Symposium on Distributed Ledger Technology

A/Prof. V. Muthukkumarasamy

Group Leader/ Network Security Research

Institute for Integrated and Intelligent Systems (IIIS)

B.Sc.Eng (Hons) (Peradeniya), PhD (Cambridge)

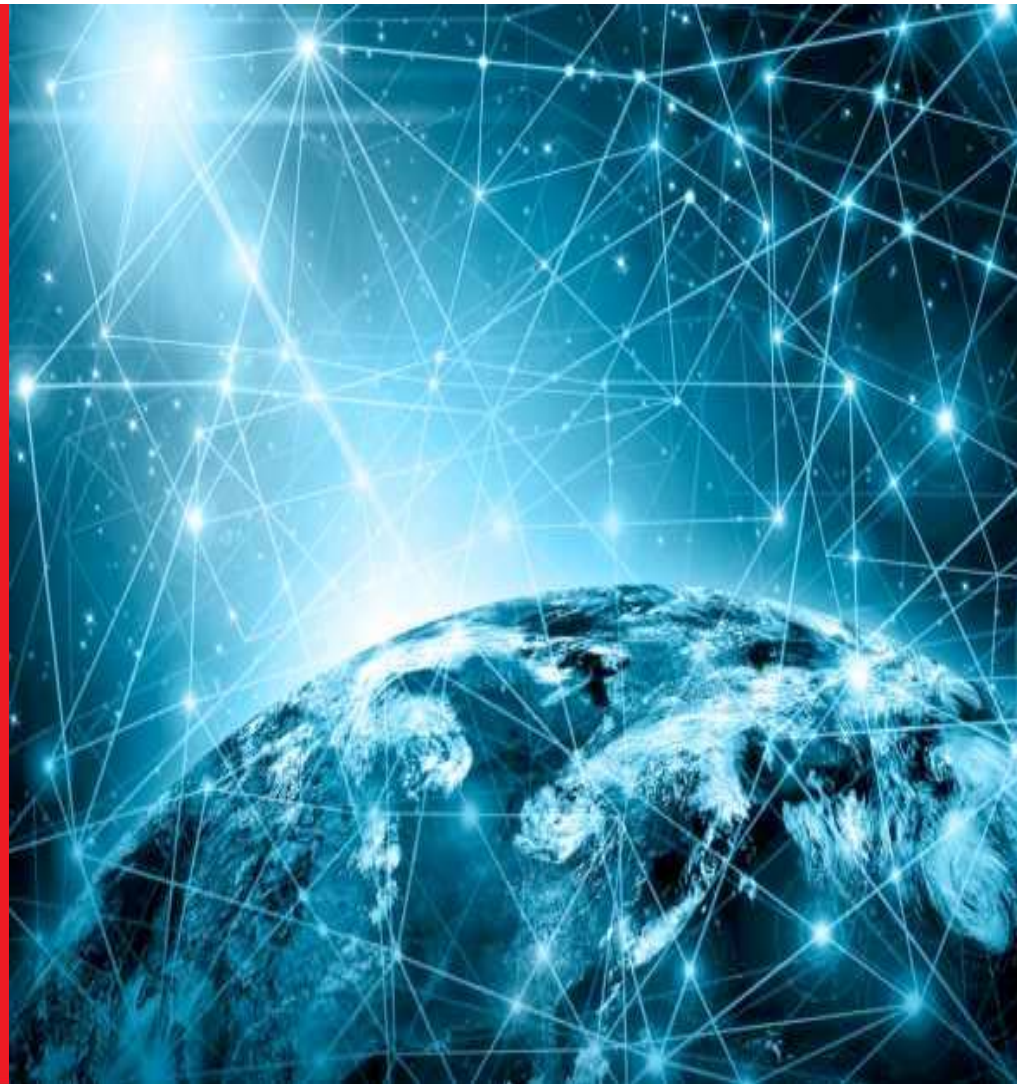
Welcome Address

by

Prof Jin Song Dong

Director/ Institute for Integrated and Intelligent Systems

Griffith UNIVERSITY



Mark Staples leads the Software Systems group at Data61, CSIRO, which is conducting research into blockchain technology, analytics architectures, behavioural analytics, business process systems, and legal informatics. His research interests are in software engineering and the philosophy of engineering, and he has worked in the software engineering industry in Australia, on implantable medical devices, electronic payments systems, and distributed control systems. He holds a BSc and BInfTech (Hons) from University of Queensland and a PhD in formal verification and theorem proving from University of Cambridge. He holds a conjoint position in the School of Computer Science and Engineering at UNSW. He is a member of Australia's standardization committee on blockchain and DLT (IT-041), under Australia's leadership of the Secretariat of the International Technical Committee for Blockchain Standards (ISO/TC 307).

