



UNIVERSITY OF
WEST LONDON
The Career University

CYBERSECURITY: The Career of the Future

Facing up to 21st Century Cybersecurity Challenges

THREAT AND RESPONSE SOPHISTICATION DEMANDS SPECIALISED EDUCATION

With the UK emergence as one of the IT capitals of the world, the challenges to cybersecurity are not new, but they are growing increasingly complicated as hackers become more sophisticated and the Internet of Things brings new devices and therefore new vulnerabilities and threats. Industry at large, being led by the digital security community, must stay constantly alert in order to provide the best possible personnel and technologies to combat the threat.

The limited pool of cybersecurity professionals worldwide means companies face strong competition from many sources in terms of recruitment from criminal gangs, terrorist groups, Governments, Police, the Security services and the military. The lucrative nature of cyber attacks offers a choice for experts to utilise their skills in criminal pursuits with its attendant risks or to work to combat the criminal and safeguard assets. The increased reliance on technology and its permeation into all aspects of infrastructure brings greater exposure to attack and a need for cohesive and effective defence systems and business resilience plans.

A proactive defence mechanism to cyberattack is well trained staff operating and executing rigorous procedures supported by good software and hardware. The quality of training and education is directly correlated to the robustness of any defence strategy.

The University of West London (UWL), with an established background in employment focussed education and research, has developed a range of courses in response to the demand from industry for cybersecurity professionals who have a systematic understanding of the principles and technologies underpinning today's IT systems.

The BSc (Hons) in Cybersecurity combines theory and practice, balancing cutting-edge security technologies and solutions with concepts and principles of the field. UWL is a member of the Amazon Web Services Academy and has integrated its curriculum into the course. This means students are exposed to the state-of-the-art security technologies and solutions developed by world-leading IT industry. The BSc (Hons) in Cybersecurity is available in full-time as well as part-time mode.

The MSc in Cyber Security is designed to help the student gain an understanding of how cybersecurity systems are designed and constructed, and of the impact of technology into an organisation. It develops the skills needed to work effectively in a business environment, and provides a solid basis for cybersecurity research. The MSc in Cybersecurity is available in a full-time mode, part-time day release mode and part-time evening mode.

“A proactive defence mechanism to cyberattack is well trained staff operating and executing rigorous procedures supported by good software and hardware”

UWL is keen to develop certain key specialisms in research and development and build on the event to support new and exciting courses.



The University is looking for key partners to assist in its bright future and be a channel for the mutual flow of information, people and ideas. The long term support for the cybersecurity courses at UWL will enable corporations to engage with the University and its students and develop exciting career paths for the future. The long term strategy beyond the event is to develop a centre of excellence at UWL and build international relationships and business links in this field. The key sponsors of this event will be at the forefront of this strategy and be part of an intelligence network of academia drawing on technical expertise and practical corporate infrastructure.

The possibility of students studying at UWL in London on a corporate scholarship will be one of the logical steps for the future.

At the conference, Industry and Academic Experts will discuss:

- The forecast evolution of cybersecurity, and what we must do differently to combat it, taking the offensive
- Best practices for instilling a pervasive corporate culture of cybersecurity, the importance of the human behind the machine
- Educating and training professionals in developing and managing agile systems that can adapt to new forms of attack
- Improving cybersecurity awareness in private enterprise, educating SME's in preparation and prevention of cyber threats
- Addressing the cross-industry need for more highly qualified cybersecurity experts
- Preparing for today and the future with specialist training programmes
- From ethical hacker to CISO, how UWL is educating a new generation to secure their future

Security concerns range from breach recovery strategies to employee education. UWL brings together a host of professionals to discuss best practices on these topics and address emerging challenges.

Join industry leaders to ensure you:

- Train and educate current staff and recruit new resources
- Build sustainable Cybersecurity processes that people actually use
- Recruit qualified Cybersecurity professionals
- Engage with the University in further Cybersecurity research and development
- Sample key case studies of cyberattack, disruptive incidents, and effective defences, including live demonstrations of "hacking"
- Protect information, communication and infrastructure in the dynamic working environment of business, local government and education
- Examine effective means to protect digital assets from cybercrime in a stable and cost effective manner
- Build cybersecurity skills capacity to protect government and UK businesses and individuals
- Build a Cyber Incident Response, Plan and test to assure maximum efficiency in time of an attack.

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WHO SHOULD ATTEND?

