EVENT AGENDA

CYBERUK 2018, MANCHESTER CENTRAL CONVENTION COMPLEX, 10 – 12 April 2018

DAY 1: CYBERUK IN PRACTICE   **TUESDAY 10 APRIL 2018**

CYBERUK in Practice brings together the professional community responsible for developing and implementing cyber security across government, academia, industry and critical national infrastructure.

Over 2 days, this interactive event will provide a range of sessions to cater for all levels of technical knowledge and experience, using the much-enjoyed chilli ratings we introduced in 2017.

The event content will be driven by delegates, sponsors, and exhibitors to create an environment that promotes diversity, generates challenging discussions, and identifies opportunities that together will help make the UK the safest place to live and work online.

The agenda for **CYBERUK in Practice** includes compelling plenary keynotes, panel debates (led by the NCSC's Technical Directors) and a series of tracks.

TIME	ACTIVITY
08:45 – 10:15	**Delegate Registration – Exhibition Opens**
10:15 – 10:25	**Plenary Session, Exchange Hall** **CYBERUK in Practice Chair's Welcome** The NCSC Chair will welcome attendees to CYBERUK 2018 and set the tone for the next two days.
10:25 – 10:50	**Plenary Session, Exchange Hall** **Industry Keynote Address** Mark Ryland, Director, Office of the CISO, Amazon Web Services Cloud Security - Myths and Opportunities How do you trust cloud service providers to be secure? Mark Ryland, Director, Office of the CISO at AWS will talk about how global cloud providers build security into the platform and how we can leverage that to enhance our own security. In doing so, Mark will try and bust some of the common myths about cloud security.
10:50 – 11:15	**Plenary Session, Exchange Hall** **Talking Cyber to the Board** Joanna Place, Deputy Governor and Chief Operating Officer, Bank of England Securing buy-in from the board is essential to delivering a security programme that supports the key priorities of an organisation. Joanna will draw on her experience as Deputy Governor and COO of the Bank of England to provide practical advice about how to engage your board on cyber security.
11:15 – 12:00	**Coffee Break & Exhibition**

TRACKS	TRACK 1: VULNERABILITIES	TRACK 2: MITIGATIONS	TRACK 3: DETECT & DEFEND	TRACK 4: WHOLE SYSTEM SECURITY
	Sponsor: Microsoft	Sponsor: Northrop Grumman	Sponsors: Roke / QinetiQ	Sponsor: DXC
	It's a fact of life that software and systems will contain vulnerabilities and bugs. This track explores vulnerability discovery, maturity of vulnerability handling and reducing bugs in the future.	This track showcases the art of the possible with security mitigations, ranging from activity in the commodity and home IT space through to more advanced secure mobile mitigation techniques.	An effective monitoring approach is essential to securing modern systems. This track presents an up to date view of real world attacks and a range of monitoring use-cases covering SOCs, analytical techniques and technology.	This track will review the best approaches to security analysis, management and modelling, drawing on what we can learn from disciplines such as safety engineering. We'll also look at how we can more effectively communicate 'cyber' and understand expert opinion on cyber risk.

12:00 – 12:40 TRACKS SESSION ONE	SESSION ONE			
	TRACK 1, Exchange Auditorium	TRACK 2, Charter 2&3	TRACK 3, Charter 1	TRACK 4, Cobden Suite
	Vulnerability handling and maturity 🌶🌶	**Secure Software Development: Where 'cyber science' has failed, can social science succeed?** 🌶	**Part 1: Protecting £637bn - the evolution from a reactive to proactive SOC** 🌶🌶	**Lessons from safety engineering – applying systems thinking to cyber security** 🌶
	Organisations and enterprises should think carefully when developing vulnerability handling and maturity. Developing maturity is more than moving from an email address to a bug bounty. This session will cover the steps entailed and give a real perspective and lessons learnt from NCSC's efforts since CYBERUK 2017.

Speakers:

Katie Moussouris, LutaSecurity

Rob T, NCSC | We see the same mistakes and vulnerabilities in software over again, and we've seen a huge democratisation of software development over the last decade. Is it time to realise we need a different approach to secure software? One that considers security from the perspective of the developer?

This session will explore the benefits that social science can bring to the topic. Where's the sweet spot that yields the right mix of quality, cost & time? How do information sources affect code security? And what | In the first half of this session, Jonathan Pagett explores how the Bank of England has evolved their Security Operations Centre in order to protect over £637bn every day.