Session Chair

Dr Paddy Krishnan

Oracle Labs, Australia

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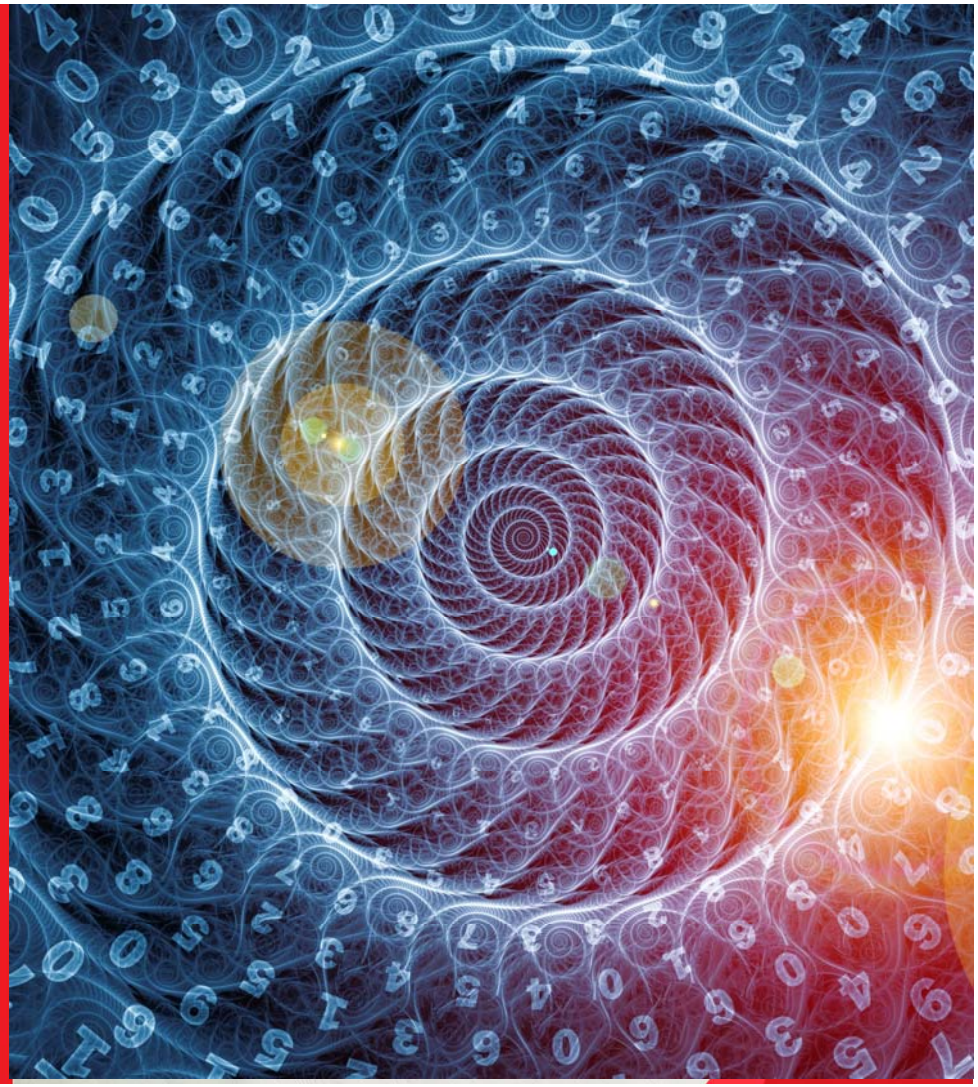

Mark Moir received the B.Sc.(Hons.) degree in Computer Science from Victoria University of Wellington, New Zealand in 1988, and the Ph.D. degree in Computer Science from the University of North Carolina at Chapel Hill, USA in 1996. From August 1996 until June 2000, he was an assistant professor in the Department of Computer Science at the University of Pittsburgh. In June 2000, he joined Sun Labs. Moir is now the Principal Investigator of the Scalable Synchronization Research Group in Oracle Labs, due to Oracle acquiring Sun in 2010.
Dr. Moir was named as a Sun Microsystems Distinguished Engineer in 2009 and an Architect at Oracle in 2016. His traditional research interests concern practical and theoretical aspects of concurrent, distributed, and real-time computing, with a particular focus on hardware and software mechanisms for making it easier to develop scalable, efficient, and correct concurrent programs for shared-memory multiprocessors. Since 2015, however, he is increasingly interested in disruptive decentralized technologies such as distributed ledgers (blockchains), smart contracts and related technologies. He is particularly interested in scalability, privacy/confidentiality, and how these technologies interact with the real world, for example legal and regulatory compliance and accountability.

Prof. Raja Jurdak is a Senior Principal Research Scientist at CSIRO, where he leads the Distributed Sensing Systems Group. He has a PhD in Information and Computer Science at University of California, Irvine in 2005, an MS in Computer Networks and Distributed Computing from the Electrical and Computer Engineering Department at UCI (2001), and a BE in Computer and Communications Engineering from the American University of Beirut (2000). His current research interests focus on energy-efficiency and mobility in networks. Prof. Jurdak and his group have led several large scale and long-term sensing projects on sensing remote and challenging environments, in agriculture, ecology, health, manufacturing, and energy. Most recently, he has led the large Batmon project for continental scale tracking of flying foxes, delivering near-perpetual tracking of small assets. His research at CSIRO has received multiple awards, including the CSIRO medal for environmental achievement and the Endeavour Executive Award in 2011, the Queensland iAwards Merit Award in 2014, and the best paper award at the EWSN conference in 2016. Prof Jurdak has over 120 peer-reviewed journal and conference publications, as well as a book published by Springer in 2007 titled Wireless Ad Hoc and Sensor Networks: A Cross-Layer Design Perspective. He serves on the editorial board of 2 international journals, Information Processing in Agriculture and International Journal on Distributed Sensor Networks. He regularly serves on the organising and technical program committees of international conferences (DCOSS, RTSS, Sensapp, Percom, EWSN, ICDCS). Prof Jurdak is an Honorary Professor the Unversity of Queensland, and an Adjunct Professor at Macquarie University and James Cook University. He is a Senior Member of the IEEE.

