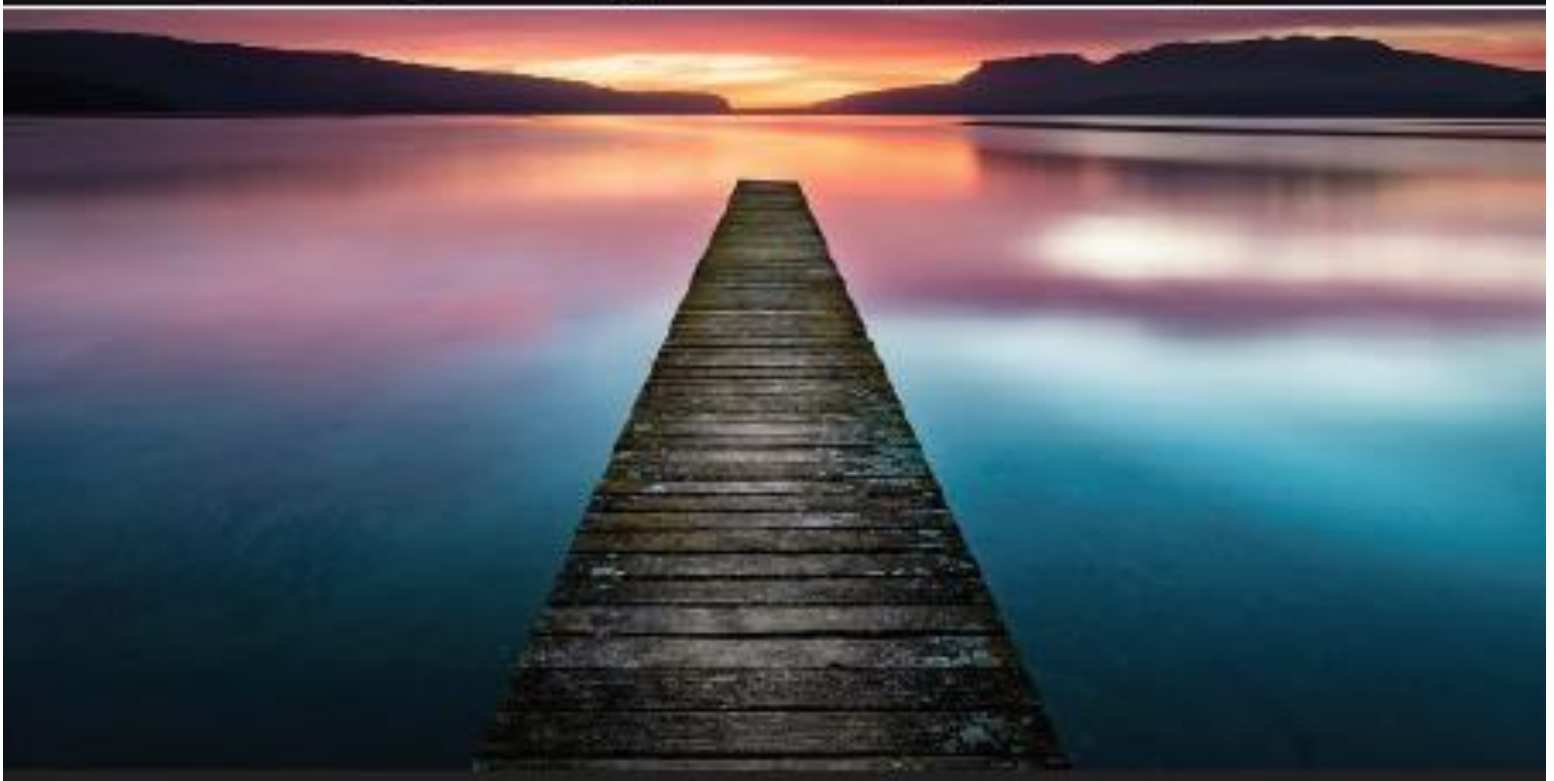
IEEE TRUSTCOM 2019

18th IEEE International Conference On Trust, Security and Privacy in Computing and Communications / 13th IEEE International Conference on Big Data Science and Engineering (TrustCom/BigDataSE)



5 – 8 August 2019

Novotel Lakeside Rotorua
NEW ZEALAND

crow.org.nz/trustcom2019

STRATUS
Retaining Data Control for Users

ODDSU

THE UNIVERSITY OF WAIKATO

IEEE COMPUTER SOCIETY

CONTENTS

CONFERENCE ORGANISERS
ForumPoint2 Conference Partners
PO Box 9466, WMC
Hamilton 3240

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Phone: +64 7 838 1098
Email: paula@fp2.co.nz
Web: www.fp2.co.nz

HEALTH AND SAFETY

The conference managers, ForumPoint2 Limited, in conjunction with the IEEE TrustCom/BigDataSE Organising Committee and venue are morally and legally responsible to provide a safe and healthy environment for all attendees at the conference. This commitment extends to ensuring conference operations do not place the local community at risk of any injury, illness or property damage.

All measures within our ability will be undertaken to ensure attendees are as informed as possible about any potential risks or hazards they may face whilst attending conference. All attendees must:

- Listen to the health and safety briefing onsite and/or read the health and safety document available at the registration desk
- Ensure all health and safety concerns; and all accidents or near accidents are immediately reported to the health and safety officer onsite (see the conference registration desk)

All attendees are encouraged to be responsible for promoting a safe and healthy working environment for the entire duration of the conference.

FIRST AID AND DEFIBRILLATOR

A first aid kit and defibrillator are located in the office behind the Novotel Lakeside Rotorua reception.

In the event emergency medical assistance is required, please call 111 (Police, Fire Service or Ambulance) from the closest phone, hotel reception desk or a mobile phone.

The nearest medical centre and pharmacy to conference is:

- Lake PrimeCare Accident and Urgent Medical Care Centre (includes a Pharmacy)
  1165 Tutanekai Street, Rotorua
  Tel: +64 7 348 1000
  Hours: Monday and Friday: 8.00am – 9.30pm

The nearest hospital is:

- Rotorua Hospital Emergency Department
  Corner Arawa Street and Pukeroa Road, Rotorua
  Tel: +64 7 348 1199
  Hours: 24 hours, 7 days a week

FIRE AND EMERGENCY:

Fire hoses and fire alarm switches must remain visible and accessible to the public at all times.

In the event of fire:

- On the discovery of fire, immediately activate the closes fire alarm and notify the conference organising team (+64 21 027 27073, Vicky Riley, ForumPoint2)
- Upon hearing alarms, STOP WORK, evacuate immediately. Further instructions will be provided by the hotel staff, please follow all directions
- Designated wardens will be on hand to guide you to the nearest emergency evacuation assembly point
- Proceed immediately to your nearest exit as instructed
- Await further instructions or clearance for the wardens for an orderly re-entry

EARTHQUAKE EVACUATION

- Remain in the building
- Move away from any equipment, windows and large furniture
- Take immediate shelter under solid furniture such as tables or desks
- If an evacuation order is given, follow the fire evacuation procedures
- Keep calm and assist those around you

ACCIDENT REPORTING

- All accidents and incidents must be reported immediately to the conference registration desk or Vicky Riley, ForumPoint2, +64 21 027 27073.

TOILETS

- Toilets are at various locations throughout the venue. Please follow signage or ask the hotel reception desk.

SMOKING

- Novotel Lakeside Rotorua is a 100% non-smoking hotel. There is a designated smoking area outside under the sail cover in front of Clarkes Bar. Please look for the sail cover.