Speaker:

Jonathan Pagett, Bank of England

Part 2: Good security monitoring on a budget 🌶🌶

Harry Metcalfe, CEO of DXW (an SME focused on Government web hosting), introduces how they've managed to provide security monitoring on a small budget, | Dr John Thomas from the Massachusetts Institute of Technology (MIT) will introduce some of the core ideas behind the STAMP framework – which can be used to identify security risks that traditional security risk assessment techniques might miss. Originating from safety engineering, STAMP applies Systems Theory derived concepts to analysing the risks faced by complex systems.

Speaker:

Dr John Thomas, MIT |

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		tools are there around to help? are all questions we will discuss. **Speakers:** Helen L, NCSC Yasemin Acar, University of Hannover Rod Chapman, Altran Rod Fitzgerald, Secure Code Warrior	giving practical ideas for teams facing the same challenges. **Speaker:** Harry Metcalfe, DXW	
12:40 – 14:00	**Networking Lunch & Exhibition** Lightning Talks on the Spotlight Stage			TREND MICRO
13:00 – 13:35	**CYBERUK IN PRACTICE WORKSHOPS**			
	Charter 1	**Charter 2&3**	**Charter 4**	**Exchange 9**
	egress	National Cyber Security Centre a part of GCHQ	ForeScout	National Cyber Security Centre a part of GCHQ
14:00 – 14:40 **TRACKS SESSION TWO**	**SESSION TWO**			
	TRACK 1, Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	The vulnerability of the web	**Managing personal Internet of Things (IoT)**	**SOC's, what's the point?**	**Introducing the Cyber Security Body of Knowledge (CyBOK)**
	The world wide web was created in 1989, OWASP came online in 2001 and still we are battling with web vulnerabilities. Web vulnerabilities are as prevalent today as they were in 2001. In this session, we'll review the top 10 attack chains in 2017, and set out one of the technologies NCSC is deploying to protect HM Government online. **Speakers:** Chris Anley, NCC Group Jamie H, NCSC	As devices have gradually integrated into our home networks through discount sales, product announcements or crowdfunded innovation, let's look at how our cyber security appetite may have changed without the conscious planning that our work-related systems are subject to. This session will ask some questions about your IoT and explore smart gadgets, home and even medical devices, and discuss the conscious decisions that need to be made about their connections.	In this session, a panel of members from different sectors will discuss whether Security Operations Centres, as we know them, are necessary, and what 'good' looks like. **Panellists:** Stuart Aston, Microsoft (panel lead) Dave Rogers, Ministry of Justice Don Smith, Secureworks Nic Miller, Aedile Consulting Abigail Goodman, Barclays	Cyber Security's foundational professional knowledge is fragmented. In this session, Professor Awais Rashid will introduce CyBOK, the Cyber Security Body of Knowledge project, that aims to codify the foundational knowledge in the field of Cyber Security. He will discuss how knowledge areas have been identified for inclusion within CyBOK, whilst introducing how employers can use CyBOK to identify suitably skilled individuals, and how this could help the UK to address the cyber security skills gap.

		Speakers:		**Speakers:**
		Amy B, NCSC		Prof Awais Rashid and Yvonne Rigby, University of Bristol
		Jonathan Marshall and Callum Wilson, Connect Devices		

14:50 – 15:30	**SESSION THREE**			
TRACKS SESSION THREE	**TRACK 1,** Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	Automation FTW 🌶️🌶️	**Building mobile solutions for sensitive data** 🌶️🌶️	**Part 1: Parliament cyber attacks - an insight into what happened** 🌶️🌶️	**The many voices of cyber risk – fusing diverse expert opinions on cyber risk** 🌶️🌶️
	A researcher's time is expensive. Making use of automation and tools to reduce repetitive tasks and point a human in the direction of likely security issues can provide huge efficiency savings. In this session, perspectives from both academia and industry explore how the burden on individual researchers might be reduced.

Speakers:

Sean Heelan, Oxford University

Georgi Geshev and Robert Miller, MWRInfosecurity | This session will explore advanced secure mobility. It will touch upon capabilities being developed for a range of highly challenging use-cases, the risk managed approach taken, architectural approach and monitoring.

