

IEEE Cyber Science 2020 Conference Presentation Timetable (2 Parallel Sessions)

Time in UK (GMT +1)

Theme: **Advancing a multidisciplinary approach to Cyber Security**

Monday June 15, 2020

Version 1.1 | 18th May 2020

11:00 - 11:30		
Conference Opening, Introduction and Announcements		
Sessions	Session 1 Host & Moderator: Cyril Onwubiko & Robert Walsh	Session 2 Host & Moderator: Pierangelo Rosati & Niamh Byrne
Tracks	Track 1: Critical National Infrastructures & CERTs	Track 2: Cyber Attacks, SOCs & Deception
11:30 - 12:00	An Empirical Study of CERT Capacity in the North Sea <i>Martin Gilje Jaatun, Lars Bodsberg, Tor Olav Gratun and Marie Elisabeth Gaup Moe</i>	Naval cyber-physical anomaly propagation analysis based on a quality assessed graph <i>Nicolas Pelissero, Pedro Merino Laso and John Puentes</i>
12:00 - 13:00	60mins Break	60mins Break
13:00 - 13:30	Smart Grid Data Security using Practical CP-ABE with Obfuscated Policy and Outsourcing Decryption <i>Ankit Pradhan, Punith. R, Kamalakanta Sethi and Padmalochan Bera</i>	Towards a Framework for Measuring the Performance of a Security Operations Center Analyst <i>Enoch Agyepong, Yulia Cherdantseva, Philipp Reinecke and Pete Burna</i>
13:30 - 14:00	Developing a security behavioural assessment approach for cyber rating U.K. MSBs <i>Andrew Rae and Asma Patel</i>	Slave Clock Responses to Precision Time Protocol Attacks: A Case Study <i>Waleed Alghamdi and Michael Schukat</i>
14:00 - 15:00	60mins Break	60mins Break
15:00 - 16:00 Keynote Speech Dr Ruoyi Zhou, Director of IBM Research		
16:00 - 16:30	30min Break	30min Break
16:30 - 17:00	Examining the Cyber Security of a Real World Access Control Implementation <i>Julian J. Teule, Marius F. Hensel, Victor Buttner, Jonathan V. Sørensen, Magnus Melgaard and Rasmus L. Olsen</i>	Deep Down the Rabbit Hole: On References in Networks of Decoy Elements <i>Daniel Reti, Daniel Fraunholz, Janis Zemitis, Daniel Schneider and Hans Dieter Schotten</i>
17:00 - 17:30	Vulnerability-Based Impact Criticality Estimation for Industrial Control Systems <i>Uchenna Daniel Ani, Hongmei He and Ashutosh Tiwari</i>	A Data Extraction Method for Anomaly Detection in Naval Systems <i>Clet Boudehenn, Jean-Christophe Cexus and Abdel Boudra</i>
17:30 - 18:00	30min Break	30min Break
18:00 - 18:30	What Could Possibly Go Wrong? Smart Grid Misuse Case Scenarios <i>Inger Anne Tøndel, Ravishankar Borgaonkar, Martin Gilje Jaatun and Christian Frøystad</i>	Restricting Data Flows to Secure Against Remote Attack <i>John O'Raw and David Lavery</i>
18:30 - 19:00	Big Fish, Little Fish, Critical Infrastructure: An Analysis of Phineas Fisher and the 'Hacktivist' Threat to Critical Infrastructure <i>Peter Maynard and Kieran Mclaughlin</i>	An Overview of Web Robots Detection Techniques <i>Hanlin Chen, Hongmei He and Andrew Star</i>
19:00 - 19:30	Automated Artefact Relevancy Determination from Artefact Metadata and Associated Timeline Events <i>Xiaoyu Du, Quan Le and Mark Scanlon</i>	Towards Detecting Human Actions, Intent, and Severity of APT Attacks by Applying Deception Techniques <i>Joel Chacon, Sean McKeown and Richard Macfarlan</i>

Themes: **Focusing on Cyber Insurance and Risk Controls & Machine Learning for insight in Cyber Security and Situational Awareness**

