Building a Scottish Cyber Resilience Research Community.

Monday 15th February, 10.00 - 16.00
Scottish Police College, Court Room, Tulliallan

Speaker	Affiliation	e-mail	Presentation	Comment
Registration Tea/Coffee				09.00
Gregor Lindsay & Linda Green	Scottish Government	Gregor.Lindsay@gov.scot; linda.green@gov.scot	Introduction	10.00
An Overview of the Networks and Consortia 10.10 to 11.30				
Dr Felicity Carlysle / Hazel Biggs / Ian Osborn	Knowledge Transfer Network	felicity.carlysle@ktn-uk.org; hazel.biggs@ktn-uk.org; ian.osborne@ktn-uk.org	The Knowledge Transfer Network	
Richard Buxbaum	Scotland Europa	Richard.Buxbaum@scotent.co.uk	Scottish Support for Horizon 2020	
Professor Nicholas Fyfe	SIPR, Director	n.r.fyfe@dundee.ac.uk	SIPR and European Networks	
Marwan Fayed	University of Stirling	mmf@cs.stir.ac.uk	SICSA	
Helen Almey	Innovate UK	Helen.Almey@innovateuk.gov.uk	Innovate UK	
Martin Beaton	Cyber Security Network Integrator for Scotland	martin.beaton@uk.pwc.com		
"SANDPIT" 11.30 to 14.30 (lunch c. 12.30 to 13.15)				
Speaker	Affiliation	e-mail	Topic / Issue for "pitch"	Comment
Dr Wendy Moncur FRSA	University of Dundee	wmoncur@dundee.ac.uk	Human behaviour in digital contexts	
Tristan Henderson	University of St Andrews	tnhh@st-andrews.ac.uk	Ethics of large-scale data collection	
Malcolm Warr OBE	Holywood Forum	mdfwarr@gmail.com; Mdfw@Maritimeservices.co.uk	The technology versus people balance in Cyber security capability	
Mary Munro	Scottish Justice Matters	editor@scottishjusticematters.com	Communicating the issues around cybercrime and Scotland	
Liam Ralph	Edinburgh Napier University	10005254@live.napier.ac.uk	Communication and engagement between the police and citizens using social networking sites	

Alex McIntyre	Edinburgh Napier University	a.mcintyre@napier.ac.uk	Psychology and victimology of cyber crime	
Megan O'Neill	University of Dundee	m.oneill@dundee.ac.uk	Policing, surveillance, online communication	
Richard Jones	University of Edinburgh	richard.jones@ed.ac.uk	Criminology, cybercrime, cyber security, resilience	
Robert Flanagan	Lancashire Constabulary	Robert.flanagan@lancashire.pnn.police.uk	Cybercrime and innovation	
Nhamo Mtetwa	Glasgow Caledonian University	nhamoinesu.mtetwa@gcu.ac.uk	Data/Information Centric Security	
Scott McGready	Nixcall Ltd	scott.mcgready@nixcall.com	anti-spam and anti-scam technology	
Mathew Nicho	Robert Gordon University	m.nicho1@rgu.ac.uk	Advanced Persistent Threats	
Ishbel Duncan	St Andrews	ishbel.duncan@st-andrews.ac.uk	security, testing, evaluation, patterns	
Bob Duncan	University of Aberdeen	bobduncan@abdn.ac.uk	Cloud Cybersecurity	
Dimitrios Pezaros	University of Glasgow	dimitrios.pezaros@glasgow.ac.uk	Networked Infrastructure and Services Protection and Resilience.	
Ian Ferguson	Abertay	ian.ferguson@ablibris.co.uk	Digital Forensics and Ethical Hacking	
Paddy Tomkins	Droman Ltd	paddy.tomkins@droman.co.uk	Training	
Jamie Brogan	Edinburgh Napier University	j.brogan@napier.ac.uk	Developing and scaling capacity in cyber skills	
Burkhard Schafer	University of Edinburgh	b.schafer@ed.ac.uk	Collaborative approaches to cyber-resilience and the question of law compliance by design	
Calum Jeffrey	Royal United Services Institute (RUSI)	calumj@rusi.org	Cyber security from strategic, policy, military and law enforcement perspectives	
John Issacs and Sean Sturley	Robert Gordon University	j.p.isaacs@rgu.ac.uk; s.sturley@rgu.ac.uk	Cyber Security - Incident Management and Threat Visualisation	
Matthew Pemble	Goucher Consulting	matthew@goucher.co.uk	Cyber Resilience in the Operational Context	
Karen Renaud	University of Glasgow	karen.renaud@glasgow.ac.uk	Resilience	
Julia Gillam	Edinburgh Napier University	j.gillam@napier.ac.uk	Collaboration on Research and Innovation projects; particularly H2020.	
Final Session 14.30 to 15.30				
Duncan Hart	The Data Lab	duncan.hart@thedatalab.com	Cyber research opportunities: a Data Lab perspective	
Gregor, Nick, Marwan			Close & next steps	
Tea / Networking 15.30 to 16.00				