Session Chair

Prof Paul Burton

Director/ Cities Research Institute

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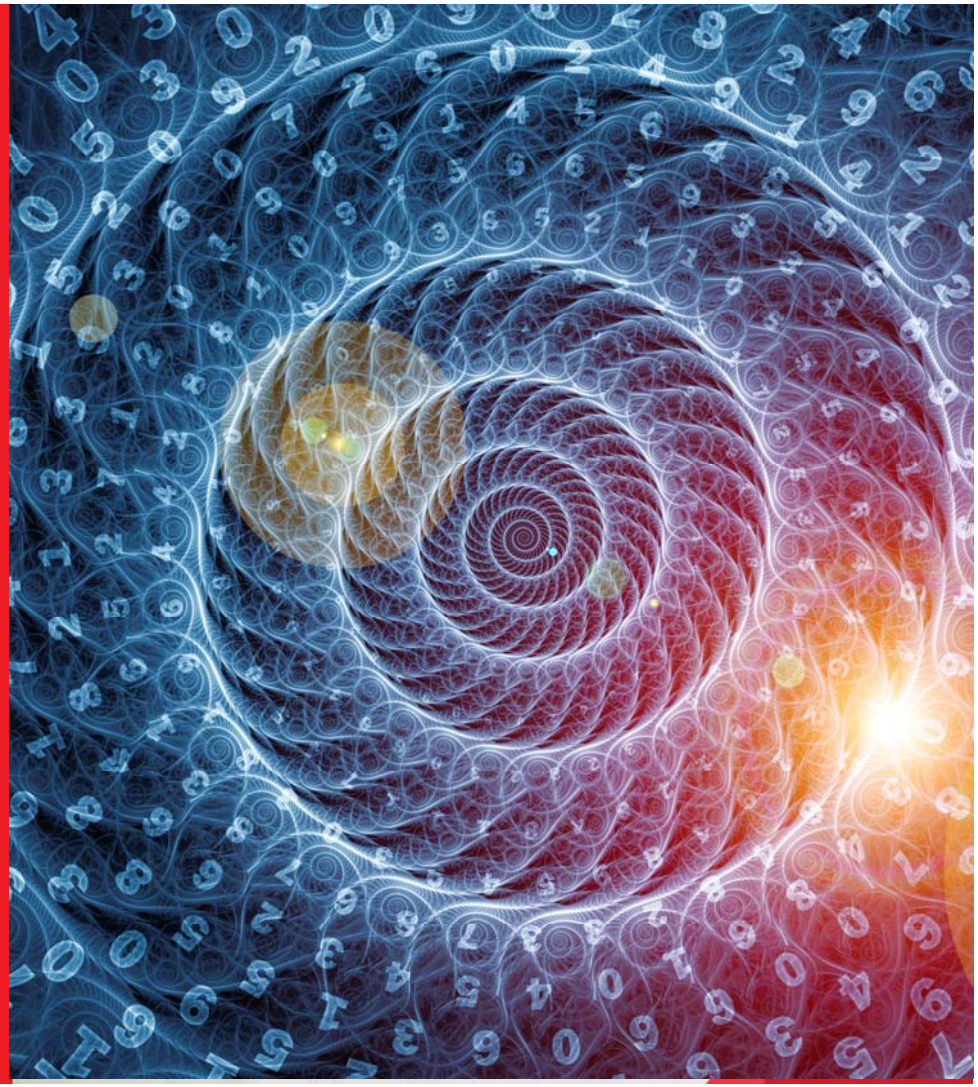

Adrian McCullagh has degrees in Computer Science and Law as well as a Ph.D. in IT Security. He obtained his Ph.D. from the Information Security Research Centre under the guidance of Professor Bill Caelli and Professor Peter Little at the Queensland University of Technology. He has been practicing in IT law for more than 30 years being one of the pioneer lawyers within Australia. He is a member of the Queensland Law Society and a member of the American Bar Association. In 1999 he was the QUT Faculty of Information Technology Alumnus of the year. Even though in private practice he continues to undertake research matters with academics at the Griffith University and the University of Queensland and has published in a wide variety of academic journals in the USA, UK and Australia. He is a member of the Intellectual Property and Information Technology Committee for the Queensland Law Society. Adrian's current research interests include Blockchain and its uses in supply chain management, Decentralised Autonomous Organisations and Identity Management.

Session Chair

Dr Ernest Foo

Queensland University of Technology

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Karina Honey is a PhD candidate in Business Information Systems at the University of Queensland (UQ) Business School. Her professional record includes over 15 years of project management & business analysis in New Zealand, Australia and Japan where she was involved in various organisational transformation programs. Karina has an extended professional network that spans across the public and private sectors both domestically and internationally. She has held various consulting and IT leadership positions for companies such as Danone Water Japan, Boeing Defence Australia, Flight Centre Limited, Downer Mining, Australian Taxation Office, Max Solutions Limited and most recently at the University of Queensland. Her research interest lies in the field of Business Information Systems and she is currently undertaking her doctoral studies with a project that will provide a framework to determine if business projects are suitable distributed ledger technology (DLT) candidates, with the correct capabilities, to have the best possibility of project implementation success. Her broader research focus lies on the impact of disruptive technologies and appropriate governance structures for project endorsement.