Tuesday June 16, 2020

11:00 - 11:30		
Sessions	Session 1 Host and Moderator: Arnau Erola & Caitlan Brownlow	Session 2 Host and Moderator: Xavier Bellekens & Molly Brennan
Tracks	Track 3: Exploiting Deep Learning for Cyber Security	Track 4: Human Factors & Visual Analytics
11:00 - 11:30	Mobile Botnet Detection: A Deep Learning Approach Using Convolutional Neural Networks <i>Suleiman Y. Yerima and Mohammed K. Alzaylaee</i>	Towards an Aggregate Signature-based Authentication for Opportunistic Networks <i>Cossi Blaise Avoussoukpo, Chunxiang Xu, Marius Tchenagnon and Nabeil Eltayieb</i>
11:30 - 12:00	"What did you say?": Extracting unintentional secrets from predictive text learning systems <i>Gwyn Wilkinson and Phil Legg</i>	The Visual Design of Network Data to Enhance the Cyber Security Awareness of the Everyday Internet User <i>Fiona Carroll, Phil Legg and Bastian Bönkel</i>
12:00 - 13:00	60mins Break	60mins Break
13:00 - 13:30	Smart Security Audit: Reinforcement Learning with a Deep Neural Network Approximator <i>Konstantin Pozdniakov, Eduardo Alonso, Vladimir Stankovic, Kimberly Tam and Kevin Jones</i>	Privacy Policy – "I agree"?! – Do alternatives to text-based policies increase the awareness of the users? <i>Pascal Faurie, Arghir-Nicolae Moldovan and Irina Tal</i>
13:30 - 14:00	Focusing on the Recovery Aspects of Cyber Resilience <i>Cyril Onwubiko</i>	Beyond the Prisoner's Dilemma: the Social Dilemmas of Cybersecurity <i>Jordan Schoenherr and Robert Thomson</i>
14:00 - 15:00	60mins Break	60mins Break
15:00 - 16:00 Keynote Speech Dr Phillipa M. Spencer, DSTL		
16:00 - 16:30	30min Break	30min Break
Tracks	Track 5: Workshop on Cyber Insurance & Risk Controls	Track 6: Cyber Threat Intelligence, OSINT & Cyber Microbiome
16:30 - 17:00	The Data that Drives Cyber Insurance: A Study into the Policy Underwriting and Claims Processes <i>Jason Nurse, Louise Axon, Arnau Erola, Ioannis Agrafiotis, Michael Goldsmith and Sadie Creese</i>	Smarter Password Guessing Techniques Leveraging Contextual Information and OSINT <i>Aikaterini Kanta, Iwen Coisel and Mark Scanlon</i>
17:00 - 17:30	A survey of cyber security in the Swedish manufacturing industry <i>Ulrik Franke and Joakim Wernberg</i>	High-Performance Monitoring Sensors for Home Computer Users Security Profiling <i>Farhad Foroughi, Hossein Hadipour and Ahmad M. Shafiee</i>
17:30 - 18:00	Cyber Insurance Market in Israel - What is the Official Policy? <i>Tal Pavel</i>	Cyber Threat Intelligence and the Cyber Meta-Reality and Cyber Microbiome <i>Joshua Sipper</i>
18:00 - 18:30	30min Break	30min Break
18:30 - 19:30 Keynote Speech Dr Jason R.C. Nurse, Assistant Professor, University of Kent		

Theme: **Tactics, Techniques and Procedures (TTPs) for Cyber Incident Response in a fast paced Digital World**

Wednesday June 17, 2020

11:00 - 11:30		
Sessions	Session 1 Host and Moderator: Arnau Erola & Caitlan Brownlow	Session 2 Host and Moderator: Patricia Endo, Pierangelo Rosati & Robert Walsh
Tracks	Track 7: Digital Evidence & Forensics	Track 8: Cyber Security Detection
11:00 - 11:30	Shouting Through Letterboxes: A study on attack susceptibility to voice assistants <i>Andrew McCarthy, Benedict R. Gaster and Phil Legg</i>	Self-Attention for Cyberbullying Detection <i>Ankit Pradhan, Venu Madhav Yatam and Padmalochan Bera</i>
11:30 - 12:00	Forensic Considerations for the High Efficiency Image File Format (HEIF) <i>Sean Mckeown and Gordon Russell</i>	A Security Perspective on Unikernels <i>Joshua Talbot, Przemek Pikula, Craig Sweetmore, Samuel Rowe, Hanan Hindy, Christos Tachtatzis, Robert Atkinson and Xavier Bellekens</i>
12:00 - 13:00	60mins Break	60mins Break
13:00 - 13:30	Using Amazon Alexa APIs as a Source of Digital Evidence <i>Clemens Krueger and Sean McKeown</i>	A Taxonomy of Approaches for Integrating Attack Awareness in Applications <i>Tolga Ünlü, Lynsay Shepherd, Natalie Coull and Colin McLean</i>

