

# 6<sup>th</sup> National Conference on Technology and Management

27<sup>th</sup> of January 2017

*“Excel in Research and Build the Nation”*

Sri Lanka Institute of Information Technology,  
New Kandy Road, Malabe, Sri Lanka.

## CONFERENCE PROGRAM

Time	Event (Venue : SLIIT Main Auditorium)							
0830 – 0930	Registration							
0930 – 0940	Lighting of the traditional oil lamp							
0940 – 0950	Welcome address							
0950 – 1000	Future of NCTM							
1000 – 1100	Keynote speech – Prof. Dileeka Dias, <i>University of Moratuwa</i> .							
1100 – 1130	<b>Tea Break</b>							
1130 – 1230	Keynote speech – Prof. Sarath Kodagoda, <i>University of Technology Sydney</i>							
1230 – 1330	<b>Lunch</b>							
1330 – 1510	Parallel Sessions							
	(1) Optimization	(2) Human Factors	(3) Transportation	(4) Sustainability	(5) Intelligent Systems	(6) Automobile Applications	(7) Networks & Security	(8) Smart Solutions
1510 - 1540	<b>Tea Break</b>							
1540 – 1700	Panel Discussion – Smart City Development in Sri Lanka							
1700 – 1730	Closing ceremony & Awards							

# TECHNICAL PROGRAM

## SESSION 1: OPTIMIZATION

Time	Paper
1330 – 1350	<b>Invited Presentation</b> <b>Scalable Hybrid Model for Stock Index Technology Prediction.</b> <i>Wajira Dassanayake, Unitec Institute of Technology, New Zealand.</i>
1350 – 1410	<b>2017-1.1</b> <b>A Parallel Version of the In-Close Algorithm.</b> <i>Nuwan Kodagoda, Sri Lanka Institute of Information Technology.</i> <i>Simon Andrews, Sheffield Hallam University, UK.</i> <i>Koliya Pulasinghe, Sri Lanka Institute of Information Technology.</i>
1410 – 1430	<b>2017-1.2</b> <b>Workload Management to Optimize Productivity in Tertiary and Quaternary Education.</b> <i>Lasantha Abeysiri, Sri Lanka Institute of Information Technology.</i> <i>Nethmini T. Weerawarna, Sri Lanka Institute of Information Technology.</i> <i>Pradeep K.W. Abeygunawardhan, Sri Lanka Institute of Information Technology.</i>
1430 – 1450	<b>2017-1.3</b> <b>A Trilateral Influence Model for Online Shopping.</b> <i>S.A.K.G.Samaraweera, Sri Lanka Institute of Information Technology.</i> <i>N.G.H.P.Gamage, Sri Lanka Institute of Information Technology.</i> <i>I.G.Gallage, Sri Lanka Institute of Information Technology.</i> <i>D. D. T. M. Gunathilaka, Sri Lanka Institute of Information Technology.</i> <i>Nimalika Fernando, Sri Lanka Institute of Information Technology.</i> <i>Dharshana Kasthurirathna, Sri Lanka Institute of Information Technology.</i>
1450 – 1510	<b>2017-1.4</b> <b>IGOE IoT Framework for Waste Collection Optimization</b> <i>Shashika Lokuliyana, Sri Lanka Institute of Information Technology.</i> <i>J.A.D.C. Anuradha Jayakody, Sri Lanka Institute of Information Technology.</i> <i>Lakmal Rupasinghe, Sri Lanka Institute of Information Technology.</i>

## SESSION 2: HUMAN FACTORS

Time	Paper
1330 – 1350	<b>2017-2.1</b> <b>Teacher Attitude and ICT Integration in the Class Room</b> <i>Theekshana Suraweera, Sri Lanka Institute of Information Technology.</i> <i>Amanadee Wickramasena, Sri Lanka Institute of Information Technology.</i> <i>Thilochana Jayalath, Sri Lanka Institute of Information Technology.</i> <i>Sachin Ariyadasa, Sri Lanka Institute of Information Technology.</i>