Kamanashis Biswas received PhD in ICT from Griffith University, Australia and Masters in Computer Science (Specialization in Security Engineering) degree from Blekinge Institute of Technology (BTH), Sweden. He is currently working as a Research Fellow at School of Information and Communication Technology, Griffith University. His research interests include design and development of lightweight cryptographic schemes, energy efficient and secure routing algorithms, blockchain applications, intrusion detection systems (IDS), clustering schemes in wireless sensor networks.

Session Chair

John Robertson

IBM Security Lab

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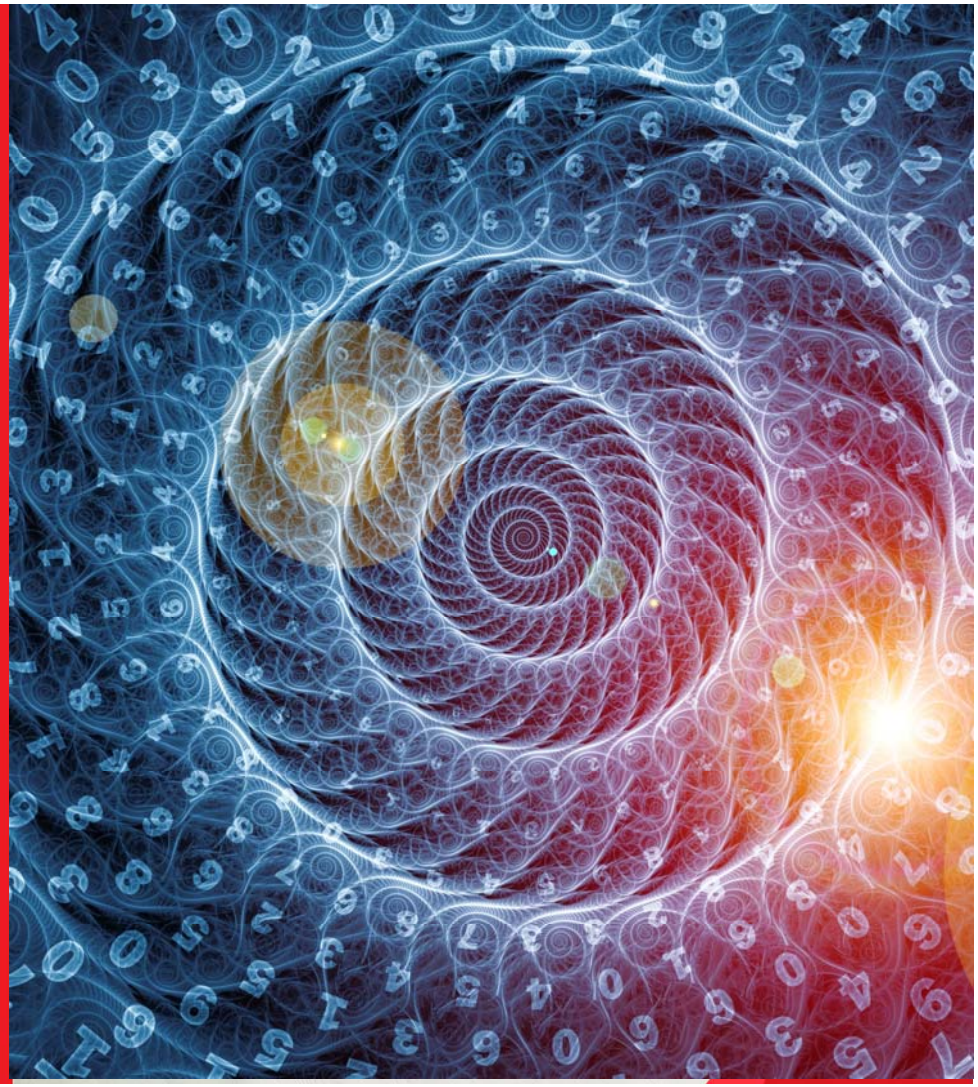
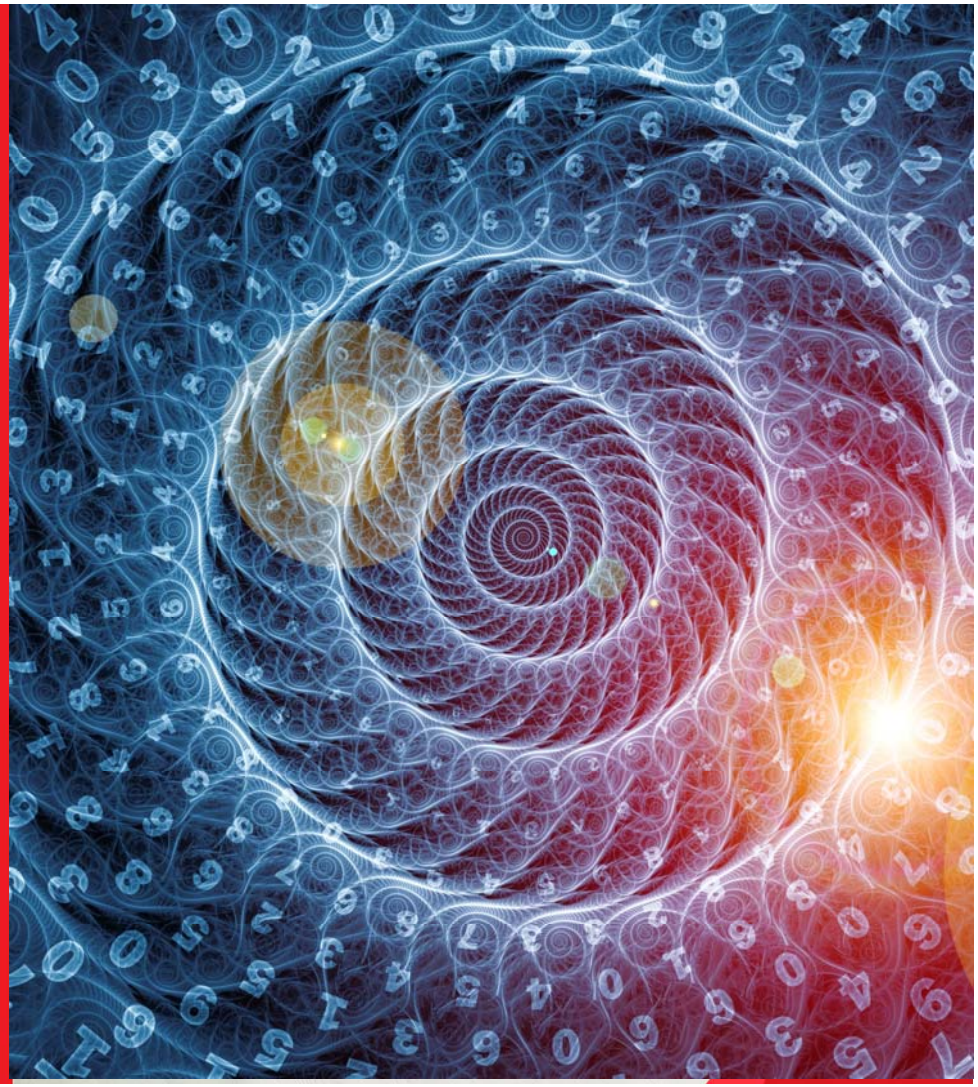