WELCOME MESSAGE FROM THE GENERAL CHAIRS (IEEE TRUSTCOM)

As the General Chairs and on behalf of the Organizing Committee of the 18th IEEE International Conference on Trust, Security and Privacy in Computing and Communications / 13th IEEE International Conference on Big Data Science and Engineering (TrustCom/BigDataSE), we would like to express our warmest welcome to all participants that attend the conference and associated workshops/symposia at Rotorua, New Zealand, 5 – 8 August, 2019. Rotorua is world-renowned for its geysers, bubbling mud pools, natural hot springs, adventure sports, and its showcase of the Māori culture. It is also located near other picturesque destinations such as Lake Taupo, Tongariro National Park and the skiing fields at Mount Ruapehu.

We are pleased that the IEEE TrustCom 2019 conference is held in Rotorua this year. A top-ranked conference, IEEE TrustCom 2019 has become a premier international conference in the trust, security and privacy areas, aiming at bringing together researchers and practitioners working on trusted computing and communications to present and discuss emerging ideas and trends in this highly challenging research field. IEEE TrustCom 2019 has attracted many high-quality research papers which highlight the foundational work that strives to push beyond limits of existing and emerging technologies, including experimental efforts, innovative systems, and investigations that identify weaknesses in the existing trust, security and privacy services.

IEEE TrustCom 2019 is sponsored by IEEE, IEEE Computer Society, IEEE Technical Committee on Scalable Computing (TCSC), STRATUS, and the University of Waikato. IEEE TrustCom/BigDataSE 2019 consists of the main conference, the IEEE BigDataSE conference, a (ISC)2 CISSP training workshop, and 4 international workshop/symposia. We are privileged to have Professor Corey Schou from Idaho State University, USA; Dr Silvio Cesare from Infosect, Australia; Dr Daisuke Inoue from NICT, Japan; Curatros' Distinguished Professor Sanjay Madria from Curators' Missouri University of Science and Technology, USA; Dr Jonathan Oliver from Trend Micro, Australia and Associate Professor Joseph Liu from Monash University, Australia, deliver this conference's keynote speeches.

Many individuals have contributed to the success of this high calibre international conference. We would like to express our special appreciation to Professor Guojun Wang and Professor Laurence T. Yang, the Steering Committee Chairs, for giving us this opportunity to hold this prestigious conference and for their guidance on the conference organization.

Special thanks to the Program Chairs, Dr Surya Nepal, Professor Willy Susilo, Dr Chandramouli Ramaswamy, and Prof Yang Xiang, for their outstanding work on the technical program. We would also like to thank all Track Chairs for assisting the Program Chairs with the large number of submissions and ensuring a high-quality and fair review process. Thanks also to the Workshop Chair, Dr Panos Patros, and Journal Special Issue Chairs, Prof Ruili Wang, and Dr Yulei Wu for attracting high quality special issues for the top-ranked papers in this conference. We would like to give our thanks to all the members of the Organising Committee and Program Committee members for their efforts and support. We truly appreciate the efforts of all authors who submitted their papers to the TrustCom 2019 conference and workshops/symposia. We truly hope all the participants find the conference stimulating and constructive and at the same time enjoy the stay in Rotorua.

General Chairs – IEEE TrustCom 2019

Ryan Ko,
University of Queensland
Australia

Liqun Chen,
University of Surrey
UK

Liming Zhu,
CSIRO, Data61
Australia

MESSAGE FROM THE GENERAL CHAIRS (IEEE BIGDATASE)

It is our great pleasure to welcome you to the 13th IEEE International Conference on Big Data Science and Engineering (IEEE BigDataSE 2019), sponsored by IEEE and IEEE Computer Society, and endorsed by IEEE Technical Committee on Scalable Computing (TCSC). This year's BigDataSE is being held in Rotorua - a fantastic city and a tourist hotspot in New Zealand, during 5 - 8 August 2019. IEEE BigDataSE 2019 will provide an international forum for presenting and discussing emerging ideas and trends in Big Data from both of the academia and industry. We hope that this conference will be a highly stimulating event to foster interesting discussions as well as useful interaction between researchers and practitioners of our international research community.

The success of IEEE BigDataSE 2019 is due to the hard work of many people. We would like to express our special appreciation to the Program Chairs of IEEE BigDataSE 2019, Dr Ju Ren from Central South University, China; Dr Shadi Ibrahim from INRIA, France; and Dr Xiaokang Zhou from Shiga University, Japan. They assembled an absolutely outstanding technical program committee that performed rigorous reviews for submitted papers to keep the high quality of accepted papers. The successful delivery of this conference and quality publication in IEEE BigDataSE 2019 conference proceedings have also been due to the incredible efforts of technical program committee members. We would also like to thank Ryan Ko, Paula Armstrong, Vicky Riley, Abigail Koay and Lisa O'Conner for their kind help and coordination throughout the whole conference preparation process.

We are very grateful to the Steering Committee Chairs of IEEE BigDataSE 2019, Dr Laurence T. Yang from St. Francis Xavier University, Canada and Dr Jinjun Chen from Swinburne University, Australia, for their constant support and guidance.

Welcome all again to IEEE BigDataSE 2019 and to Rotorua! Besides participating the conference, we hope you will find time to enjoy the cultural delights of Rotorua.

General Chairs of IEEE BigDataSE 2019

Xuemin (Sherman) Shen,
University of Waterloo
Canada

Yaoxue Zhang,
Central South University
China

Beniamino Di Martino,
University of Campania Luigi Vanvitelli
Italy

GENERAL INFORMATION

REGISTRATION AND INFORMATION DESK

The conference registration desk will be staffed by the ForumPoint2 Conference Partners team – Vicky Riley and Paula Armstrong. If you have any questions about the conference or require local information, please do not hesitate to ask them.

The desk will be open during the following times:

Monday 5 August	7.30am – 6.30pm
Tuesday 6 August	8.30am – 5.10pm
Wednesday 7 August	8.30am – 5.00pm
Thursday 8 August	8.30am – 12.00pm

HELPFUL TELEPHONE NUMBERS

Vicky Riley (ForumPoint2)	+64 21 027 27073
Paula Armstrong (ForumPoint2)	+64 27 649 2081
Novotel Lakeside Rotorua	+64 7 346 3888
Ibis Rotorua	+64 7 346 3999
Rotorua Taxi | Airport Shuttle	0800 500 000 or +64 7 348 111

MEDICAL SERVICES

Lake PrimeCare Accident and Urgent Medical Care Centre +64 7 348 1000
Including Pharmacy
Hours: Monday and Friday: 8.00am – 9.30pm

Rotorua Hospital Emergency Department +64 7 348 1199
Hours: 24 hours, 7 days a week

NAME BADGES

Name badges will be provided to all conference delegates during the onsite registration process. Your name badge is your official entrance pass to conference sessions, daily conference catering and the Welcome Reception, and is a health a safety requirement this **must** always be worn. Please do not be offended if you are asked to wear your name badge. We offer the opportunity to return your name badge to the conference registration desk at the end of the conference for recycling.

CATERING DURING THE CONFERENCE

Morning and afternoon tea during conference will be offered in the Pre-Function area near the conference registration desk. Lunch will be held in the Atlas Restaurant.

SPECIAL REQUIREMENTS, ie DIETARY MOBILITY ETC

If you have advised us of any special dietary requirements during your registration process, these will have been notified to the conference caterers and an alternative option will be available for you. We ask that you please make yourself known to the catering staff. If you have any concerns, contact the team at the conference registration desk.