Speakers:

Stuart H, NCSC

Tony B, NCSC | Revealing details of June's cyber-attack on Parliament - what was experienced? What lessons have we learned? How can we prepare for the future?

Speaker:

Mark Harbord, Houses of Parliament

Part 2: Cyber threat hunting at Ministry of Defence 🌶️🌶️🌶️

Insight into how the Ministry of Defence has been growing their internal Cyber threat hunting capability.

Speakers:

Andy Gittins and Luke O'Brien, Ministry of Defence | How can we make the best use of experts in cyber security? Dr Christian Wagner from the Lab of Uncertainty in Data and Decision Making at the University of Nottingham will introduce ongoing research into techniques for combining risk information from a variety of experts. Kev Jones will then discuss the practical implications of this research on the threat models used within JP Morgan Chase.

Speakers:

Dr Christian Wagner, Nottingham University

Kev Jones, JP Morgan Chase |

15:30 – 16:10	**INDUSTRY INSIGHTS**			
INDUSTRY INSIGHTS	Microsoft	NORTHROP GRUMMAN	Roke, Part of the Chemring Group / QINETIQ	DXC.technology

16:10 – 17:00	**Coffee Break & Exhibition**			TREND MICRO

17:00 – 17:40	SESSION FOUR			
TRACKS SESSION FOUR	**TRACK 1,** Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	The low(er) hanging fruit ⚡⚡	**Modern IT Security Mythbusters** ⚡	**Event driven security and automation as a Security Team in the Cloud** ⚡⚡⚡	**Standards, regulation and guidance in cyber – what are they good for?** ⚡
	The explosion in availability and the low cost of entry in the IoT and mobile arenas have led to huge challenges in the sector. Insecurity by design and poor coding practice have led to security debt and regular exposure of significant vulnerabilities. Building maturity in academia as well as commercial space is important. Two presentations will cover some of the approaches from industry researchers and academics.

Speakers:

Daniel Cater, ContextIS

Chris McMahon Stone, Birmingham University | This session will challenge some preconceptions associated with devices that constantly chatter with the Internet and what's often seen as the risky transition into public cloud services. Bring your experience, opinions and preconceptions along to explore a variety of themes including accessibility, malware defence, and risk managing the unknown.

Speakers:

Andrew A, NCSC

Amy B, NCSC

Eleanor S, NCSC

Jamie H, NCSC | Operating a security practice in the cloud brings many new opportunities that haven't been available in traditional data centre environments. In this session, learn how your security team can leverage various techniques to detect and automatically respond to threats, freeing up valuable team resources. We will show both native AWS tools as well as sample Open Source based tools to enforce desired behaviour and how to use event driven security to automate your detection and remediation activities.

Speaker:

Henrik Johansson, Amazon Web Services | With GDPR and the NIS directives coming into force this year, we'll take stock on how organisations can make best use of standards, guidance and regulations. How specific should they be? Should they focus on processes or outcomes? What are the risks of making requirements mandatory? How can we avoid compliance cultures? How can market-based incentives work in this space?

Speakers:

Dr Daniel Dresner, Manchester University

Nic Miller, Aedile Consulting

Robert Laid, Government Internal Audit Agency (GIAA)

Rachel P, NCSC

Peter D'Ardenne, DXC |
| 17:50 – 18:10 | **Plenary Session, Exchange Hall**

Government perspective on UK Cyber Security | | | |
| 18:10 – 18:25 | **Plenary Session, Exchange Hall**

Closing Plenary Session
CYBERUK in Practice Chair's Day 1 summary | | | |
| 18:30 – 21:00 | **Informal Networking Evening**

This day culminates with activities in the Exhibition Hall. Delegates will hear specially selected thought provoking Lightning Talks on the Spotlight Stage. This will be a prime time for networking within the exhibition and a chance to get involved in the conversations whilst enjoying food and refreshments. | | | TREND MICRO |
| 21:00 | Close of Day One | | | |