OUTLINES OF "PITCHES"

Name: Dr Wendy Moncur FRSA

Email address: wmoncur@dundee.ac.uk

Telephone number: 01382386538

Organisation: UNIVERSITY OF DUNDEE

Issue / Topic of interest: My area of interest in this call lies in human behavior in digital contexts.

My academic areas of expertise are: Human Computer Interaction, Socio-technical systems, human experience in a digital age, expected & unexpected transitions across the human lifespan. My publications include a heavily-cited study of password usability (http://dl.acm.org/citation.cfm?id=1240758).

Prior to academia, I worked as a Database Administrator in large Financial Services companies - eg - RBS. My remit included data security strategy and delivery for very large databases across multiple banks and products.

Outline of 'pitch': GCHQ's "Cyber security guidance for business" (2016) identifies that people are central to cyber resilience capability- as users, enforcers, and as attackers.

From my previous work as Principal Investigator on the EPSRC funded project "Charting the Digital Lifespan", I know that how people perceive risk and how they behave in digital contexts varies across communities and age groups - for example, young adults in their late teens behave very differently to older adults on the verge of retiring. Social norms of online behaviour are emerging and evolving dynamically.

Opportunities exist to create new behavioural norms that promote cyber resilience. This calls for deep and nuanced understanding of online behaviour across the wide range of people that are central to cyber resilience capability, across communities and age groups. This understanding will enable us to develop offline and online approaches that promote and normalise positive online behaviours that enhance cyber resilience effectively,

Potential example collaborators include psychologists, economists, sociologists, law enforcement agencies, business.

Name: Tristan Henderson

Email address: tnhh@st-andrews.ac.uk

Telephone number: 01334 461 637

Organisation: University of St Andrews

Issue / Topic of interest: Ethics of large-scale data collection

Outline of 'pitch': Many applications, ranging from advertising to online social networking to security and policing, involve the use of large-scale data collection from Internet users. There are myriad ethical, legal and privacy issues involved in the use of such data. We have been exploring the use of methods from both computer science and philosophy to address some of these challenges and would like to see if there are any applications in the policing field.

Name: Malcolm Warr OBE

Email address: mdfwarr@gmail.com

Telephone number:

Organisation: Holywood Forum

Issue / Topic of interest: The technology versus people balance in Cyber security capability

Outline of 'pitch': I chair a Cyber capability company based in New Zealand and have chaired a number of conferences on all aspects of cyber security in 2015. We need to understand the role and training needs of people rather than rely disproportionately on technology solutions

Name: Mary Munro

Email address: editor@scottishjusticematters.com

Telephone number: 0141 576 6595 (home)

Organisation: Scottish Justice Matters

Issue / Topic of interest: Communicating the issues around cybercrime and Scotland

Outline of 'pitch': SJM is an open and accessible journal focusing on crime and justice in Scotland. Each issue has an expert guest edited theme and in November 2016 that will be 'cybercrime'.
As managing editor I am seeking to identify knowledgeable specialists in the field, ideally a practitioner and a researcher, who could jointly work on this issue with us.
This meeting would seem to be an ideal opportunity to do so.