WATER STATION

Water bottle refilling will be available in the conference catering area.

MOBILE PHONES

During conference sessions, we ask that mobile phones are turned off or switched to silent. Mobile phones should not to be used when sessions are in progress.

INTERNET ACCESS

Internet access is available within the hotel venue. Please see the conference registration desk of the password.

SMOKING

Novotel Lakeside Rotorua is a 100% non-smoking hotel. There is a designated smoking area outside under the sail cover in front of Clarkes Bar. Please look for the sail cover.

PARKING

The hotel offers some off-street parking at no charge, and there is plenty of on street, side street parking available where pay meters must be used. Conference will not refund/pay any parking infringement notices so please ensure you read the meter instructions carefully.

MOBILITY PARKING

Novotel offers some mobility car parking onsite. You must display a current mobility permit within the vehicle is access these parks. If a mobility permit is not displayed, an infringement notice may be issued.

ACCOMMODATION

Standard check-in at Novotel Lakeside Rotorua and Ibis Rotorua is 2.00pm onwards and check-out time is 10.00am. Please ensure any incidental accounts are settled directly with your hotel, in full, prior to your departure. IEEE TrustCom/BigDataSE 2019 and ForumPoint2 Limited are not responsible for any unpaid accounts. Please note, hotels may levy a surcharge on credit card payments.

INSURANCE

Registration fees do not include personal, travel or health insurance of any kind. Neither IEEE TrustCom/BigDataSE 2019, nor ForumPoint2 take any responsibility for attendees failing to take out adequate insurance cover.

DISCLAIMER OF LIABILITY

Whilst we have endeavored to ensure information on the conference website and printed material is accurate, details may be subject to change without notice. Any corrections or amendments will be notified as soon as possible. In the event of industrial disruptions, or service provider failures, IEEE TrustCom/ BigDataSE 2019 and ForumPoint2 will not accept any responsibility for losses incurred by delegates.

Acceptance of oral papers does not indicate endorsement by the conference committee of any product or activity the session may promote. Although care has been taken to ensure accuracy, the conference committee does not accept liability for any errors in published papers.

Any personal/business information supplied to the conference will be used by the conference organisation for the purposes of conference registration and administration. Names and addresses of delegates will be processed electronically and included in a list of delegates that may be posted and distributed during and in conjunction with the conference, unless the delegate has previously opted via the online registration system not to have their information shared. By registering for the conference, delegates give their consent for such uses of their personal and business information.

SESSION INFORMATION

SESSION CHAIRS

Please go to the conference room you are chairing to meet presenters 10 minutes prior to the session you are chairing.

The length of parallel session presentations is restricted to 20 minutes including questions. The authors are strongly advised to keep their oral presentation within 15 minutes and leave 5 minutes for discussion with the audience and change of speaker.

The length of workshop session presentations is restricted to 15 minutes including questions.

Session chairs are kindly asked to closely monitor the timing again the schedule. To ensure smooth running of the conference, please ensure each session starts and finishes at the advertised time.

In case of 'no show', the session must be either suspended until the time the next paper is scheduled or closed if there are no more papers in the session. Please advise the registration desk of any no shows. Under no circumstances is a session to be moved forwarded within the scheduled programme.

PRESENTERS OF PAPERS

It is your responsibility to provide the session chair with a short (up to 50 words) printed biography.

Presentations must be bought to conference on a USB stick in PowerPoint format and loaded in the room you are presenting in within the break prior to your presenting session. A technician/helper will be in the room in the break times to assist with the loading of your presentation. Please return to the conference room in which you are presenting 10 minutes prior to the start of the session to check your presentation, familiarise yourself with the AV set-up and meet the session chair.

You may use your own laptop, please ensure you have the appropriate adapters to converted to PC, no adapters will be provided.

Acceptance of oral papers does not indicate endorsement by the conference committee of any product or activity that the session may promote. Although care has been taken to ensure accuracy, the conference committee does not accept liability for any errors in published papers.

SOCIAL FUNCTIONS

WELCOME RECEPTION

Date: Monday 5 August 2019
Time: 4.45pm to 6.15pm
Venue: Clarke's Bar, Novotel Lakeside Rotorua Hotel

This is a ticketed event and included in the full registration fee. Two non-alcoholic beverages are also included in your full registration fee for you to enjoy during this function. Please exchange the green tickets within your name badge pocket for your beverage.

The Welcome Reception is an opportunity to catch up with friends and likeminded colleagues. Canapés will be served, and a cash bar will be operating for the purchase of further beverages (Visa and Mastercard) accepted.

BANQUET DINNER INCLUDED AWARDS PRESENTATIONS

Date: Wednesday 7 August 2019
Time: 6.00pm to 10.00pm
Venue: Te Puia, Rotorua
Coaches: Depart promptly at 5.45pm. Return transport will leave Te Puia, first coach at 9.30pm and the second and last at 10.00pm.

Te Puia is set amongst the backdrop of Te Whakarewarewa Thermal Valley and the world famous Pōhutu geyser, it offers spectacular and world unique venues and indigenous infused cuisine, all while connecting you to the geothermal landscape and its natural beauty.

The evening will start with a New Zealand Cultural Póhiri followed by a vehicle powered tour of Te Puia. Please ensure you dress warmly for the occasion

This is a ticketed event and included in the full registration fee. Your banquet ticket includes your Te Puia experience, meal, two non-alcoholic drinks and transport.

Please exchange the yellow tickets within your name badge pocket for your beverages. A cash bar will be operating for the purchase of further beverages (Visa and Mastercard) accepted. Please take your banquet drink vouchers with you on the evening (inside your name badge pocket).

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KEYNOTE SPEAKERS

PROFESSOR COREY SCHOU

University Professor, Associate Dean, Director of National Information Assurance Training and Education Center, USA

Corey Schou is a University Professor, Associate Dean, published author, and the director of the National Information Assurance Training and Education Center. He spent ten years serving as the chair of the Colloquium for Information Systems Security Education, a forum he also helped start.

During his time serving as chair, Schou worked to help create an open dialogue between leaders in government, workers in the security industry, and top academic minds to advocate the need for and utilization of information security and information assurance education.

Keynote Presentation
Monday 5 August
9.30am – 10.30am

Cyber Security: Lessons from the Past and what Researchers Should do for the Future

DR SILVIO CESARE

Managing Director, InfoSect, Australia

Silvio Cesare is the Managing Director at specialist training provider, InfoSect (http://infosectcbr.com.au). He has worked in technical roles and been involved in computer security for over 20 years. This period includes time in Silicon Valley in the USA, France, and Australia. He has worked commercially in both defensive and offensive roles within engineering. He was previously the Director for Education and Training at UNSW Canberra Cyber, ensuring quality content and delivery.

Silvio Cesare is also the co-founder of BSides Canberra - Australia's largest cyber security conference. He has a Ph.D. from Deakin University and has published within industry and academia, gone through academic research commercialisation, and authored a book (Software Similarity and Classification, published by Springer).

Keynote Presentation
Monday 5 August
1.40pm – 2.40pm

A Year of Open Source Bug Hunting

In 2003 I presented Open Source Kernel Auditing at the Black Hat Briefings. The presentation examined dozens of bugs in FreeBSD, NetBSD, OpenBSD, and Linux. Fast forward to the present day and I've gone back over those Open Source kernels and other code, to see the state of code quality and to see how easy or hard it is to find bugs.