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TIME	ACTIVITY
08:15 – 09:00	**Day 2 Delegate Registration – Exhibition & Refreshments**
09:00 – 09:10	**Plenary Session, Exchange Hall** **Welcome to Day 2 from Ciaran Martin, NCSC CEO**
09:10 – 09:30	**Plenary Session, Exchange Hall** **Data Protection and GDPR** James Dipple-Johnstone, Deputy Information Commissioner, ICO The General Data Protection Regulation, better known simply as GDPR comes into force barely a month after CYBERUK. James Dipple-Johnstone, the Deputy Information Commissioner, will present an incredibly timely keynote overview of GDPR implementation with a specific focus on cyber security.
09:30 – 10:10	**Plenary Session, Exchange Hall** **Diversity Panel Discussion** The technology profession, and in particular cyber security, does not reflect the society we serve and does not benefit from the widest and most diverse participation. This panel will seek to address some of the reasons why this is so, and what we can all do as a community to make the cyber profession more diverse to address this issue. Panel Chair: Chris Ensor, NCSC Sarah S, NCSC Emma Philpott, Key IQ Ltd Campbell McCafferty, HMG Chief Security Officer, Cabinet Office Dr Alison Vincent, Group CISO, HSBC
10:10 – 10:50	**Coffee Break & Exhibition** TREND MICRO

10:50 – 11:30 **TRACKS SESSION FIVE**	SESSION FIVE			
	TRACK 1, Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	Bug hunting through crowd sourcing 🌶🌶	**Secure by Default Partnership Programme** 🌶	**Top of the Attacks** 🌶🌶	**Techies speak German, management speak French – why communication is the biggest problem with cyber security** 🌶
	Crowd-sourcing for vulnerabilities is not new but does help organisations and software vendors take advantage of the community. There are many ways to achieve this and, in this session, we hope to have a fruitful discussion about crowd-sourcing.	This session will present case studies on Improving Authentication for End Users from the NCSC's Secure by Default Partnership Programme. **Speakers:** Andy P, NCSC Diane Lovejoy and Tony Clayburn, Ofqual Carol Peters, Renfrewshire Council	The NCSC Assessment and Incident Management teams will provide a countdown of the top threats and attacks we've witnessed in 2017. **Speakers:** Eleanor F, NCSC Threat Assessment Harry W, NCSC Incident Management	In our digital economy, secure technology underpins every organisation's ability to function. However, the language used to describe cyber risks is often laced with jargon and ambiguity. Dr Ruth Massie from Cranfield University will discuss her research into organisational governance and cyber security to highlight why clear communication

Panellists: Karen D, NCSC (chair) Adam Ruddermann, NCC Group Casey Ellis, Bugcrowd Ron Peeters, Synack Katie Moussouris, LutaSecurity	Tony Smith, Chesterfield Borough Council		between cyber technical experts and decision makers is essential to good security practice. Dr Massie will provide some practical advice on how to improve the communication of cyber risk at board level. **Speaker:** Dr Ruth Massie, Cranfield University

11:40 – 12:20 **TRACKS SESSION SIX**	SESSION SIX			
	TRACK 1, Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	Vulnerabilities in mature software 🌶️🌶️🌶️	**CHERI – Architectural Support for Memory Protection and Compartmentalisation** 🌶️🌶️🌶️	**Common mistakes customers make and getting the basics right** 🌶️	**Building cyber into the Credit Risk Model – sizing your third party cyber risk** 🌶️🌶️
	Even the most mature platforms are not free from vulnerabilities – in this session you'll get an insight from a vulnerability researcher who tackles the hardest platforms. You'll see how robust mitigations are difficult to bypass, but also how vulnerabilities can be found in our most secure software. **Speaker:** James Forshaw, Google	Capability Hardware Enhanced RISC Instructions (CHERI) extends a conventional RISC architecture, providing fine-grained memory protection and scalable software compartmentalisation. This talk will introduce the CHERI approach, and describe the current software research direction including recent applications of CHERI's protection capabilities. **Speaker:** Dr Robert N.M. Watson, University of Cambridge Computer Laboratory	We explore common customer mistakes, as witnessed by QinetiQ's pentest team, followed by Nic Miller's views as an independent consultant and CISO, about how to get the basics right. **Speakers:** Paul Beechey, QinetiQ Nic Miller, Aedile Consulting	An organisation's cyber risk rarely exists in isolation. Cyber risks can drive other operational risks as well as exposure to financial risks. In this session, Ben Payne from Lloyds Banking Group will introduce a technique for merging assessments of cyber risk with an existing credit risk model, and the benefits it brings for both parties. **Speaker:** Ben Payne, Lloyds Banking Group

12:20 – 13:25	**Networking Lunch & Exhibition** Lightning Talks on the Spotlight Stage	TREND MICRO