1350 – 1410	<p><b>2017-2.2</b>  <b>Linguistic Features Based Personality Recognition Using Social Media Data.</b>  <i>Dilini Sewwandi, Sri Lanka Institute of Information Technology.</i>  <i>Kusal Perera, Sri Lanka Institute of Information Technology.</i>  <i>Sajith Sandaruwan, Sri Lanka Institute of Information Technology.</i>  <i>Oshani Lakchani, Sri Lanka Institute of Information Technology.</i>  <i>Anupiya Nugaliyadde, Sri Lanka Institute of Information Technology.</i>  <i>Samantha Thelijagoda, Sri Lanka Institute of Information Technology.</i></p>
1410 – 1430	<p><b>2017-2.3</b>  <b>A Wireless Continuous Patient Monitoring System for Dengue: Wi-Mon,</b>  <i>S. Nubenthan, University of Ruhuna.</i>  <i>C. Shalomy, University of Ruhuna.</i></p>
1430 – 1450	<p><b>2017-2.4</b>  <b>Usability and User Experience towards an Experience Economy.</b>  <i>Lasantha Abeysiri, Sri Lanka Institute of Information Technology.</i>  <i>Nethmini T. Weerawarna, Sri Lanka Institute of Information Technology.</i></p>
1450 – 1510	<p><b>2017-2.5</b>  <b>User-friendly Interface for GPGPU Programming.</b>  <i>Hasindu Gamaarachchi, University of Peradeniya.</i>  <i>Mohamed Fawsan, University of Peradeniya .</i>  <i>Fathima Fasma, University of Peradeniya.</i>  <i>Dhammika Elkaduwe, University of Peradeniya.</i></p>

### SESSION 3: TRANSPORTATION

Time	Paper
1330 – 1350	<p><b>2017-3.1</b>  <b>The Effect of Roadside Elements on Drivers' Speed Selection and Lateral Position on Road,</b>  <i>T. Nilupul Lankathilake, Sri Lanka Institute of Information Technology.</i>  <i>Niranga Amarasingha, Sri Lanka Institute of Information Technology.</i></p>
1350 – 1410	<p><b>2017-3.2</b>  <b>Estimation of Vehicle Kilometers Travelled in Southern province, Sri Lanka.</b>  <i>Tharani D. Weerasekera, Sri Lanka Institute of Information Technology .</i>  <i>Niranga Amarasingha, Sri Lanka Institute of Information Technology.</i></p>
1410 – 1430	<p><b>2017-3.3</b>  <b>Estimating the Fuel Loss During Idling of Vehicles at Signalized Intersections in Colombo.</b>  <i>L. Nimesh V. Alwis, Sri Lanka Institute of Information Technology.</i>  <i>Niranga Amarasingha, Sri Lanka Institute of Information Technology.</i></p>
1430 – 1450	<p><b>2017-3.4</b>  <b>A Study on Pedestrian Crossings in Colombo Suburbs.</b>  <i>Chirath Euka Mallawaarachchi, Sri Lanka Institute of Information Technology.</i>  <i>Niranga Amarasingha, Sri Lanka Institute of Information Technology.</i></p>

1450 – 1510	<b>2017-3.5</b> <b>An Analysis of Signalized Intersections: Case of Traffic Light Failure.</b> <i>A.M. Mohamed Mafas, Sri Lanka Institute of Information Technology.</i> <i>Niranga Amarasinghe, Sri Lanka Institute of Information Technology.</i>
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#### SESSION 4: SUSTAINABILITY

Time	Paper
1330 – 1350	<b>2017-4.1</b> <b>An Economic Evaluation of Malabe Intersection due to Vehicle and Pedestrian Interruption.</b> <i>D.P. Attanayaka, Sri Lanka Institute of Information Technology .</i> <i>K.M.T.N. Konara, Sri Lanka Institute of Information Technology.</i>
1350 – 1410	<b>2017-4.2</b> <b>Dynamic Characteristics of Tall Buildings.</b> <i>N.L. Dissanyake, Sri Lanka Institute of Information Technology.</i> <i>S. D. Weragala, Sri Lanka Institute of Information Technology.</i> <i>K.R.B. Herath, Sri Lanka Institute of Information Technology.</i>
1410 – 1430	<b>2017-4.3</b> <b>Deflectors to Introduce Heterogeneity to Canals.</b> <i>W. A. H. Randima, Sri Lanka Institute of Information Technology.</i> <i>M. A. D. K. Wijethilaka, Sri Lanka Institute of Information Technology.</i> <i>G. H. V. S. Kumara, Sri Lanka Institute of Information Technology.</i> <i>P. I. A. Gomes, Sri Lanka Institute of Information Technology.</i>
1430 – 1450	<b>2017-4.4</b> <b>Estimation of Rheological Properties of Self-Compacting Concrete using Slump and Slump Flow Tests.</b> <i>D. P. Attanayaka, Sri Lanka Institute of Information Technology.</i> <i>K. R. B. Herath, Sri Lanka Institute of Information Technology.</i>
1450 – 1510	<b>2017-4.5</b> <b>A Study of Factors affecting the Exports of the Garment Industry in Sri Lanka.</b> <i>Hansi K. Abeynanda, Sri Lanka Institute of Information Technology.</i>