In summary, security-sensitive bugs can still be found in open source code and OS kernels.

I'll talk about some of the dozens of memory-related and other bugs and bug classes I've found over the past year. Examples include memory corruption in several Linux networked file systems, a direct kernel object reference (pointer) being passed around the network in NetBSD, and local memory disclosures and corruptions in a variety of Operating Systems. Bug hunting took place with manual code review, grep, and the the Coccinelle program matching tool. Coccinelle allowed bug patterns to be templated and then applied across entire OS kernels to find new instances of bugs.

The takeaway of this presentation is that bug hunting using code review is an activity that finds numerous bugs in modern software.

DR DAISUKE INOUE

Director of Cybersecurity Laboratory, Yokohama National University, Japan

Daisuke Inoue received his Ph.D. degree in engineering from Yokohama National University in 2003. After completing the Ph.D., he joined National Institute of Information and Communications Technology (NICT), where he is currently the director of Cybersecurity Laboratory. His research interests include network security, malware analysis and security visualization. Daisuke received several awards including the Good Design Award 2013, and the distinguished paper award at the Network and Distributed System Security Symposium (NDSS), in 2019.

Keynote Presentation
Tuesday 6 August
9.00am – 10.00am

Terrible but Beautiful: Cybersecurity Visualizations

Cyberattacks are not easy to understand due to their invisible nature. Therefore, enormous efforts have been made to effectively visualize the attacks for a long time. The talk will present state-of-the art Cybersecurity visualization engines including a large-scale darknet monitoring system “NICTER”, a darknet-based alert system “DAEDALUS”, an integrated security platform against APT “NIRVANA KAI”, a vulnerability management platform “NIRVANA KAI-II”, and a Cybersecurity universal repository “CURE”. All the real-time Cyberattack visualizations are sometimes terribly massive but looking beautiful.

CURATORS' DISTINGUISHED PROFESSOR SANJAY MADRIA

Curators' Distinguished Professor, Department of Computer Science at the Missouri University of Science and Technology, USA

Sanjay K Madria is a Curators' Distinguished Professor in the Department of Computer Science at the Missouri University of Science and Technology (formerly, University of Missouri-Rolla, USA). He received his Ph.D. in Computer Science from Indian Institute of Technology, Delhi, India in 1995.

Sanjay has published over 250 Journal and conference papers in the areas of mobile and sensor computing, cloud and cyber security. He won five IEEE best papers awards in conferences such as IEEE MDM 2011, IEEE MDM 2012 and IEEE SRDS 2015. Sanjay is a co-author of a book on Secure Sensor Cloud published by Morgan and Claypool in Dec. 2018. He has served/serving in International conferences as a general co-chair, pc co-chair, and steering committee members, and presented tutorials/talks in the areas of secure sensor cloud, cloud computing, etc. NSF, NIST, ARL, ARO, AFRL, DOE, Boeing, ORNL, Honeywell, etc. have funded his research projects. Sanjoy was awarded JSPS (Japanese Society for Promotion of Science) invitational visiting scientist fellowship in 2006, and ASEE (American Society of Engineering Education) fellowship from 2008 to 2018. In 2012 and in 2018, he was awarded NRC Fellowship by National Academies. He received research faculty excellence awards six times from his university. He is ACM Distinguished Scientist, and served/serving as an ACM and IEEE Distinguished Speaker, and is an IEEE Senior Member as well as IEEE Golden Core Awardee.

Keynote Presentation
Tuesday 6 August
1.00pm – 2.00pm

Secure Sensor Cloud

The sensor-cloud is a new paradigm for computing over wireless sensor networks. It is a multi-user on-demand sensory system, where computing, sensing, and wireless network resources are shared among applications such as environment monitoring, disaster and battlefield monitoring, cyber-physical system management, and social networking. The sensor-cloud abstracts different sensor computing platforms of the physical devices hence giving the impression of a homogeneous network, and thus, a variety of multi-sensing activities for multiple missions can be simultaneously performed which can greatly enhance the usability of different devices and networks. The security of sensor-cloud computing is indispensable due to inherent challenges with the integration of wireless networks with different ownerships, and users running on-demand applications. In this talk, I will discuss sensor cloud security and privacy issues and solutions for secure sensor data collection, attribute-based access control, and risk assessment to estimate the likelihood and impact of attacks. I will then discuss how sensor cloud can be extended to IoT and the new security and privacy issues which arise there.

DR JONATHAN OLIVER

Director and Senior Data Scientist, TrendMicro, Australia

Jonathan Oliver is a data scientist with over 25 years experience in industry and academia. For the last 13 years, he has worked at TrendMicro as director and senior data scientist.

During his time at TrendMicro, he has led and worked on many machine learning projects including inventing TLSH, the development of the antispam engine, web filtering technologies and machine learning for malware detection. Prior to joining Trend Micro, he served as Chief Spam Fighter at Mailfrontier.

Jonathan completed his PhD and postdoctoral research at Monash University, and is an inventor on over 100 software patents

Keynote Presentation
Wednesday 7 August
9.00am – 10.00am

On the Role of Machine Learning and AI in Security Solutions

For many years, academics have researched and advocated machine learning approaches for security, and recently these approaches have been adopted by vendors. However, the majority of solutions, whether AI-based or traditional security are bottom up. Traditional solutions often start by reverse engineer samples and identifying a 'signature' that characterizes the samples we need to detect. Machine Learning techniques use features to detect malicious samples. All too often, these solutions are a black box: they specify that a sample is bad without explanation. This presentation gives a top down perspective on malware and legitimate files and present a demonstration hierarchical clustering of 5 million files. We consider a few types of malware: file infectors, polymorphic malware and malware created with a software development environment. This study shows that security solutions (both traditional or AI-based) are made more effective by offering users explanation or a high-level perspective on the threats encountered.

ASSOCIATE PROFESSOR JOSEPH LIU

Associate Professor in the Faculty of Information Technology, Monash University, Australia

Joseph Liu is an Associate Professor in the Faculty of Information Technology, Monash University. He got his PhD from the Chinese University of Hong Kong at 2004. Prior to joining Monash at 2015, he has worked as a research scientist at Institute for Infocomm Research (I2R) in Singapore for more than 7 years. His research areas include cyber security, blockchain, IoT security, applied cryptography and privacy enhanced technology. He has received more than 5700 citations and his H-index is 43, with more than 170 publications in top venues such as CRYPTO, ACM CCS.

Joseph is currently the lead of the Monash Cyber Security Group. He has established the Monash Blockchain Technology Centre at 2019 and serves as the founding director. His remarkable research in linkable ring signature forms the theory basis of Monero (XMR), one of the largest cryptocurrencies in the world. He has been given the Dean's Award for Excellence in Research Impact in 2018, and the prestigious ICT Researcher of the Year 2018 Award by the Australian Computer Society (ACS), the largest professional body in Australia representing the ICT sector, for his contribution to the blockchain and cyber security community.

Keynote Presentation
Wednesday 7 August
12.50pm – 1.50pm

A Blockchain-Enabled Society

In this talk, I will cover the basic applications of blockchain, in particular for fintech, supply chain and food safety area. I will discuss the blockchain technology behind these applications and will further discuss the use cases in Australia.