Name: Liam Ralph

Email address: 10005254@live.napier.ac.uk

Telephone number: 07410981688

Organisation: Edinburgh Napier University

Issue / Topic of interest: Communication and engagement between the police and citizens using social networking sites

Outline of 'pitch': 1-Background to social networking sites and associated opportunities in developing the cyber resilience strategy.
2- How policy around communication and engagement is interpreted and implemented using social networking sites across policing command?
3- Policing challenges in procuring communication and/or engagement using social networking sites.
4- Who communicates/ engages with policing accounts and what does this look like?

Name: Alex McIntyre

Email address: a.mcintyre@napier.ac.uk

Telephone number: 0131 455 6013

Organisation: Edinburgh Napier University

Issue / Topic of interest: Psychology and victimology of cyber crime

Outline of 'pitch': There are two converging approaches that I would like to consiuder with colleagues at the Sandpit event. The first is to profile victimology of those who are victims of cyber crime with a view to developing awareness and prevention strategies. The second is to consider profiles and risk factors of juveniles who develop a cyber offending profile, also with a view to identifying detection, intervention and prevention strategies.

Name: Megan O'Neill

Email address: m.oneill@dundee.ac.uk

Telephone number: 01382 381238

Organisation: University of Dundee

Issue / Topic of interest: Policing, surveillance, online communication

Outline of 'pitch': I am currently involved in a Horizon2020 project examining how to develop an 'app' and online portal to facilitate communication between the police and 'hard to reach' communities. Ensuring that this communication method is secure and meets Data Protection requirements is of keen interest to me.

Name: Dr Richard Jones

Email address: richard.jones@ed.ac.uk

Telephone number: 0131 650 2032

Organisation: University of Edinburgh

Issue / Topic of interest: Criminology, cybercrime, cyber security, resilience

Outline of 'pitch':
1. Enhancing institutional resilience in relation to cyber security in Scotland
2. Cybercrime prevention: combatting social engineering

Name: Robert Flanagan

Email address: Robert.flanagan@lancashire.pnn.police.uk

Telephone number: 01772412545

Organisation: Lancashire Constabulary

Issue / Topic of interest: Cybercrime and innovation

Outline of 'pitch': Proactive Online presence by policing services in order to indentify and protect potential victims of their community from online abuse or harm. patrol open source or closed groups by invitation and networks to engage users and raise awareness. Explore opportunities around recruiting group or site users as online ambassadors or police volunteers to build capacity and extend reach of police online.

Name: Nhamo Mtetwa

Email address: nhamoinesu.mtetwa@gcu.ac.uk

Telephone number: 01413313954

Organisation: Glasgow Caledonian University

Issue / Topic of interest: Building a Scottish Cyber Resilience Research Community.

Outline of 'pitch': Data/Information Centric Security. Besides securing the network perimeters we need to let the data secure itself

Name: Scott McGready

Email address: scott.mcgready@nixcall.com

Telephone number: 07515675482

Organisation: Nixcall Ltd

Issue / Topic of interest:

Outline of 'pitch': My company, Nixcall ltd, develops anti-spam and anti-scam technology. I've been involved in television shows to do with crime and scams as the technical expert on how a scam was achieved. As part of my other company's work I also conduct penetration tests of systems and infrastructure to ensure compliance and security.

Name: Mathew Nicho

Email address: m.nicho1@rgu.ac.uk

Telephone number: 01224 262734

Organisation: Robert Gordon University

Issue / Topic of interest: Advanced Persistent Threats

Outline of 'pitch': At the start of 2014, the UK SME sector accounted for 99.3 per cent of all private sector businesses; it employed 15.2 million people and had a combined turnover of £1.6 trillion.
From a cyber-security perspective for the small business, the average cost of the worst security breach of the year was £65-115k, up from £35-65k in 2013 (UK Department of Business Innovation and Skills, 2014). Statistics show that 31% of the worst security breaches in the year were caused by inadvertent human error, and 70% of organisations do not report their worst security incidents.
Hence detection and mitigation of the most potent treats facing them in the form of spear phishing can reduce the cost of cybercrime

Name: Ishbel Duncan

Email address: ishbel.duncan@st-andrews.ac.uk

Telephone number: 01334463270

Organisation: St Andrews

Issue / Topic of interest: security, testing, evaluation, patterns

Outline of 'pitch': To build a repository of training materials (anonymised data) for students to analyse with different algorithms, detect traits etc.
Data could be chat room data, network traffic, forensic information etc.