#### SESSION 5: INTELLIGENT SYSTEMS

Time	Paper
1330 – 1350	<b>2017-5.1</b> <b>A Multi-modal Approach for Enhancing Object Placement.</b> <i>P.H.D. Arjuna S. Srimal, University of Moratuwa.</i> <i>A.G. Buddhika P. Jayasekara, University of Moratuwa.</i>

1350 – 1410	<p><b>2017-5.2</b>  <b>Location Based Fingerprinting Techniques for Indoor Positioning.</b>  <i>K. I. Gettapola, University of Peradeniya.</i>  <i>R. R. W. M. H. D Ranaweera, University of Peradeniya.</i>  <i>G. M. R. I. Godaliyadda, University of Peradeniya.</i>  <i>M. N. F. Imara, Sri Lanka Institute of Information Technology.</i></p>
1410 – 1430	<p><b>2017-5.3</b>  <b>Matlab based Automated Surface Defect Detection System for Ceramic Tiles using Image Processing.</b>  <i>Yasantha C. Samarawickrama, Colombo International Nautical and Engineering College.</i>  <i>Chamira D. Wickramasinghe, Colombo International Nautical and Engineering College.</i></p>
1430 – 1450	<p><b>2017-5.4</b>  <b>GAIMS - Gamified Aid Information Management System to Connect Donor and Requester.</b>  <i>Nethmini T. Weerawarna, Sri Lanka Institute of Information Technology.</i>  <i>Lasantha Abeysiri, Sri Lanka Institute of Information Technology.</i>  <i>Anuja Madhushan, Konekt Holdings (Pvt) Ltd.</i></p>
1450 – 1510	<p><b>2017-5.5</b>  <b>Determinants of Stock Market Index Movements.</b>  <i>Wajira Dassanayake, Unitec Institute of Technology, New Zealand.</i>  <i>Chandimal Jayawardena, Sri Lanka Institute of Information Technology.</i></p>

## SESSION 6: AUTOMOBILE APPLICATIONS

Time	Paper
1330 – 1350	<p><b>2017-6.1</b>  <b>Suspension Hydro-Bushings – Purpose, Design And Modelling.</b>  <i>R C Wisidagama, University of Moratuwa.</i>  <i>H. K. G. Punchihewa, University of Moratuwa.</i>  <i>R.A. C. P. Ranasinghe, University of Moratuwa.</i>  <i>M S M Perera, Sri Lanka Institute of Information Technology.</i></p>
1350 – 1410	<p><b>2017-6.2</b>  <b>Design and Development of a Damping Characterization Machine for High Damping Rubber Elastomers.</b>  <i>L.B.D. Perera, Sri Lanka Institute of Information Technology.</i>  <i>M.D.T.G. Wijewardena, Sri Lanka Institute of Information Technology.</i>  <i>D.K.L. Karunaratna, Sri Lanka Institute of Information Technology.</i>  <i>M. S. M. Perera, Sri Lanka Institute of Information Technology.</i></p>
1410 – 1430	<p><b>2017-6.3</b>  <b>Developing a Multi Physics Mathematical Model for an Air Damper System of a Modern Car.</b>  <i>M. K. S. Liyanarachchi, Sri Lanka Institute of Information Technology.</i>  <i>M. S. M. Perera, Sri Lanka Institute of Information Technology.</i></p>
1430 – 1450	<p><b>2017-6.4</b>  <b>An Add-on Module to ECU for Extending the Functionalities of EFI Tune-Up Process.</b></p>

	<p><i>Suneth Pathirana, Uva Wellassa University.</i>  <i>Cyril Gajanayake, Gas Car Engine Tune-up Center, Matara.</i>  <i>Charith W. Vithanage, Effective Solutions Pvt. Ltd, Piliyandala.</i></p>
1450 – 1510	<p><b>2017-6.5</b>  <b>Development of a Structure for Damping Characterization Machine by Topology Optimization.</b>  <i>B. G. C. Prabuddha, Sri Lanka Institute of Information Technology.</i>  <i>M. S. M. Perera, Sri Lanka Institute of Information Technology.</i></p>