PROGRAMME Monday 5 August 2019

Disclaimer: The organisers reserves the right to alter or delete items from the conference programme

7.30am	**Registration Opens** *Venue: Rutherford Pre-Function Area*		
9.00am – 10.30am	**Conference Opening and Plenary Session 1** *Venue: Rutherford Room* *Chair: Ryan Ko*		
9.00am – 9.30am	**Mihi Whakatau and Conference Opening**		
9.30am – 10.30am	Cyber Security: Lessons from the Past and what Researchers Should do for the Future ***Corey Schou***		
10.30am – 11.00am	**Morning Tea** *Venue: Rutherford Pre-Function Area*		
	Parallel Sessions		
	Parallel Session 1A: **Security** *Venue: Rutherford Room* *Chair: Sanjay Madria*	**Parallel Session 1B:** **Privacy** *Venue: Seddon Room* *Chair: Abigail Koay*	**Parallel Session 1C:** **Trust** *Venue: Stafford Room* *Chair: Miroslaw Kutylowski*
11.00pm – 11.20am	Power-Grid Controller Anomaly Detection with Enhanced Temporal Deep Learning *Zecheng He, Aswin Raghavan, Guangyuan Hu, Sek Chai,* ***Ruby Lee***	HSDC – Net: Secure Anonymous Messaging in Online Social Networks *Mohammad Reza Nosouhi, Shui Yu,* ***Keshav Sood****, Marthie Grobler*	Building Trust in Container Environment *Yunlong Guo, Aimin Yu, Xiaoli Gong, Lixin Zhao, Lijun Cai, Dan Meng (Presenting by video)*
11.20am – 11.40am	The Deviation Attack: A Novel Denial-of-Service Attack Against IKEv2 ***Tristan Ninet****, Axel Legay, Romaric Maillard, Louis-Marie Traonouez, Olivier Zendra*	Automatic Anonymization of Textual Documents: Detecting Sensitive Information via Word Embeddings ***Fadi Hassan****, David Sánchez, Jordi Soria-Comas, Josep Domingo-Ferrer*	Trustworthy Privacy-Preserving Service Compositions ***Kevin Theuermann***
11.40am – 12.00pm	AVOCAD: Adaptive Terrorist Comms Surveillance and Interception using Machine Learning *Ahmad Azab,* ***Omaru Maruatona****, Paul Watters*	A Generic Information and Consent Framework for the IoT *Mathieu Cunche, Daniel Le Métayer,* ***Victor Morel***	A Unified Measurable Software Trustworthy Model based on Vulnerability Loss Speed Index *Gul Jabeen, Luo Ping (Presenting by video)*
12.00pm – 12.20pm	Malware Detection with Malware Images using Deep Learning Techniques ***Ke He****, Dong-Seong Kim*	Poisoning Attack in Federated Learning Using Generative Adversarial Nets ***Jiale Zhang****, Junjun Chen, Di Wu, Bing Chen, Shui Yu*	MicroTEE: Designing TEE OS Based on the Microkernel Architecture ***Dongxu Ji****, Qianying Zhang, Shijun Zhao, Zhiping Shi, Yong Guan*
12.20pm – 12.40pm		Trustworthy Distributed Computations on Personal Data Using Trusted Execution Environments ***Riad Ladjel****, Nicolas Anciaux, Philippe Pucheral, Guillaume Scerri*	Trust and Reputation in Vehicular Networks: A Smart Contract-Based Approach ***Nisha Malik****, Priyadarsi Nanda, Xiangjian He, Ren Ping Liu*

12.40pm – 1.40pm	**Lunch and Exhibition** *Venue: Atlas Restaurant, Novotel Lakeside Rotorua*		
1.40pm – 2.40pm	**Plenary Session 2** *Venue: Rutherford Room* *Chair: Joseph Liu*		
1.40pm – 2.40pm	A Year of Open Source Bug Hunting ***Silvio Cesare***		
2.40pm – 3.10pm	**Afternoon Tea** *Venue: Rutherford Pre-Function Area*		
	Parallel Session 2A: **Security** *Venue: Rutherford Room* *Chair: Keshav Sood*	**Parallel Session 2B:** **Privacy** *Venue: Seddon Room* *Chair: Miroslaw Kutylowski*	**Parallel Session 2C:** **Trust** *Venue: Stafford Room* *Chair: Peter Robinson*
3.10pm – 3.30pm	IoT Device Identification via Network-Flow Based Fingerprinting and Learning ***Salma Abdalla Hamad****, Wei Emma Zhang, Quan Z. Sheng, Surya Nepal*	Non-Interactive Implementation of QR Decomposition in Homomorphic Encrypted Domain *Yonghong Zhang, Peijia Zheng,* ***Weiqi Luo***	Optimal File Dissemination Scheduling Under a General Binary Tree of Trust Relationship *Yun-Pin Tien, Wei-Chen Lin, Jan-Ming Ho,* ***Wing-Kai Hon***
3.30pm – 4.00pm	Phishing URL Detection via CNN and Attention-Based Hierarchical RNN ***Yongjie Huang****, Qiping Yang, Jinghui Qin, Wushao Wen*	A Robust Watermarking Scheme on the Format-Complaint Encrypted JPEG Bitstream *Wenhao Chen,* ***Peijia Zheng****, Bohang Zeng*	Horcruxes for Everyone - A Framework for Key-Loss Recovery by Splitting Trust ***Felix Hörandner****, Christof Rabensteiner*
4.00pm – 4.20pm	Continuous Authentication of Embedded Software ***Karl Ott****, Rabi Mahapatra*		HyperMI: A Privilege-level Secure Execution Environment for VM Protection Against Compromised Hypervisor *Wenqing Liu, Bibo Tu,* ***Kunli Lin****, Kun Zhang*
4.20pm – 4.40pm	CCGA: Clustering and Capturing Group Activities for DGA-Based Botnets Detection ***Zhicheng Liu****, Xiaochun Yun, Yongzheng Zhang Yipeng Wang*		
4.45pm – 6.15pm	**Welcome Reception** *Venue: Clarkes Bar, Novotel Lakeside Rotorua* *A cash bar will be operating, cash, Visa and Mastercard accepted*		