Professor John Flood became Professor of Law in 2015. Before coming to Griffith, he was the McCann FitzGerald Professor in International Law and Business at University College Dublin. John is Honorary Professor of Law at University College London and Visiting Professor of Law at the University of Westminster, London. As a legal sociologist, John does research on the legal profession, globalization of law, large law firms, regulation of legal services, and legal education, using a number of research methods including ethnography, interviewing, and oral history. From 2012 to 2014 he held a Leverhulme Trust Research Fellowship examining changes in the regulation of the legal services market from a global perspective. John also research in the area of international commercial arbitration and is working with a group in the UK. John has begun a new area of research on the impact of technology in law and practice. This currently focuses on the development of blockchain technologies and The DAO (distributed autonomous organisations) where law is only just beginning to [illegible]

Session Chair

Steve Dalton

TechSpace



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Peter Robinson is a cyber security expert, applied cryptographer, technical leader, innovator, and manager. He holds seventeen granted patents and six active patent applications in fields ranging from distributed computing, cryptography, blockchain, & virtualization to password design. He holds a Bachelor of Computer Engineering and a Masters of Business Administration from Queensland University of Technology, a Masters of Telecommunications Engineering from University of Wollongong, is a graduate of the International Space University, and is currently working part-time on a PhD focusing on Blockchain and Smart Contract Security at University of Queensland.

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Raihana Ferdous is an academic in CIBIT-Creative Industries, TAFE Queensland, Gold Coast. Her research interest includes Node-based Trust Management Systems, Trust in Mobile ad-hoc Networks, Distributed Ledger in Fintech. Raihana received her PhD in Information and Communication Network from Griffith University, Australia. She is a member of ACS. Contact her at ferdousraihana@gmail.com

Prof Jin-Song dong received PhD degree from University of Queensland in 1996. From 1995 to 1998, he was research scientist then senior research scientist at CSIRO in Australia. Since 1998, he has been in the School of Computing at the National University of Singapore (NUS) where he received full professorship in 2016. Jin Song has recently joined Griffith University as Professor and Director of the Institute for Integrated Intelligent Systems (IIIS). He co-founded PAT verification system. PAT has attracted 3000+ registered users from 900+ organizations in 89 countries. PAT was used to have found 7 unknown security flaws in the implementations of several real-world web sites (with millions of users) that utilised Facebook Connect Protocol and Windows Live Messenger Connect protocols. He co-founded the company Semantic Engineering PTE LTD since 2006 which now develops and manages PAT-Pro, the commercial version of PAT, and a number of copies have been sold to the leading companies, i.e., Toyota, NTT, Mitsubishi, Japan Aerospace eXploration Agency, etc. He is the lead Singapore Investigator for Singapore-UK joint cyber security project on smart grid security and privacy (with Prof. Andrew Martin from Oxford University as UK Investigator). He is Co-Investiator for “Securify: A Compositional Approach of Building Security Verified System “($6M) and "Trustworthy systems from untrusted Components” ($6M) and Singtel-NUS Cyber Security joint lab ($43M). Jin Song is on the editorial board of ACM Transaction on Software Engineering and Methodology, Formal Aspects of Computing and Innovations in Systems and Software Engineering, A NASA Journal. Jin Song has been a Visiting Fellow at Oxford University, UK, and a Visiting Professor at National Institute of Informatics, Japan. He has successfully supervised 25 PhD students (most recent PhD project supervisions were on Cyber Security) and many of them have become tenure-track faculty members in the leading universities around the world, including NTU, SUTD, HUST, Monash U and Auckland U.