### SESSION 7: NETWORKS & SECURITY.

Time	Paper
1330 – 1350	<p><b>2017-7.1</b>  <b>Securing Corporate Data in Mobile Devices in a COPE Environment</b>  <i>Chamath Rathnasekara, Sri Lanka Institute of Information Technology.</i>  <i>Tharindu Athukorala, Sri Lanka Institute of Information Technology .</i>  <i>Lahiru Dikwellage, Sri Lanka Institute of Information Technology.</i>  <i>Udith Wickramasuriya, Sri Lanka Institute of Information Technology.</i>  <i>Amila Senarathne, Sri Lanka Institute of Information Technology.</i>  <i>Sandunika Elvitigala, Sri Lanka Institute of Information Technology.</i></p>
1350 – 1410	<p><b>2017-7.2</b>  <b>New Elliptic Curve Cryptographic System over the Finite Fields.</b>  <i>Uthayanathan Priyatharsan, Sri Lanka Institute of Information Technology.</i>  <i>Prabath Lakmal Rupasinghe, Sri Lanka Institute of Information Technology.</i>  <i>Iain Murray, Curtin University.</i></p>
1410 – 1430	<p><b>2017-7.3</b>  <b>Modified Expanding Ring Search in Common: Node Scenario for AODV.</b>  <i>Anuradha Jayakody Sri Lanka Institute of Information Technology.</i>  <i>A. S. Jawadul, Sri Lanka Institute of Information Technology.</i></p>
1430 – 1450	<p><b>2017-7.4</b>  <b>Compromising AODV for Better Performance Improve Energy Efficiency in AODV</b>  <i>Praneeth Paranavithana, Sri Lanka Institute of Information Technology.</i>  <i>Anuradha Jayakody, Sri Lanka Institute of Information Technology.</i></p>
1450 – 1510	<p><b>2017-7.5</b>  <b>Effective use of Network Device State Information for Network Path Selection</b>  <i>Janaka L. Wijekook, Keio University, Japan.</i>  <i>Pradeep K. W. Abeygunawarhana, Sri Lanka Institute of Information Technology.</i></p>

## SESSION 8: SMART SOLUTIONS

Time	Paper
1330 – 1350	<p><b>2017-8.1</b>  <b>Dynamic 3D Model Construction using Architectural House Plans</b>  <i>R. G. N. Ruwanthika, Sri Lanka Institute of Information Technology.</i>  <i>P. A. D. B. M. Amarasekera, Sri Lanka Institute of Information Technology.</i>  <i>R. U. I. B. Chandrasiri, Sri Lanka Institute of Information Technology.</i>  <i>D. M. A. I. Rangana, Sri Lanka Institute of Information Technology.</i>  <i>A. Nugaliyadde, Sri Lanka Institute of Information Technology.</i>  <i>Y. Mallowarachchi, Sri Lanka Institute of Information Technology.</i></p>
1350 – 1410	<p><b>2017-8.2</b>  <b>Peer-to-Peer Distributed Computing Framework</b>  <i>Prashan Dharmapala, Sri Lanka Institute of Information Technology.</i>  <i>Lumeshkantha Koneshvaran, Sri Lanka Institute of Information Technology.</i>  <i>Darshanun Sivasooriyathevan, Sri Lanka Institute of Information Technology.</i>  <i>Imtizam Ismail, Sri Lanka Institute of Information Technology.</i>  <i>Dharshana Kasthurirathna, Sri Lanka Institute of Information Technology.</i></p>
1410 – 1430	<p><b>2017-8.3</b>  <b>E-GEO: Geography Based E-Learning System for Sri Lanka.</b>  <i>P.H.A.S.Rajapaksha, Sri Lanka Institute of Information Technology.</i>  <i>G. K. S. V. Wijenayake, Sri Lanka Institute of Information Technology.</i>  <i>R.Diroshan, Sri Lanka Institute of Information Technology.</i>  <i>M.W.Eranga Harshani, Sri Lanka Institute of Information Technology.</i>  <i>Y. Mallawaarachchi, Sri Lanka Institute of Information Technology.</i>  <i>W.G.A.Ishara Sri Lanka Institute of Information Technology.</i></p>
1430 – 1450	<p><b>2017-8.4</b>  <b>Hardware Implementation of Essential Pre-processing &amp; Morphological Operations in Image Processing</b>  <i>Randika Perera, Sri Lanka Institute of Information Technology.</i>  <i>Swapna Premasiri, Sri Lanka Institute of Information Technology.</i></p>