

KirCCS Newsletter

Welcome to the first issue of the KirCCS Newsletter. Every quarter we will send you a round up of the latest news, activities and events we think you will be interested in. If you have any suggestions or feedback, would like to share your news with us or subscribe to this newsletter, please email cyber-info@kent.ac.uk. We will maintain an archive of our newsletters on our website.

MSc Cyber Security has been awarded Full Certification by the NCSC

Kent's [MSc Cyber Security programme](#) has become a fully certified master's degree recognised by the [National Cyber Security Centre \(NCSC\)](#) – a part of the UK Government Communications Headquarters (GCHQ).

The full certification, which is valid for 5 years (2020-2025), confirms that Kent's MSc Cyber Security programme meets the criteria defined by the NCSC for master's degrees providing postgraduate students with a general, broad foundation in cyber security. The MSc Cyber Security programme previously held a Provisional Certification from the NCSC.

Students graduating with this degree programme at the University's [School of Computing](#) from 2019-20 onwards will receive a second certificate, jointly issued by the NCSC and the University of Kent, upon successful completion of the degree. This will enhance future career opportunities for graduating students.

This progression comes as the University is building a portfolio of taught programmes in cyber security, including a new [BSc \(Hons\) Computer Science \(Cyber Security\)](#) programme which will launch in September 2020. All current and forthcoming cyber security programmes at the University provide placement opportunities, allowing students to gain experience in industry as part of their study.

Professor Karen Cox, Vice-Chancellor and President of Kent, said:

"I offer my congratulations and thanks to those colleagues in Cyber Security who helped achieve this important certification. It will be of tremendous value and benefit to our students when they graduate. It is also further recognition of the high quality of our teaching and research in this field."

Chris Ensor, NCSC's Deputy Director for Cyber Growth, said:

"I am delighted that the University of Kent has had its master's course in Cyber Security fully certified by the NCSC. It demonstrates our shared commitment to responsibly developing the cyber security talent pipeline. Offering a NCSC-certified degree helps prospective students make better informed choices about the quality of courses available and employers can rest assured that graduates will be well-taught and have valued industry skills."

Certified Degree



in association with

National Cyber
Security Centre

KirCCS researchers secure project funded by Dstl

Dr Virginia Franqueira, Dr Sanjay Bhattacharjee, Professor Shujun Li and PhD student Enes Altuncu, have secured a project to provide regular techwatch newsletters on cyber deception, funded by Dstl (Defence Science and Technology Laboratory), August 2020 – March 2021.

New projects launched looking into cyber security and privacy risks post Covid-19

Researchers of the Centre have got two projects funded by the [EPSRC](#) via the [Security, Privacy, Identity and Trust Engagement NetworkPlus \(SPRITE+ HUB\)](#).

Dr Jason Nurse will be collaborating with researchers from three other universities (Cardiff University, Royal Holloway University of London, Cranfield University) and two industrial partners (Cybsafe and Cybersmart), investigating risks and challenges surrounding working from home post-COVID. More information about the project can be found on [the project web page](#).

Dr Yang Lu will be collaborating with researchers from five other universities (UCL, University of Stirling, University of Nottingham, CU Scarborough, University of Exeter), Alan Turing Institute and Trilateral Research, investigating data, technology and privacy issues around future payment systems after Covid. More information about the project can be found on [the project web page](#).

Best Paper Honourable Mention award for PhD student

First year PhD student **Keenan Jones** has received a best paper Honourable Mention award at the 14th International AAAI conference on Web and Social Media (ICWSM 2020).

The paper entitled "[Behind the Mask: A Computational Study of Anonymous' Presence on Twitter](#)", came out of a project undertaken by Keenan for his MSc Computer Science conversion course and was co-authored with **Dr Jason Nurse** and **Professor Shujun Li**. The paper

examines the hacktivist group Anonymous who unlike other cybercriminal groups, which rely on secrecy and privacy for protection, is prevalent on the social media site, Twitter.

Provocation Paper Honourable Mention award at CUI 2020 conference

Dr Rahime Belen Sağlam and **Dr Jason Nurse** have received a Provocation Paper Honourable Mention Award at the annual International Conference on Conversational User Interfaces (CUI 2020), for their research paper "[Is your chatbot GDPR compliant? Open issues in agent design](#)". This paper explores and presents some of the key open questions in conversational agent (chatbot) design, in light of the General Data Protection Regulation (GDPR). This work looks to provoke further research into building agents that are effective at user interaction, but also respectful of regulations and user privacy.



Police Surveillance of Black Lives Matter shows the danger technology poses to democracy



Dr Jason Nurse of the Centre and Anjuli R. K. Shere from the University of Oxford write an article for The Conversation and describe how “making technology-driven state surveillance part of the police’s response to democratic protest sets a dangerous precedent. There is a risk that the power this gives to police to target protestors could be abused and have a chilling effect on freedom of speech and assembly.”