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Babu Pillai an engineering professional in Building information modeling, software developer specialised in Autodesk Revit and AutoCAD, working towards collaborating technology and engineering. He is currently completing the research component of Masters in Information Technology in blockchain platforms at Griffith University.

Panel Discussion

- Dr Raja Jurdak, Data61
- Dr Adrian McCullagh, ODMOB
- Dr Mark Moir, Oracle Labs, NZ
- Associate Prof V. Muthu, Griffith
- Dr Mark Staples, Data61
- Mr Peter Robinson, UQ

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Question 1:

What are the scenarios in which DLT / smart contracts is the right technology choice?

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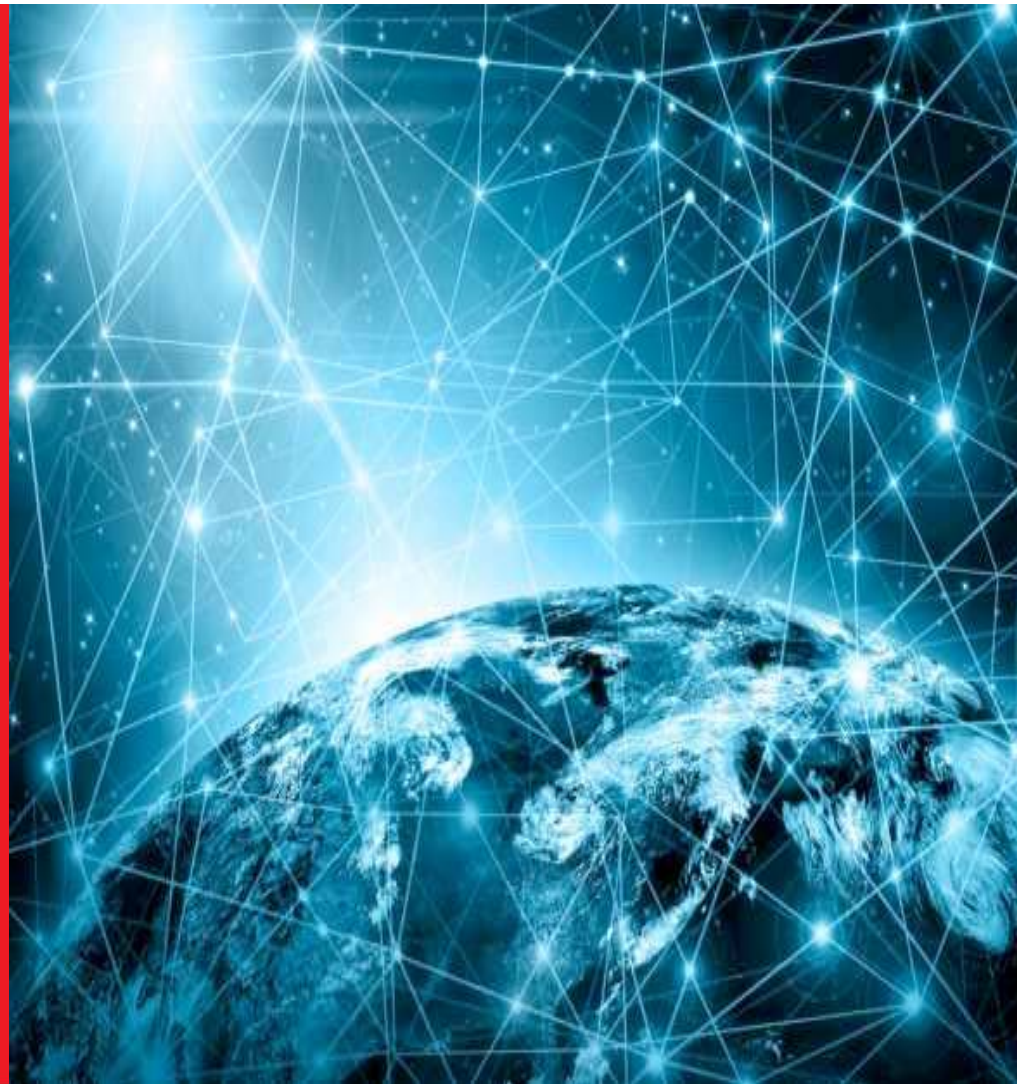
Question 2:

What impediments do you see in the way of DLT/ smart contract adoption?



Question 3:

What is the future of private blockchain platforms?