PROGRAMME Tuesday 6 August 2019			
8.30am	**Registration Opens** *Venue: Rutherford Pre-Function Area*		
9.00am – 10.00am	**Plenary Session 3** *Venue: Rutherford Room* *Chair: Liqun Chen*		
9.00am – 10.00am	Terrible but Beautiful: Cybersecurity Visualizations ***Daisuke Inoue***		
10.00am – 10.30am	**Morning Tea** *Venue: Rutherford Pre-Function Area*		
	Parallel Sessions		
	Parallel Session 3A: **Security** *Venue: Rutherford Room* *Chair: Ranul Thantilage*	**Parallel Session 3B:** **Emerging Technologies** *Venue: Seddon Room* *Chair: Junbin Fang*	**Parallel Session 3C:** **Forensics and Analytics** *Venue: Stafford Room* *Chair: Alastair Nisbet*
10.30am – 10.50am	Real-Time Detection of Malware Activities by Analyzing Darknet Traffic Using Graphical Lasso ***Chansu Han**, Jumpei Shimamura, Takeshi Takahashi, Daisuke Inoue, Masanori Kawakita, Jun'Ichi Takeuchi, Koji Nakao*	A Secure and Practical Blockchain Scheme for IoT ***Hongyang Liu**, Feng Shen, Zhiqiang Liu, Yu Long, Zhen Liu, Shifeng Sun, Shuyang Tang, Dawu Gu*	Evolved Similarity Techniques in Malware Analysis ***Paul Black**, Iqbal Gondal, Peter Vamplew, Arun Lakhotia*
10.50am – 11.10am	A Worst-Case Entropy Estimation of Oscillator-Based Entropy Sources: When the Adversaries Have Access to the History Outputs ***Shaofeng Zhu**, Hua Chen, Wei Xi, Limin Fan, Meihui Chen, Dengguo Feng*	AgentChain: A Decentralized Cross-Chain Exchange System ***Dawei Li**, Jianwei Liu, Zongxun Tang, Qianhong Wu, Zhenyu Guan*	A Robust and Reversible Watermarking Technique for Relational Dataset Based on Clustering ***Heyan Chai**, Shuqiang Yang, Zoe Lin Jiang, Xuan Wang*
11.10am – 11.30am	When Are Opaque Predicates Useful ***Lukas Zobernig**, Steven D. Galbraith, Giovanni Russello*	Tackling Data Inefficiency: Compressing the Bitcoin Blockchain ***Alexander Marsalek**, Thomas Zefferer, Edona Fasllija, Dominik Ziegler*	TRIM, Wear Levelling and Garbage Collection on Solid State Drives: A Prediction Model for Forensic Investigators *Rijo Jacob, **Alastair Nisbet***
11.30am – 11.50am	An Ant Colony Algorithm Based Content Poisoning Mitigation in Named Data Networking ***Wenjing Cui**, Yang Li, Yan Zhang, Chang Liu, Mengqi Zhan*	Evaluating DAG-Based Blockchains for IoT *Liangrong Zhao, **Jiangshan Yu***	TwinPorter – An Architecture for Enabling the Live Migration of VMI-Based Monitored Virtual Machines ***Benjamin Taubmann**, Alexander Böhm, Hans P. Reiser*
11.50am – 12.10pm	A Heuristic Method for Network Modification against Cyber Epidemic Attacks ***Dingyu Yan**, Feng Liu*	Making Monero Hard-to-Trace and More Efficient ***Qingyi Liu**, Zhen Liu, Yu Long, Zhiqiang Liu, Zhimei Sui, Shifeng Sun, Shuyang Tang, Dawu Gu*	

12.10pm – 1.00pm	**Lunch** *Venue: Atlas Restaurant, Novotel Rotorua Lakeside*		
1.00pm – 2.00pm	**Plenary Session 4** *Venue: Rutherford Room* *Chair: Liqun Chen*		
1.00pm – 2.00pm	Secure Sensor Cloud ***Sanjay Madria***		
	Parallel Sessions		
	Parallel Session 4A: **Security** *Venue: Rutherford Room* *Chair: Dilli Sharma*	**Parallel Session 4B** **Emerging Technologies: Lightweight Security** *Venue: Seddon Room* *Chair: Zoe L. Jiang*	**Parallel Session 4C:** **Forensics and Analytics** *Venue: Stafford Room* *Chair: Dong Seong Kim*
2.05pm – 2.25pm	Tracking Sensitive Information and Operations in Integrated Clinical Environment ***Zhangtan Li**, Liang Cheng, Yang Zhang*	PIT: A Probe into Internet of Things by Comprehensive Security Analysis ***Vinay Sachidananda**, Suhas Kala Bhairav Setikere Sreedhara Murthy, Nirnay Ghosh, Yuval Elovici*	Defeating Fake Food Labels Using Watermarking and Biosequence Analysis *Vijay Naidu, **Manoranjan Mohanty***
2.25pm – 2.45pm	Distributed Quantitative Information Flow Evaluation for Service Composition in Clouds ***Ning Xi**, Cong Sun, Jianfeng Ma, Jing Lv*	A Probability Prediction Based Mutable Control-Flow Attestation Scheme on Embedded Platform *Jianxing Hu, **Dongdong Huo**, Meilin Wang, Yazhe Wang, Yan Zhang, Yu Li*	Finding Rats in Cats: Detecting Stealthy Attacks using Group Anomaly Detection ***Aditya Kuppa**, Slawomir Grzonkowski, Muhammad Rizwan Asghar, Nhien An Lekhac*
2.45pm – 3.05pm	A Topic-Based Unsupervised-Learning Approach for Online Underground Market Exploration ***Shin-Ying Huang**, Tao Ban*	An Adaptive Physical Layer Key Extraction Scheme for Smart Homes ***Zhao Hong**, Yuexin Zhang, Xinyi Huang, Yang Xiang*	Learning Wear Patterns on Footwear Outsoles using Convolutional Neural Networks ***Xavier Francis**, Hamid Sharifzadeh, Angus Newton, Nilufar Baghaei, Soheil Varastehpour*
3.05pm – 3.20pm	The Weakest Link of Certificate Transparency: Exploring the TLS/HTTPS Configurations of Third-Party Monitors *Bingyu Li, Dawei Chu, **Jingqiang Lin**, Quanwei Cai, Congli Wang, Lingjia Meng*	A Logic for Secure Stratified Systems and its Application to Containerized Systems ***Hagen Lauer**, Amin Sakzad, Carsten Rudolph, Surya Nepal*	**Security** *Venue: Stafford Room* *Chair: **Haichang Gao***
			A Survey of Research on CAPTCHA Designing and Breaking Techniques *Yang Zhang, **Haichang Gao**, Ge Pei, Sainan Luo, Guoqin Chang, Nuo Cheng*
3.20pm – 3.50pm	**Afternoon Tea** *Venue: Rutherford Pre-Function Area*		

	Parallel Sessions		
	Parallel Session 5A: **Security** *Venue: Rutherford Room* *Chair: Mohammad Rashid*	**Parallel Session 5B** **Emerging Technologies** *Venue: Seddon Room* *Chair: Ahmad Salehi Shahraki*	**Parallel Session 5C** **Forensics and Analytics** *Venue: Stafford Room* *Chair: Manoranjan Mohanty*
3.50pm – 4.10pm	Hybrid Logical Clocks for Database Forensics: Filling the Gap Between Chain of Custody and Database Auditing ***Denys A. Flores**, Arshad Jhumka*	A Correctable Public Blockchain ***Alexander Marsalek**, Thomas Zefferer*	Anomaly Detection in Network Traffic Using Dynamic Graph Mining with a Sparse Autoencoder ***Guanbo Jia**, Paul Miller, Harsha Kalutarage, Xin Hong, **Tao Ban***
4.10pm – 4.30pm	MURITE-Detector: Identifying User - Role in Information Theft Events of Mobile Network ***Zhenyu Cheng**, Xunxun Chen, Yongzheng Zhang, Shuhao Li, Jian Xu*	MedBloc: A Blockchain - Based Secure EHR System for Sharing and Accessing Medical Data *Jack Huang, **Yuan Wei Qi**, Muhammad Rizwan Asghar, Andrew Meads, Yu-Cheng Tu*	Characterizing the Limitations of Forensic Event Reconstruction Based on Log Files ***Tobias Latzo**, Felix Freiling*
4.30pm – 4.50pm	AIMED: Evolving Malware with Genetic Programming to Evade Detection ***Raphael Labaca Castro**, Corinna Schmitt, Gabi Dreo Rodosek*	A Secure Decentralized Trustless E-Voting System Based on Smart Contract *Jiazhuo Lyu, **Zoe L. Jiang**, Xuan Wang, Zhenhao Nong, Man Ho Au, **Junbin Fang***	Framework for the Retrieval of Social Media and Instant Messaging Evidence from Volatile Memory ***Ranul Thantilage**, Nhien An Le Khac*
4.50pm – 5.10pm	FIoT: Detecting the Memory Corruption in Lightweight IoT Device Firmware *Lipeng Zhu, Xiaotong Fu, Yao Yao, **Yuqing Zhang**, He Wang*	(Linkable) Ring Signature from Hash-Then-One-Way Signature ***Xingye Lu**, Man Ho Au, Zhenfei Zhang*	**Security** *Venue: Stafford Room* *Chair: Yepeng Yao* STDeepGraph: Spatial-Temporal Deep Learning on Communication Graphs for Long-Term Network Attack Detection ***Yepeng Yao**, Liya Su, Zhigang Lu, Baoxu Liu*
	Free Evening – Attendees' Own Arrangements		