The full article can be accessed via this [weblink](#).

Dr Sanjay Bhattacharjee gives two webinars for the Kent Innovation and Enterprise (KIE) Covid 19 Business Recovery Response seminar series

10 July 2020: "Scanned Handwritten Signatures - Fodder for Forgery".

This [webinar](#) summarises the cryptographic mechanism available to substitute hand-written signatures or their easily forgeable electronic substitutes. The technology is called "digital signature" that requires the "public key infrastructure" for reliable operation. It is the same technology that is used in securing web browsing denoted through padlocks in the browser's address bar.

31 July 2020: "Backup or Packup"

Ransomware is a malware that locks users out of their data. Ransomware attacks have spiked in the recent years - especially during the lockdown period. In this [webinar](#), we look at ways in which we can take precautions against ransomware attacks and stress taking regular backups as the primary preventive mechanism.

Professor Shujun Li gives a keynote talk at CCNS 2020

Professor Shujun Li gives a Keynote talk at the 2020 International Conference on Computer Communication and Network Security (CCNS 2020), held virtually online on 22 August 2020. "When will passwords die? Research challenges and opportunities in user authentication".

Dr Jason Nurse features in Infosecurity Magazine

See what Jason has to say in this security expert [Q&A feature in Infosecurity Magazine](#):

Q&A
DR JASON NURSE

Dr Jason R.C. Nurse is an academic specializing in socio-technical cybersecurity research to support individuals, organizations and governments. Jason is a regular keynote and public speaker, and publishes extensively on current and future issues facing the security field. When he's not trying to solve intriguing security problems in his role as lecturer (assistant professor) in cybersecurity Jason enjoys traveling the world

By Michael Hill

What was your route into the information security field?
My path into the security field was primarily driven by the desire to understand how technology can better support society, while also not exposing us to excessive amounts of additional cyber risk. This focus on developing an in-depth appreciation of cutting-edge problems, as well as appropriate socio-technical solutions was the primary motivator for my academic career. This career has involved roles at the universities of Oxford, Warwick and now, Kent. I thoroughly enjoy the ability to explore new challenges in infosec, and it's certainly a field that never gets dull!

What's the most challenging aspect of your job?
Information security and cybersecurity are two terms encompassing that ever-increasing world of cyber-physical systems where we use such a diverse set of technologies in our lives and at work, the attack surface is enormous. This means that all stakeholders involved from the heads of organizations to those who design or implement policy need to appreciate this, instead of viewing technology as the only solution to security issues, or people/users as the problem. As an industry, we have become better at this over the years, but the human aspects of security and privacy often do not get the attention they deserve. This can therefore be a challenge when pushing for solutions that appreciate the socio-technical nature of infosec. With time, I hope we can get there.

Do you think awareness of security risks is better now than it ever has been?
Yes, definitely, and this is very encouraging to see. Where things get challenging though is that as new technologies and systems emerge, we have to keep up with the risks and invest in programs to increase awareness. Just as security is an ongoing activity, so too is the need to communicate the risks, raise awareness, educate and equip individuals and organizations with the tools they need to protect themselves. This is a key component of my research.

If you did not work in information security, what would your dream job be?
I have a passion for the field of human-computer interaction, and thinking about how to design and build new forms of interfaces and technologies. As our world moves more towards smart societies, smart homes and automated environments, I find this to be an increasingly fascinating area with immense amounts of opportunity to innovate. So, I'd definitely choose to work in this space!

If you could change one thing about the infosec industry, what would it be?
I strongly believe that the industry does a great job of protecting people against the wide range of threats that we're experiencing today. One activity we could always get better at, however, is being more proactive. This is both in terms of pre-empting and mitigating threats, and addressing issues in emerging forms of technology like artificial intelligence, IoT or quantum computing. Cybercrime and cyberattacks aren't going away anytime soon, so we need to get better at how we plan, protect, respond and recover.

BIO @jasonnurse
Dr Jason R.C. Nurse is a lecturer in cybersecurity at the University of Kent where his research interests focus on the interaction between users and aspects of cybersecurity, privacy and trust.

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Papers

Here are some recently accepted/published papers by members of our security group:

David Roberts, contributor to ["Tackling EU Wildlife Cybercrime How technology can help"](#).

Calvin Brierley, Jamie Pont, Budi Arief, David J. Barnes, Julio Hernandez-Castro. ["An IoT Bricking Ransomware Proof of Concept"](#), 15th International Conference on Availability, Reliability and Security (ARES 2020), IoT-SECFOR Workshop.

Sarah Turner, July Galindo Quintero, Simon Turner, Jessica Lis, Leonie Maria Tanczer. ["The exercisability of the right to data portability in the emerging Internet of Things \(IoT\) environment"](#). New Media & Society, July 2020.

