PICS) Project for Ministry of Law & Order and Southern Development, Sri Lanka
- Evaluation Committee on Digitalization of Terrestrial Television Broadcasting in Sri Lanka - Ministry of Mass Media and Information, Sri Lanka
- Panel of Experts to Advise on Installation and Commissioning of Digital Full Dome Projector System - Ministry of Technology and Research, Sri Lanka
- Consultant for Communication Equipment - Ministry of Law and Order, Sri Lanka
- Expert Advice on Upgrading Police 119 Service - Police Communication Range - Sri Lanka Police
- Member of TEC – Fixed and Mobile Telephone System for Coconut Cultivation Board, Sri Lanka
- Member of TEC – PA Sound System for the meeting room of the Faculty Administrative Building for Buddhist and Pali University, Sri Lanka
- Member of TEC – CCTV Camera System for Minuwangoda Urban Council, Sri Lanka
- Specification Analysis of Communication Equipment - Police Communication Range - Sri Lanka Police
- Expert Advice on Upgrading Police Communication Network from Analog to Digital - Police Communication Range - Sri Lanka Police
- Expert Advice on preparing technical specifications for police communication equipment, Sri Lanka Police