

Dr. Jiangshan Yu (B.Eng, MSc, MPhil, PhD)

Contact

Critix, SnT,
University of Luxembourg,
6, Avenue de la Fonte
L-4364, Esch-sur-Alzette,
Luxembourg.

E-mail:

j.yu.research@gmail.com

Home-page:

www.jiangshanyu.com

Employment

- 12.2016 – present **Research fellow**, Interdisciplinary Centre for Security, Reliability and Trust (SnT), University of Luxembourg, Luxembourg.
- 12.2016 – present **Honorary research fellow**, School of Computer Science, University of Birmingham, UK.
- 11.2014 – present **Director (part-time)**, CloudTomo Limited, UK. (University of Birmingham spin-out company.)
- 12.2014 – 05.2015 **Tech consultant (part-time)**, Jin Xin Tong Trust and Investment Corporation Ltd, UK.

Education

- 10.2012 – 12.2016 **Ph.D** in Cyber Security. University of Birmingham, UK.
- 09.2011 – 08.2012 **M.Phil** in Cryptography. University of Wollongong, Australia.
- 08.2010 – 07.2011 **M.Sc.** in Information Security. University of Wollongong, Australia.
- 09.2005 – 08.2009 **B.Eng.** in Computer Science and Technology, Northeast Agricultural University, Harbin, China.

Main research focus

The focus of my research has been focusing on *design and analysis of cryptographic protocols, cryptographic key management, blockchain consensus, and ledger-based applications (a.k.a. blockchain applications)*.

Main research impact

My work on ledger-based end-to-end secure messaging system has attracted news media's attention and has been covered by more than 40 international and national news media including *Science Daily, Phys.org, ACM TechNews, EurekAlert, Futurism, and Silicon Republic*. The news has been released in more than 7 languages by media from more than 10 countries including UK, US, Germany, Ireland, Luxembourg, Turkey, Spain, and India. I have also been invited for an interview (to explain my innovation to general listeners) by Eldorado --- a member of RTL group which is one of the world's leading producers of television content and the leading European entertainment network.

My patent-pending ledger-based applications have been further developed by a University of Birmingham spin-off, and have attracted funding support from Innovate UK.

I've co-designed a secure booting solution for Huawei Ltd, the largest telecommunications equipment manufacturer in the world, to manage their next generation network devices securely.

Awards

- 2017 **Chinese Government Award for Outstanding PhD Scholar Abroad.**
(Success rate: 1% worldwide, 3% in UK.)
- 2014 **First place award**, the Coniston poster competition, University of Birmingham, UK.
- 2009 **Outstanding Graduates of Heilongjiang Province**, Heilongjiang, China.

- 2009 **Outstanding Graduates of Northeast Agricultural University**, Harbin, Heilongjiang, China.
- 2009 **Best Thesis Award**, Northeast Agricultural University, Harbin, Heilongjiang, China.
- 2008 **Outstanding Academic Award**, The Northeast Agricultural University, China.
- 2007 **First National Prize** of China Contemporary Undergraduate Mathematical Contest in Modelling, China;
- 2006 **Second National Prize** of China Contemporary Undergraduate Mathematical Contest in Modelling, China;
- 2006 **Outstanding Student Award** of The Northeast Agricultural University, China;
- 2006 **Outstanding Student Leadership Award**, The Northeast Agricultural University, China.

Funding

- 2016 Jiangshan Yu. Investigating scalable blockchains. 10,000 Euro from The University of Luxembourg, 2016.
- 2015 Mark Ryan and Jiangshan Yu. Public ledger based secure email and cloud storage. 33,000 GBP from Technology Strategy Board (Innovate UK), 2015.
- 2015 Jiangshan Yu. 1,500 GBP from University of Birmingham and from Obillex Ltd. for organising Blockchain workshop at Birmingham.

Scholarships and Travel Grant

- 2015 Universitas 21 travel grant from the University of Birmingham (to visit and present his work at Shanghai Jiao Tong University, China.)
- 2012-2015 EPSRC project funding for PhD studies at University of Birmingham
- 2012-2015 Overseas top-up scholarship from the University of Birmingham for PhD studies
- 2008 First class scholarship, Northeast Agricultural University, China
- 2007 Second class scholarship, Northeast Agricultural University, China
- 2006 First class scholarship, Northeast Agricultural University, China

Patent application

- Jiangshan Yu and Mark Ryan. **Key usage detection.**
 - UK Patent Application GB 1416188.9
 - US Patent Application US 14/852,342