13:30 - 14:00	Introducing a forensics data type taxonomy of acquirable artefacts from programmable logic controllers <i>Marco Cook, Ioannis Stavrou, Sarah Dimmock and Christopher Johnson</i>	Cyber-security research by ISPs: A NetFlow and DNS Anonymization Policy <i>Martin Fejrskov, Jens Myrup Pedersen and Emmanouil Vasilomanolakis</i>
14:00 - 15:00	60mins Break	60mins Break
15:00 - 16:00	Keynote Speech Paul C Dwyer, CEO, Cyber Risk International	
16:00 - 16:30	30min Break	30min Break
Tracks	Track 9: Mobile Security & Ransomware	Track 10: Applications of Artificial Intelligence to Cyber Security
16:30 - 17:00	Moving Targets: Addressing Concept Drift in Supervised Models for Hacker Communication Detection <i>Andre Lima Queiroz, Brian Keegan and Susan Mckeever</i>	Acoustic Emanation of Haptics as a Side-Channel for Gesture-Typing Attacks <i>Jonathan Francis Roscoe and Max Smith-Creasey</i>
17:00 - 17:30	Memory Forensics Against Ransomware <i>Pranshu Bajpai and Richard Enbody</i>	AI Crimes: A Classification <i>Fadi Sibai</i>
17:30 - 18:00	30min Break	30min Break
18:00 - 18:30	An Empirical Study of Key Generation in Cryptographic Ransomware <i>Pranshu Bajpai and Richard Enbody</i>	Cost-Effective OCR Implementation to Prevent Phishing on Mobile Platforms <i>Yunjia Wang, Yang Liu, Tiejun Wu and Ishbel Duncan</i>
18:30 - 19:00	Assessing the Influencing Factors on the Accuracy of Underage Facial Age Estimation <i>Felix Anda, Brett Becker, David Lillis, Nhien-An Le-Khac and Mark Scanlon</i>	Pattern Extraction for Behaviours of Multi-Stage Threats via Unsupervised Learning <i>Ahmed Alghamdi and Giles Reger</i>
19:00 - 19:30		Evaluation of Machine Learning Algorithms for Anomaly Detection <i>Nebrase Elmrabit, Feixiang Zhou, Fengyin Li and Huiyu Zhou</i>

Theme: Advancing Social Media Innovation and Convergence in a Digital Economy

Thursday June 18, 2020

Sessions	Session 1 Host & Moderator: Pieranelo Rosati & Molly Brennan	Session 2 Hosts & Moderator: Xavier Bellekens, Martin Jaatun & Caitlan Brownlow
Tracks	Track 11: Emerging Nations & Risk Management	Track 12: Social Media Analytics, Communities & Learning
11:00 - 11:30	Sociotechnical Approaches to Cyber Security in Emerging Nations: A Case Study in Risk Management for Rwandan Health Care <i>Joseph Kaberuka and Christopher Johnson</i>	5Es -> 4Cs 21st-century skills learning <i>Jasmina Manic</i>
11:30 - 12:00	Implementing the NIS Directive, driving cybersecurity improvements for Essential Services <i>Tania Wallis and Christopher Johnson</i>	Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers <i>Evangelos Moustakas, Nishtha Lamba, Dina Mahmoud and C Ranganathan</i>
12:00 - 13:00	60mins Break	60mins Break
13:00 - 13:30	Cybersecurity Risk Management in Small and Medium-Sized Enterprises: A Systematic Review of Recent Evidence <i>Abdulmajeed Abdullah Alahmari and Robert Anderson Duncan</i>	Social big data: A Twitter text mining approach to the communication of universities during the Lebanese protests <i>Katia Raya, Nicole Dalmeida and Maroun Chamoun</i>
13:30 - 14:00	Towards Security Attack and Risk Assessment during Early System Design <i>Lukas Gressl, Michael Krisper, Christian Steger and Ulrich Neffe</i>	Introducing & Evaluating 'Nutrition Facts' for Online Content <i>Matthew Spradling, Jeremy Straub and Jay Strong</i>
14:00 - 14:30	30mins Break	30mins Break
Tracks	Track 13: Cyber Security Education	Track 14: Cyber Security, Privacy & Ethics
14:30 - 15:00	Examining the Impact of Implementing Cyber Security Articulation Agreements Between Public and Private Higher Educational Institutions in 9-12 High Schools <i>Thomas J. Rzemysk</i>	Technical codes' potentialities in cyber security: A contextual approach on the ethics of small digital organizations in France <i>Theo Simon and Bertrand Venard</i>
15:00 - 15:30	Educating multidisciplinary undergraduates on security and privacy <i>Katorah Williams, Mollie Rose Ducoste and Aunshul Rege</i>	Privacy Protection Behaviours: a diversity of individual strategies <i>Bertrand Venard</i>
15:30 - 16:00	30mins Break	30mins Break
16:00 - 17:00	Keynote Speech Steven B. Lipner, Executive Director, SAFECODE	
17:00 - 17:30	30min Break	30min Break
17:30 - 18:00	Think Smart, Play Dumb: A Game-Theoretic Approach to Study Deception in Hardware Trojan Testing <i>Tapadhir Das, Abdelrahman Eldosouky and Shamik Sengupta</i>	Insider Threat Detection: A Solution in Search of a Problem <i>Jordan Schoenherr and Robert Thomson</i>
18:00 - 18:30	Epistemological Questions for Cybersecurity <i>Timothy D. Williams</i>	Platform for monitoring and clinical diagnosis of arboviruses using computational models <i>Sebastião Rogério da Silva Neto, Thomás Tabosa de Oliveira, Vanderson Sampaio, Theo Lynn and Patricia Endo</i>
18:30 - 18:40	10mins Break	30mins Break
	Industry Panel Discussion	
18:40 - 19:40	Digital Shadows [TBC] Wayne Bursey, Industrial Cyber Security Lead, Siemens Ltd	