Sarah Turner. ["Connected Toys: What Device Documentation Explains about Privacy and Security"](#), University College London; PETRAS National Centre of Excellence for IoT Systems Cybersecurity, June 2020.

Kruakae Pothong and **Sarah Turner**. ["Living with Hearing Loss in a Connected Home - White Paper"](#), University College London; PETRAS National Centre of Excellence for IoT Systems Cybersecurity, May 2020.

Ahmad Samer Wazan, Romain Laborde, **David W. Chadwick**, Sana Kallel, Rémi Venant, François Barrere, Abdelmalek Benzekri, Eddie Billoir. ["On the Validation of Web X.509 Certificates by TLS interception products"](#), IEEE Transactions on Dependable and Secure Computing, 2020.

Jason R.C. Nurse, Louise Axon, Arnau Erola, Ioannis Agrafiotis, Michael Goldsmith, Sadie Creese. ["The Data that Drives Cyber Insurance: A Study into the Underwriting and Claims Processes"](#), In: 2020 International Conference on Cyber Situational Awareness, Data Analytics and Assessment (CyberSA), IEEE, 2020.

Jamie Pont, Budi Arief, Julio Hernandez-Castro. ["Why Current Statistical Approaches to Ransomware Detection Fail"](#), In: 23rd Information Security Conference, 16-20 Dec 2020 (In press).

KirCCS staff news



KirCCS welcomed **Helen Frampton** in July 2020 as a new Administrative Coordinator. Prior to joining us at KirCCS, she was Resourcing Advisor within the University's HR Department.

The Centre and the University bid a fond farewell to **Professor Andy King**. Andy will be leaving us at the end of September having been at the University for over 26 years and a founding member of the Kent Interdisciplinary Research Centre in Cyber Security (KirCCS). Andy is the Head of the School of Computing's Programming Languages and Systems (PLAS) research group and has been a Core Member of KirCCS since 2012. He has been KirCCS's Director of Research, leading the Security Verification and Testing research theme. He has been very active in conducting cyber security research especially on malware and vulnerability detection and an active member of the NCSC and EPSRC co-funded Research Institute on Verified Trustworthy Software Systems (VeTSS). We wish you a happy and healthy retirement from everyone at KirCCS.



Upcoming Seminars

Security Seminars take place every Friday at 11am during the term. The following seminars have been confirmed and will take place online. These seminars are open to anyone, especially those interested in cyber security, and free to attend. If you would like to attend, please contact J.R.C.Nurse@kent.ac.uk.

Please follow this [link](#) for more information about our seminars, including any changes.

02 October 2020: 11:00 – 12:00

Title: **Cyber Stalking, Cyber Harassment and Adult Mental Health**

Speaker: Francesca Stevens (University of Kent)

09 October 2020: 11:00 – 12:00

Title: **Robustness of Machine Learning: Making deep neural networks more robust against adversarial attacks**

Speaker: Julie Tiercelin (recent Kent MSc graduate in Advanced Computer Science)

16 October 2020: 11:00 – 12:00

Title: **Dissecting the blackpill: online interactions with incels**

Speaker: Lisa Sugiura (University of Portsmouth)

23 October 2020: 11:00 – 12:00

Title: **Detecting False Information with Human-in-the-Loop AI Approach**

Speaker: Enes Altuncu (University of Kent)

30 October 2020: 11:00 – 12:00

Title: **Structured Argumentation Applied to Digital Forensics: Overview and Potential**

Speaker: Virginia Franqueira (University of Kent)

20 November 2020: 11:00-12:00

Title: **Social Media and Counterterrorism Strategy**

Speaker: Tim Aistrope (University of Kent)

04 December 2020: 11:00 – 12:00

Title: **Anglo-European Intelligence Cooperation: Britain in Europe, Europe in Britain**

Speaker: Hager Ben Jaffel – National Center for Scientific Research (CNRS), in Paris

About KirCCS

The Kent Interdisciplinary Research Centre in Cyber Security (KirCCS) at the University of Kent harnesses expertise across the University to address current and potential cyber security challenges. It represents the University of Kent as a UK government recognised [ACE-CSR \(Academic Centre of Excellence in Cyber Security Research\)](#), one of only 19 such centres in the UK.

Its strategic objective is to promote wide-ranging multidisciplinary research, and to teach and develop skills in cyber security to its students and the wider community, through degree programmes, workshops, visits, lectures and training.

Included in its remit is to work with external organisations to promote cyber security.

If you are interested in collaborating with us, please visit our website to see a list of [contacts](#).

Events

KirCCS organises internal and external facing events on campus from time to time. The Centre also routinely (co-) organises and hosts scientific conferences, workshops, summer schools and other events.

Please visit our [events webpage](#) for more information.

Contact Us

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