PROGRAMME Wednesday 7 August 2019			
8.30am	**Registration Opens** *Venue: Rutherford Pre-Function Area*		
9.00am – 10.00am	**Plenary Session 5** *Venue: Rutherford Room* *Chair: Joseph Liu*		
9.00am – 10.00am	On the Role of Machine Learning and AI in Security Solutions ***Jonathan Oliver***		
10.00am – 10.30am	**Morning Tea** *Venue: Rutherford Pre-Function Area*		
	Parallel Sessions		
	Parallel Session 6A **Security** *Venue: Rutherford Room* *Chair: Raphael Labaca Castro*	**Parallel Session 6B:** **Emerging Technologies** *Venue: Seddon Room* *Chair: Hagen Lauer*	**Parallel Session 6C** **BigDataSE-Security and Computing Technologies** *Venue: Seddon Room* *Chair: Yu Cheng*
10.30am – 10.50am	A Signature-Based Assistant Random Oversampling Method for Malware Detection *Ying Pang, **Zhenxiang Chen**, Lizhi Peng, Kun Ma, Chuan Zhao, Ke Ji*	Constructing Strong Designated Verifier Signatures from Key Encapsulation Mechanisms ***Borui Gong**, Man Ho Au, Haiyang Xue*	A Cooperative Edge Computing Scheme for Reducing the Cost of Transferring Big Data in 5G Networks *Bo Yin, **Yu Cheng**, Lin X. Cai, Xianghui Cao*
10.50am – 11.10am	A Security Framework for IoT Authentication and Authorization Based on Blockchain Technology *Mohammad Rashid, **Houshyar Honar Pajooh***	CloudSafe: A Tool for an Automated Security Analysis for Cloud Computing *Seongmo An, Taehoon Eom, Jong-Sou Park, Jin B. Hong, Armstrong Nhlabatsi, Noora Fetais, Khaled Khan, **Dong Seong Kim***	A Secure Private Charging Piles Sharing Scheme with Electric Vehicles in Energy Blockchain *Yuntao Wang, **Zhou Su**, Kuan Zhang*
11.10am – 11.30am	Selective Adversarial Learning for Mobile Malware ***Mahbub E Khoda**, Tasadduq Imam, Joarder Kamruzzaman, Iqbal Gondal, Ashfaqur Rahman*	PURE: Generating Quality Threat Intelligence by Clustering and Correlating OSINT *Rui Azevedo, **Ibéria Medeiros**, Alysson Bessani*	A Differential Privacy-Based Protecting Data Preprocessing Method for Big Data Mining ***Ran Mo**, Jianfeng Liu, Wentao Yu, Fu Jiang, Xin Gu, Xiaoshuai Zhao, Weirong Liu, Jun Peng*
11.30am – 11.50am	Credit Card Fraud Detection in e-Commerce *Utkarsh Porwal, Smruthi Mukund **(Presented by Manojkumar Rangasamy Kannadasan)***	A Password Typo-tolerant Scheme with Targeted Error Correction ***Xin Chen**, Xinyi Huang, Yi Mu, Ding Wang*	Feature Extraction Optimization for Bitstream Communication Protocol Format Reverse Analysis ***Xinhong Hei**, Binbin Bai, Yichuan Wang, Li Zhang, Lei Zhu, Wenjiang Ji*
11.50am – 12.50pm	**Lunch** *Venue: Atlas Restaurant, Novotel Rotorua Lakeside*		

12.50pm – 1.50pm	**Plenary Session 6** *Venue: Rutherford Room* *Chair: Ryan Ko*		
12.50pm – 1.50pm	A Blockchain-Enabled Society ***Joseph Liu***		
	Parallel Sessions		
	Parallel Session 7A **Security** *Chair: Rutherford Room* *Chair: Manojkumar Rangasamy Kannadasan*	**Parallel Session 7B** **Workshops – Matters of Trust, Privacy and Security** *Venue: Seddon Room* *Chair: Michael Dizon*	**Parallel Session 7C** **BigDataSE-Data Mining** *Venue: Stafford Room* *Chair: Xinhong Hei*
1.50pm – 2.10pm	Security and Performance Assessment of IP Multiplexing Moving Target Defence in Software Defined Networks *Cole Dishington,* ***Dilli Sharma****, Dong Seong Kim, Jin-Hee Cho, Terrence Moore, Frederica Nelson*	Presentation on the Values of Encryption in New Zealand	Diffusion Convolutional Recurrent Neural Network with Rank Influence Learning for Traffic Forecasting *Yujun Huang,* ***Yunpeng Weng****, Shuai Yu, Xu Chen*
2.10pm – 2.30pm	Deep Android Malware Classification with API - Based Feature Graph *Na Huang, Ming Xu, Ning Zheng, Tong Qiao, Kwang Raymond Choo* ***(Presented by Dongxu Ji)***		An Object-Pair Driven Approach for Top-k mCK Query Problem by Using Hilbert R-Tree ***Yuan Qiu,*** *Xinhong Hei, Tadashi Ohmori, Hideyuki Fujita*
2.30pm – 2.50pm	Context-Aware Authentication using Co-located Devices ***Hidehito Gomi****, Shuji Yamaguchi, Wataru Ogami, Teruhiko Teraok, Tatsuru Higurashi*	2.40pm - 3.10pm Q&A Session	A Remaining Useful Life Prediction Method with Automatic Feature Extraction for Aircraft Engines *Kunyuan Deng, Xiaoyong Zhang, Yijun Cheng, Zhiyong Zheng, Fu Jiang,* ***Weirong Liu,*** *Jun Peng*
2.50pm – 3.10pm	When Graph Kernel Meets Deep Neural Network: A Case Study for Network Attack Detection *Yepeng Yao,* ***Liya Su****, Zhigang Lu, Baoxu Liu*		Identifying High Value Users in Twitter Based on Text Mining Approaches *Yibing Yang,* ***Omair Shafiq***
3.10pm – 3.40pm	**Afternoon Tea** *Venue: Rutherford Pre-Function Area*		