Cooperation with journals, conference programme committees and others

- **Conference (Co-)Chair and organization**
 - 2018 IFIP Working Group 10.4 Workshop on Technological and societal challenges to blockchain dependability and security.
 - 2015 Workshop on BlockChain, Birmingham, United Kingdom.
- **Conference Program Committee**
 - 2018 IEEE Global Communications Conference (GLOBECOM)
 - IEEE International Conference on Communications (ICC)
 - DSN Workshop on Byzantine Consensus and Resilient Blockchains
 - 2017 International Conf. on Information Security Practice and Experience (ISPEC)
 - 2016 Software Architecture for Big Data and the Cloud
- **Invited Reviewer (Journal)**
 - 2018 ACM Transactions on Transactions on Privacy and Security (TOPS)
 - IEEE Transactions on Information Forensics & Security (TIFS)
 - IEEE Transactions on Industrial Informatics (TII)
 - IEEE Wireless Communications
 - IEEE Access
 - Future Generation Computer Systems

- 2017 IEEE Transactions on Information Forensics & Security (TIFS)
IEEE Transactions on Cloud Computing (TCC)
Journal of Computer Science and Technology (JCST)
International Journal of Information Security (IJIS)
- 2016 IEEE Transactions on Information Forensics & Security (TIFS)
Security and Communication Networks (SCN)
PLOS ONE
- 2015 IEEE Transactions on Information Forensics & Security (TIFS)
The Computer Journal (Comp. J)
Security and Communication Networks (SCN)
- 2014 Security and Communication Networks (SCN)
- 2013 Journal of Information Security and Applications (JISA)
- **Invited Reviewer (Conference)**
 - 2018 *European Symposium on Research in Computer Security (ESORICS)*
 - 2017 *European Conf. on Computer Systems (EuroSys)*
IEEE/IFIP International Conf. on Dependable Systems and Networks (DSN)
European Symposium on Research in Computer Security (ESORICS)
ACM Asia Conf. on Computer and Communications Security (ASIACCS)
ICT Systems Security and Privacy Protection (IFIP SEC)
 - 2016 *IEEE European Symposium on Security and Privacy (EuroS&P)*
European Symposium on Research in Computer Security (ESORICS)
International Symp. on Engineering Secure Software and Systems (ESSoS)
International Conf. on Information Security Theory and Practice (WISTP)
 - 2015 *International Conference on Principles of Security and Trust (POST-ETAPS)*
ACM Asia Conf. on Computer and Communications Security (ASIACCS)
ICT Systems Security and Privacy Protection (IFIP SEC)
 - 2014 *International Conf. on Applied Cryptography and Network Security (ACNS)*
ICT Systems Security and Privacy Protection (IFIP SEC)
Workshop on Formal Methods for Security (FMS)
Workshop on Privacy in the Electronic Society (WPES)
 - 2013 *European Symposium on Research in Computer Security (ESORICS)*
Australasian Conference on Information Security and Privacy (ACISP)
International Workshop on Data Privacy Management (DPM)
- **Invited talks**
 - 2018 Keynote Speech. Fourm of blockchain and its applications, Xi'an, China.
Security seminar. Shaanxi Normal University, Xi'an, China.
Security seminar. Xidian University, Xi'an, China.
 - 2017 Security seminar. The Hong Kong Polytechnic University, HK, China.
 - 2016 Security seminar. University of Luxembourg, Luxembourg.
Security seminar. ETH Zurich, Switzerland.

- 2015 CryptoForma workshop, University of Strathclyde, Glasgow, UK.
- 2014 Security seminar. University of Birmingham, UK, 2014.
- 2013 Google Certificate Transparency Hack Day. Google, London, UK.
Cloud Technologies and Trust Domains. HP Labs Bristol, UK.
Security seminar. University of Birmingham, UK.
CryptoForma Workshop at ESORICS, UK.

Participation in industrial innovation

- 2016.08 – 2016.12 **Co-leader** with Prof. Mark Ryan. *Huawei SoC Secure Boot Solution*, UK.
Industrial partner: Huawei Ltd., Shenzhen HQ. (Funded by Huawei Ltd.)
- 2015.05-2015.09 **Co-leader** with Prof. Mark Ryan. *Innovate UK project on user-friendly security and privacy to increase confidence in cloud-based systems*, UK. Industrial partner: CloudTomo Ltd. (Funded by Innovate UK.)

Academic Research projects

- 2016 **Project leader**. *Technological aspects of the Internet of Things*, UK. (Funded by Law School, University of Birmingham.)

Other activities

- 2011-2012 **President**, Endless Martial Arts Association, Wollongong, Australia.
- 2010-2012 **Manager**, Department of Student Service, Wollongong Chinese Students & Scholars Association, Wollongong, NSW, Australia.
- 2007-2009 **Vice-resident**, Guild of Students, Northeast Agricultural University, China.