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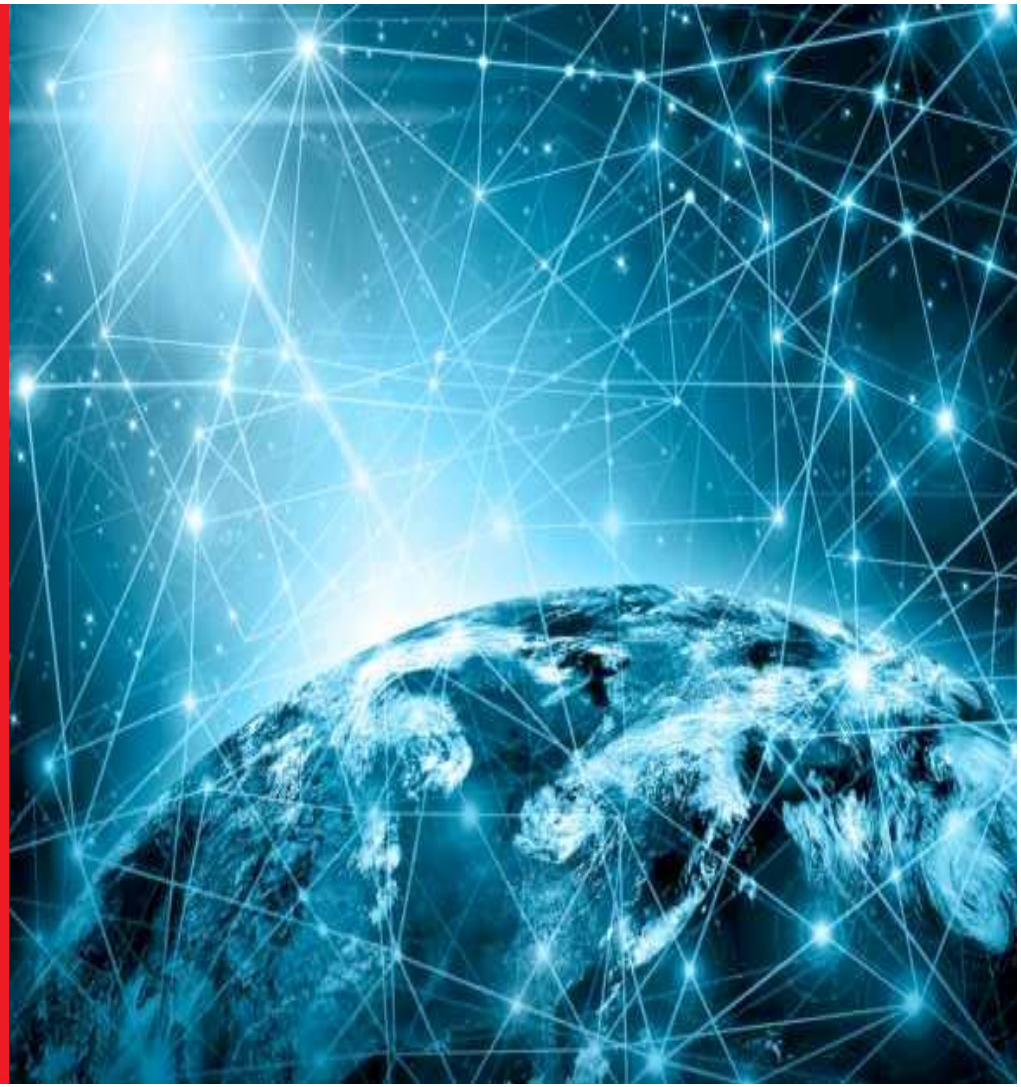
Question 4:

What cryptographic and security issues do you see with existing blockchain platforms?



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Question 5:

What mechanisms are suitable for lightweight and scalable blockchain design for IoT ?

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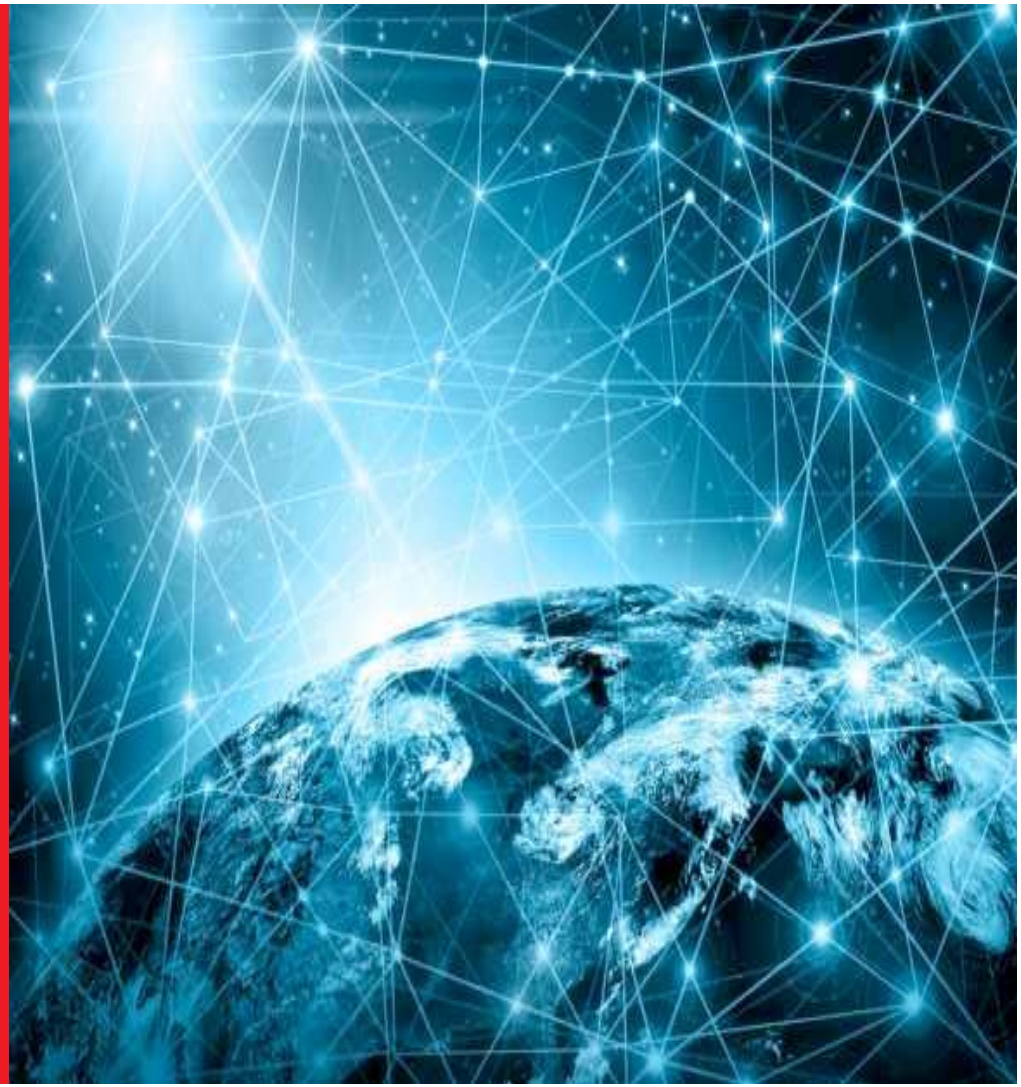
Question 6:

What will be the future?

What innovations?

- 5 years
- 10 years



Closing Remarks

by

Prof Jin Song Dong

Director/ Institute for Integrated and Intelligent Systems

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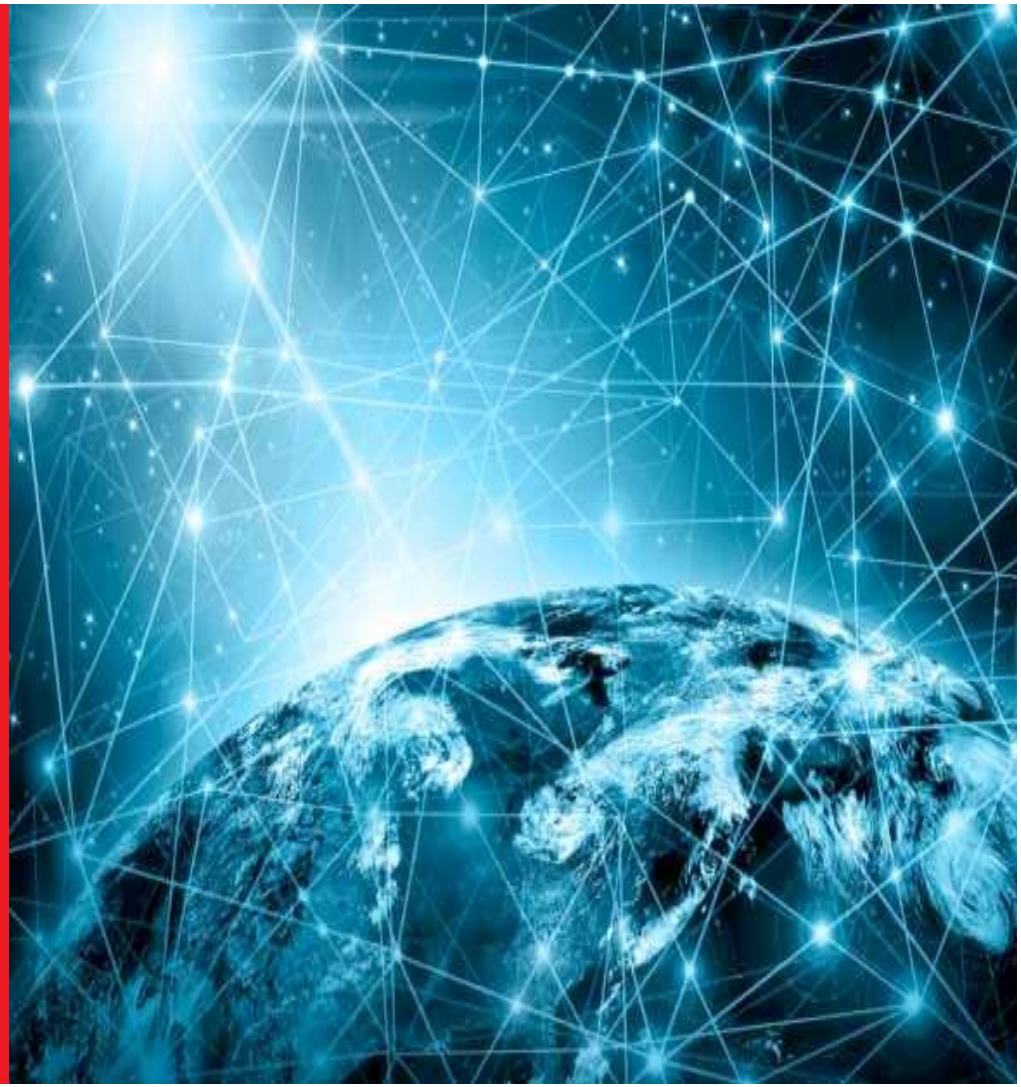


THANK YOU
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