<table>
<tr><td></td><td colspan="3">Parallel Sessions</td></tr>
<tr><td></td><td>Parallel Session 8A
Security
Venue: Rutherford Room
Chair: Ranul Thantilage</td><td>Workshop Session 8B
Workshop – SECSOC
Venue: Seddon Room
Chair: Abigail Koay</td><td>Parallel Session 8C
BigDataSE-Deep Learning
Venue: Stafford Room
Chair: Weirong Liu</td></tr>
<tr><td>3.40pm – 4.00pm</td><td>Thermal Covert Channels Leveraging Package-On-Package DRAM
Shuai Chen, Wenjie Xiong, Yehan Xu, Bing Li, Jakub Szefer</td><td>3.40pm – 3.55pm
One-Shot Malware Outbreak Detection Using Spatio - Temporal Isomorphic Dynamic Features
Sean Park, Iqbal Gondal, Joarder Kamruzzaman, Leo Zhang</td><td>ZSAL: Zero Shot Augmentation Learning for Medical Imaging
Tao Luo, Kehua Guo, Yan He</td></tr>
<tr><td>4.00pm – 4.20pm</td><td>Continuous Authorization in Subject - Driven Data Sharing Using Wearable Devices
Mohammad Jabed Morshed Chowdhury, Alan Colman, Ashad Kabir, Jun Han, Paul Sarda</td><td>3.55pm – 4.10pm
A Multi-Channel Visualization Method for Malware Classification Based on Deep Learning
Yanchen Qiao, Qingshan Jiang,
(Presented by Kunli Lin)</td><td>DPNN-CNN: A Novel Approach for Network Traffic Classification Using Deep Learning
Kai Gao, Jing Cai, Zheng Yao, Pingping Dong, Jingyun Xie, Fu Jiang, Shuo Li</td></tr>
<tr><td rowspan="2">4.20pm – 4.40pm</td><td rowspan="2">A Secure User - Centric Framework for Dynamic Service Provisioning in IoT Environments
Amartya Sen, Kenneth Fletcher,
Sanjay Madria</td><td>4.10pm – 4.25pm
Privacy and Security Analysis of PACE GM Protocol
Miroslaw Kutylowski, Przemysław Kubiak</td><td>Lightweight Deep Learning Model for Facial Expression Recognition
Laha Ale, Xiaojie Fang, Dajiang Chen, Ning Zhang, Ye Wang</td></tr>
<tr><td>4.25pm – 4.40pm
Automatic Device Selection and Access Policy Generation Based on user Preference for IoT Activity Workflow
Mohammed Alshaboti, Aaron Chen, Ian Welch</td><td>Emerging Technologies - Models
Venue: Stafford Room
Chair: Man Ho Au
A Dynamic Access Control Policy Model for Sharing of Healthcare Data in Multiple Domains
Ahmad Salehi Shahraki, Carsten Rudolph, Marthie Grobler</td></tr>
<tr><td>4.40pm – 5.00pm</td><td>Laughter in the Wild: A Study into DoS Vulnerabilities in YAML Libraries
Shawn Rasheed, Jens Dietrich, Amjed Tahir</td><td>4.40pm – 4.55pm
Measuring Trustworthiness of IoT Image Sensor Data Using Other Sensors' Complementary Multimodal Data
Mohammad Manzurul Islam, Gour Karmakar, Joarder Kamruzzaman, Manzur Murshed
(Presented by Mahbub E Khoda)</td><td>Security and Performance Modelling and Optimization for Software Defined Networking
Taehoon Eom, Jin B. Hong, Seongmo An, Jong-Sou Park, Dong Seong Kim</td></tr>
<tr><td>5.40pm – 10.00pm</td><td colspan="3">Conference Banquet
Venue: Te Puia, Rotorua
Dress: For warmth with layers, you will be outside for approx. 1hour 30 minutes
Coaches depart from the Novotel at 5.40pm, Returning at 9.30pm and final coach at 10.00pm
Dinner and limited beverages. A cash bar will be operating, cash, Visa and Mastercard accepted</td></tr>
</table>

PROGRAMME Thursday 8 August 2019			
8.30am	**Registration Opens** *Venue: Rutherford Pre-Function Area*		
9.00am – 10.30am	**Parallel Sessions**		
	Workshop Session 9A **Workshop - SECSOC** *Venue: Rutherford Room* *Chair: Zhinyuan (Thomas) Tan*	**Workshop Session 9B** **Workshop - SST - ITS** *Venue: Seddon Room* *Chair: Alireza Jolfaei*	**Workshop Session 9C** **Workshop - DSPFT** *Venue: Stafford Room* *Chair: Peter Robinson*
9.00am – 9.15am	Hierarchy Feature Learning for Face Recognition ***Jiwei Zhang**, Xiaodan Yan*	Differentially Private Streaming to Untrusted Edge Servers in Intelligent Transportation System *Soheila Ghane, **Alireza Jolfaei**, Lars Kulik, Ramamohanarao Kotagiri*	Anonymous State Pinning for Private Blockchains ***Peter Robinson***
9.15am – 9.30am	Access Control Architecture for Smart City IoT Platform ***Takayuki Sasaki**, Yusuke Morita, Astha Jada*	Trusted Autonomous Vehicle: Measuring Trust Using On-Board Unit Data ***Abdullahi Chowdhury**, Gour Karmakar, Joarder Kamruzzaman*	Joint RSS and CSI based Access Point Authentication Scheme in WiFi Networks via XGBoost ***Di Wu**, Dali Zhu, Yinlong Liu, Luping Ma*
9.30am – 9.45am	A LSTM-Based Method for Comprehension and Evaluation of Network Security Situation ***Shixuan Li**, Dongmei Zhao*	Secure Data Streaming to Untrusted Road Side Units in Intelligent Transportation System *Alireza Jolfaei, **Krishna Kant,** Hassan Shafei*	On the Effectiveness of Electric Network Frequency as a Source of Randomness ***Girish Revadigar**, Chitra Javali, Yang Li, Sreejaya Viswanathan*
9.45am – 10.00am	A Security Analysis of Collaboration Network Based on Blockchain *Peng Li, **Ying Zheng***	Protecting Code Injection Attacks in Intelligent Transportation System ***Rafiqul Islam**, Hussein Alnabuls*	Lock Picking in the Era of Internet of Things *Edward Knight, Samuel Lord, **Budi Arief***
10.00am – 10.30am	**Morning Tea** *Venue: Rutherford Pre-Function Area*		

10.00am – 10.30am	**Parallel Sessions**	
	Workshop Session 10A **Workshop – SECSOC / SST-ITS** *Venue: Rutherford Room* *Chair: Zhinyuan (Thomas) Tan*	**Workshop Session 10B** **Workshop – SST- ITS** *Venue: Seddon Room* *Chair: Alireza Jolfaei*
10.30am – 10.45am	Uncertainty - Aware Resource Provisioning for Workflow Scheduling in Edge Computing Environment ***Hao Cao**, Xiaolong Xu, Qingxiang Liu, Yuan Xue, Lianyong Qi*	Big Data Security Frameworks Meet the Intelligent Transportation Systems Trust Challenges ***Feras Awaysheh**, Tomás F. Pena, José Carlos Cabaleiro, Mamoun Alazab*
10.45am – 11.00am	Accuracy - Aware Service Recommendation with Privacy ***Xiaoxiao Chi**, Chao Yan, Huaizhen Kou, Lianyong Qi*	Common Security Criteria for Vehicular Clouds and Internet of Vehicles Evaluation and Selection *Mohammad Aladwan, **Feras Awaysheh**, José Carlos Cabaleiro, Tomás F. Pena, Mamoun Alazab, Hamzeh Alabool*
11.00am – 11.15am	Mutual Information on Tensors for Measuring the Nonlinear Correlations in Network Security ***Liangfu Lu**, Xiaohan Ren, Chenming Cui, Yun Luo, Yongheng Jia, Yinong Xu*	
11.15am – 12.00pm	**Packed Lunch to Takeaway** *Venue: Rutherford Pre-Function Area*	

NOTES

NOVOTEL CONFERENCE VENUE FLOOR PLAN

Main Plenary Room: Rutherford
Breakout Space: Stafford
Breakout Space: Seddon