Theme: Data Science and Emerging Technologies

Friday June 19, 2020

11:00 - 12:00	Industry Panel Discussion - IT Security & Governance, Risk & Assurance in the Enterprise post-COVID-19 Vincent Blake, VP, IT Security & GRCA, Pearson Plc Valerie Lyons, COO, BH Consulting	
12:00 - 12:30	30mins Break	30mins Break
Sessions	Session 1 Hosts and Moderator: Grace Fox & Niamh Byrne	Session 2 Host and Moderator: Pierangelo Rosati & Molly Brennan
Tracks	Track 15: Data Science & Machine Learning for Cyber Security	Track 16: Security Testing & Continuous Vulnerability Assessment
12:30 - 13:00	Graphical analysis of captured network packets for detection of suspicious network nodes <i>Felix Larbi Aryeh, Boniface Kayode Ales and Olayemi Olasehinde</i>	Analysis of the RPL Version Number Attack with Multiple Attackers <i>Ahmet Aris and Sema F. Oktug</i>
13:00 - 13:30	Secure Framework for Anti-Money-Laundering using Machine Learning and Secret Sharing <i>Arman Zand, James Orwell and Eckhard Pfluegel</i>	Decentralized Identifier Distribution for Moving Target Defense and Beyond <i>Daniel Krohmer and Hans D. Schotten</i>
13:30 - 14:00	Explainable AI in Smart Healthcare <i>Urja Pawar and Ruairi O'Reilly</i>	Automated Vulnerability Testing via Executable Attack Graphs <i>Drew Malzahn¹, Zachary Birbaum¹, Cimone Wright-Hamor</i>
14:00 - 15:00	60mins Break	60mins Break
15:00 - 16:00	Keynote Speech Dr Siôn Lloyd, Lead Security, Stability & Resiliency Specialist, ICANN	
16:00 - 17:00	60min Break	60min Break
Tracks	Track 17: Emerging Technologies, IoT & Bots	Track 18: Blockchain & Crypto
17:00 - 17:30	A Design Exploration Framework for Secure IoT-Systems <i>Lukas Gressl, Alexander Rech, Christian Steger, Andreas Sinnhofer and Ralph Weissnegger</i>	ethVote: Towards secure voting with distributed ledgers <i>Johannes Mols and Emmanouil Vasilomanolakis</i>
17:30 - 18:00	Testing And Hardening IoT Devices Against the Mirai Botnet <i>Christopher Kelly, Nikolaos Pitropakis, Sean Mckeown and Costas Lambrinoudakis</i>	A DLT-based Trust Framework for IoT Ecosystems <i>Tharindu Ranathunga, Ramona Marfievci, Alan McGibney and Susan Rea</i>
18:00 - 18:30	30min Break	30min Break

18:30 - 19:00	Application and analysis of record linkage techniques to integrate Brazilian health databases <i>Maicon Herverton Lino Ferreira da Silva Barros, Morgana Thalita da Silva Leite, Vanderson Sampaio and Patricia Takako Endo</i>	Application of the Benford's law to Social bots and Information Operations activities <i>Lale Madahali and Margeret Hall</i>
19:00 - 19:30	Conference Closure - Plenary Q&A	