Name: Bob Duncan

Email address: bobduncan@abdn.ac.uk

Telephone number: 07813335957

Organisation: University of Aberdeen

Issue / Topic of interest: Cloud Cybersecurity

Outline of 'pitch': Traditional computing security is not a trivial process. Cloud security is far more challenging. While cloud offers very attractive economies to businesses large and small, it also introduces greater exposure to risk. The key danger lies in using someone else's equipment to run your business computing on, adding additional exposure to security and privacy. Also, the standard service level agreements (SLAs) offered by the majority of cloud service providers (CSPs) are subtly biased in favour of the CSPs, leading to further exposure to risk for the businesses who use these services.

Name: Dimitrios Pezaros

Email address: dimitrios.pezaros@glasgow.ac.uk

Telephone number: 0141 330 6051

Organisation: University of Glasgow

Issue / Topic of interest: Networked Infrastructure and Services Protection and Resilience.

Outline of 'pitch': Computer networks are becoming the 'central nervous' system for future cyber-infrastructures and yet there are no native mechanisms to protect their operation against (unknown) adversarial events developing in short timescales.

My group is looking at mechanisms at the network (programmable and software-defined networking) and services (function virtualisation) layers that will enable native 'situational awareness' for future cyber-infrastructures that will protect them against challenges and attacks where and when required.

http://netlab.dcs.gla.ac.uk
http://www.dcs.gla.ac.uk/~dp

Name: Ian Ferguson

Email address: ian.ferguson@ablibris.co.uk

Telephone number: 0796 999 6614

Organisation: Abertay University

Issue / Topic of interest: Digital Forensics and Ethical Hacking

Outline of 'pitch': Abertay is home to the world's first undergraduate Ethical Hacking degree. We are interested in applying the expertise built up in the ten year's of delivering the degree to research in areas including:

-Using data-visualisation in Digital forensics -Applying Ethical Hacking techniques to evidence acquisition -Using parallel computing techniques in digital forensics -Usable security - making staying safe the default option.

Name: Paddy Tomkins

Email address: paddy.tomkins@droman.co.uk

Telephone number: 07770653413

Organisation: Droman Ltd

Issue / Topic of interest: Training

Outline of 'pitch': Working with Abertay University, and Police Scotland, we are developing a 'serious gaming' solution to training large numbers of personnel in cyber crime awareness, mitigation and management - including victim care. The game approaches a technological problem with a technologically facilitated solution, so improving individual and organisational capacity and capability at greatly reduced cost compared to traditional training techniques.

Name: Jamie Brogan

Email address: j.brogan@napier.ac.uk

Telephone number: 01314553211

Organisation: Edinburgh Napier University

Issue / Topic of interest: Developing and scaling capacity in cyber skills.

Outline of 'pitch': Understanding and addressing the future needs of industry in terms of new cyber professionals and the development of skills, knowledge and awareness among current IT professionals and decision makers.

Name: Burkhard Schafer

Email address: b.schafer@ed.ac.uk

Telephone number: 01316502035

Organisation: University of Edinburgh

Issue / Topic of interest: collaborative approaches to cyberresilience and the question of law compliance by design

Outline of 'pitch': One of the main capabilities that the internet has brought is the capacity to coordinate large numbers of in themselves "cheap" or inconsequential activities, "snowflakes", into huge avalanches. This applies to both benign use (SETI at home, wikipedia) to malicious use. This raises the question how "crowdsourced" approaches can contribute to cyber-resilience, what legal and ethical issues this raises, and how we can build support tools that are law compliant by design

Name: Calum Jeffray

Email address: calumj@rusi.org

Telephone number: 02077472611

Organisation: Royal United Services Institute (RUSI)

Issue / Topic of interest: Cyber security from strategic, policy, military and law enforcement perspectives

Outline of 'pitch': RUSI conducts policy-influencing research primarily focused on a range of cyber-security related issues, from how law enforcement adapts to an increasingly online criminal environment, to understanding deterrence and coercion in and through cyberspace, the boundaries between cyber enabled criminality and economic warfare, the implication of the 'internet of things' for understanding and defining critical national infrastructure and the legal, moral and ethical issues about the militarisation of cyberspace.