12:35 – 13:10	CYBERUK IN PRACTICE WORKSHOPS				
	Charter 1	**Charter 4**	**Charter 2&3**	**Exchange 11**	**Cobden Suite**
	context	National Cyber Security Centre *a part of GCHQ*	CISCO	National Cyber Security Centre *a part of GCHQ*	Cabinet Office

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13:25 – 14:05	SESSION SEVEN			
TRACKS SESSION SEVEN	**TRACK 1,** Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	Reducing the number of bugs 🌶️🌶️	**Commodity IoT review** 🌶️	**Threat hunting - what to search for?** 🌶️🌶️🌶️	**The cyber security risks of digital hoarding behaviours** 🌶️
	The outlook for vulnerabilities is not as bleak as it seems, it isn't all bugs, bugs, bugs. These presentations show how the landscape is changing. The first is looking at new languages that eliminate memory corruption issues and address concurrency problems. The second presentation will look at tackling vulnerabilities in cloud platforms. **Speakers:** Chris J, NCSC Graham Calladine and Steve Hunter, Microsoft	Emma Green will provide an overview of the Internet of Things (IoT) review for DCMS. **Speaker:** Emma Green, DCMS James Martin, British Retail Consortium	Threat hunting is a hot topic at the moment, where analysts are creating their own use cases and techniques to find attackers. But what do these analytics look like? Quick-fire use cases from a range of organisations that you can try out back at base. **Speakers:** Carly West, Bank of England Tom Farrar, Government Digital Service Nilesh Gorasia, DWP Greg Smith and Siddharthan Elangovan, Ministry of Justice	Nick Neave from Northumbria University will present his latest research on digital hoarding behaviours, exploring why some staff may fail to delete information. Nick will present the results from his 'Digital Hoarding Questionnaire' and provide practical advice on how to manage the risks of digital hoarding. **Speaker:** Nick Neave, University of Northumbria
14:05 – 14:45	**Coffee Break & Exhibition**		TREND MICRO™	
14:45 – 15:25	SESSION EIGHT			
TRACKS SESSION EIGHT	**TRACK 1,** Exchange Auditorium	**TRACK 2,** Charter 2&3	**TRACK 3,** Charter 1	**TRACK 4,** Cobden Suite
	The vulnerability ecosystem 🌶️🌶️	**Hardware Security and Side-channel Resistance in RISC-V architectures** 🌶️🌶️🌶️	**Machine learning overview and real-world examples** 🌶️🌶️🌶️	**Artificial intelligence in cyber: threat or saviour?** 🌶️
	Covering all aspects of 'Vulnerabilities and Bug Hunting' is hard as there are many aspects to the subject. Closing this track there will be a number of rapid presentations to present some of the other angles on this	This session will discuss RISC-V, an open Instruction Set Architecture (ISA), with input from academia, industry, and NCSC. **Speakers:** Dr Dan Page, University of Bristol	Splunk and Secureworks will be exploring the types of problems that lend themselves to machine learning, and some real-world examples of efficiencies made at Secureworks.	We are only just beginning to scratch the surface of exploring the applications of Artificial Intelligence (AI) in cyber security, and there are plenty of unexplored questions around the application of these technologies.

	topic, from members of the community. **Speakers:** Mark Barnes, MWR InfoSecurity Greg Smith, Ministry of Justice Matt Lewis, NCC Group Sascha Fahl, Leibniz University, Hannover	Cerberus Security Lab, *speaker to be confirmed*	**Speakers:** Paul Bryant, Splunk Lewis McLean, SecureWorks	What can we reasonably expect of AI in cyber? What threats are we exposing ourselves to when we automate cyber risk management decisions? Is AI being oversold in cyber security, or are we being too cautious in its application? In this panel discussion, we bring together some of the leading experts in cyber security and Artificial Intelligence, to help separate the substance from the hype. **Panellists:** Mohammad Dabbah, Roke (chair) Derek McAuley, University of Nottingham Kev Jones, JP Morgan Chase Kate R, NCSC Miles Brundage, Oxford University Stuart Laidlaw, Cyberlytic

15:35 – 16:00	**Closing Plenary Session, Exchange Hall** Dr Ian Levy, Technical Director NCSC Ian will lead the closure of CYBERUK in Practice. He will reflect on the key themes and issues raised over the course of the event, addressing questions from attendees and actions to take forward.
16:00	**Close of CYBERUK in Practice**

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