An overarching area of focus for 2016 will be on the articulation of the new national cyber-security strategy, understanding and defining the relationship between government and the commercial sector, the implications and challenges associated with being a 'world leader' in cyber security and the ways in which cyberspace intersects with the employment of national power and influence.

Name: Dr John Issacs and Sean Sturley

Email address: j.p.isaacs@rgu.ac.uk

Telephone number: 01224262789

Organisation: Robert Gordon University

Issue / Topic of interest: Cyber Security - Incident Management and Threat Visualisation

Outline of 'pitch': Without a great deal of luck most security incidents are normal "managed" after the event by the analysis of historical data contained in log files.
By applying advanced visualisation techniques to live data streams we aim to better present incident metrics to aid the rapid identification of possible security threats.
This will help bring forward the point at which a network administrator or incident management team can diagnose possible security breaches or attacks, and therefore be able to act in a more timely and precise manner.

Name: Matthew Pemble

Email address: matthew@goucher.co.uk

Telephone number: +441324820690

Organisation: Goucher Consulting

Issue / Topic of interest: Cyber Resilience in the Operational Context

Outline of 'pitch': Cyber-resilience in the military and operational context, including MACP and similar operations which may require opening up higher-classification systems to ensure interoperability with public sector and other civil sector partners.

Particularly resilience against directed attack.

Name: Karen Renaud

Email address: karen.renaud@glasgow.ac.uk

Telephone number: 01413302052

Organisation: University of Glasgow

Issue / Topic of interest: Resilience

Outline of 'pitch': I am working with SMEs to help to understand their current practice and thence approaches to improve their resilience to cyber attack

Name: Julia Gillam

Email address: j.gillam@napier.ac.uk

Telephone number: 0131 455 5017

Organisation: Edinburgh Napier University

Issue / Topic of interest: Collaboration on Research and Innovation projects; particularly H2020.

INTEREST FROM PEOPLE WHO CANNOT ATTEND

Name: Jackie Baker

Email address: jackie.baker@open.ac.uk

Telephone number: 07879 680667

Organisation: The Open University

Issue / Topic of interest: Cyber security

Jackie had hoped to be with us, but unfortunately has had to cancel.

Outline of 'pitch': We have a free MOOC on Cyber Security through FutureLearn
https://www.futurelearn.com/courses/introduction-to-cyber-security.
It may be possible to licence this MOOC and offer it 'closed' to the Cyber Resilience Research Community

Professor Simon Dobson

Professor of Computer Science
University of St Andrews, Scotland UK

e: mailto:simon.dobson@st-andrews.ac.uk
w: http://www.simondobson.org
t: +44 1334 461626

I'm very interested in this topic, but I can't make the event as it clashes with another workshop I'm already committed to. I attended a meeting on this topic the other year in Edinburgh, and I'm keen to stay involved.

I'm interested in two main areas:

1. Sensor interpretation. We have just started an EPSRC Programme Grant in this area (with Glasgow, Liverpool, and Imperial) aimed at improving the trust we can place in the conclusions we draw from sensor deployments, and this includes a collaboration with Falkirk Council in environmental sensing.

2. Complex systems, especially complex networks and how to build models that can be driven by sensor data. An example of this would be looking at how to model waterflow in complex environments at a large scale, rather than using detailed hydrology.

I'd be grateful to get any information arising from the event, or an invitation to any follow-up events.

Alex Stobart

alex@mydex.org

Thank you very much for organising this Event. Unfortunately, it falls in Edinburgh holidays. Martin and I know one another and Mydex CIC responded to the Consultation.

Mydex CIC provides individuals with personal data stores and services, and with identity services. We would welcome the opportunity to take part in funded research, and have a Sandbox. We are organising a proof of concept for Person Centred Attribute Exchange with Scottish Government.

Developer documentation is here - https://dev.mydex.org/