This conference is designed to inform executives and employees in Businesses and Enterprises of all sizes and provide guidance on their education, training, testing and recruitment plans to combat cyber attacks. Delegates attending this Conference will include executives from SME's, heads of business development, heads of IT, heads of infrastructure, risk officers, compliance officers, heads of human resources, account executives, cybersecurity leads, heads of operational security, further and higher education institutions, local authorities, central government, housing providers, the voluntary sector and private organisations.

Where: University of West London, St Mary's Road, Ealing, London W5 5RF

When: Tuesday 8 November 2016 from 09.00 to 18.30

Speakers: **Professor Anthony Woodman** – Interim Deputy Vice-Chancellor, University of West London
Dr Bray Barnes – Department of Homeland Security, Security Evaluation and Solutions Group, LLC
Robert Partridge – Head of the BY Cybersecurity Academy
Tim Kidd – Executive Director, Jisc Technologies Limited
Jason Hart – CTO, Gemalto
Philip Zimmerman – Co-Founder Silent Circle
Keith Cottenden – Director of Forensic Services, CYFOR
Karla Jobling – Chief Operating Officer, BeecherMadden Ltd
Professor Scott Belshaw – Associate Professor of Criminal Justice, and Director of Cybersecurity Lab at University of North Texas
Dr Brooke Miller – Assistant Professor of Criminal Justice, University of North Texas
Dr Danni Novakovic – Head of Computing, School of Computing and Engineering, University of West London





Dr Bray Barnes

Bray Barnes is the Director, National Cybersecurity Institute, (NCI) Washington, DC. Previously, he was the Founder and Principal of Security Evaluation and Solutions Group, LLC that provided three unique Homeland Security cornerstones of service including specialized education and training, emergency management preparedness and planning; and, Intelligence and Cyber Intelligence Analyst training. He served as a member of the US Dept. of Homeland Security Cyber focus group and has testified before the New Jersey State Assembly Telecommunications Committee and the Homeland Security Committee on cybersecurity, cyber threats and intelligence analysis.

Additionally, he serves as Senior Advisor to Global Security and Innovative Strategies (GSIS), Washington, DC, a security consulting and business advisory company whose principals are primarily former senior executives with the US Department of Homeland Security. Mr. Barnes has served as an adjunct professor with the business and criminal law departments at both the College of New Jersey and Ocean County College, and has written academic courses for the Rutgers Institute for Emergency Preparedness and Homeland Security. Prior to his service at NCI, Mr. Barnes served as Director, (Senior Executive Service) U.S. Department of Homeland Security (DHS), Washington, DC, directing the First-Responder Program that provided interface, collaboration and coordination with federal, state, county, and local law enforcement, fire, EMS, explosive ordinance disposal, and search and rescue workers including providing collaboration with state and regional intelligence centers and state offices of emergency management. He also served as Chairman of the DHS Law Enforcement Council and the DHS First Responder Council.

Additionally, Mr. Barnes held the position of Acting Chief Human Capital Officer (CHCO), where he directed all aspects of human resources management for the 210,000 DHS employees including training and education. He served as the DHS representative member

of the Intelligence Community Human Resources Council, Office of the Director for National Intelligence holding Top Secret – Sensitive Compartmented Information (TS-SCI) clearances with Intelligence Community (IC) access.

He is a life member of the International Association for Counterterrorism and Security Professionals, and a member of the International Association of Law Enforcement Intelligence Analysts,

Mr. Barnes received 2 United States Presidential appointments, including being appointed to the Council for Juvenile Justice and Delinquency Prevention, US Department of Justice, where he served of 5 years before entering full time service as a career SES at the US Department of Homeland Security.

Mr. Barnes, licensed in New Jersey and Washington, D.C., has thirty (30) years of experience in the legal profession. He has represented small to medium companies, Fortune 500 corporations, and financial institutions on all aspects of corporate law. He has also represented the Federal Air Marshals, various Policemen's Benevolent Associations and Fraternal Orders of Police as well as the New Jersey State Troopers Fraternal, Sergeants, and Superior Officers Association. He has also provided advice and worked with the Office of the Superintendent, New Jersey State Police, on the development of the Regional Operations Intelligence Center.

Mr. Barnes has served as an Assistant County Prosecutor and is a member of the Bar of New Jersey, the District of Columbia, United States District Court for the District of New Jersey, United States Third Circuit Court of Appeals and the United States Supreme Court. Prior to Mr. Barnes' legal career, he served in law enforcement for eleven (11) years, graduating from the New Jersey State Police Academy as class president, and later becoming a county detective. He is a member of the International Association of Chiefs of Police, National Sheriff's Association where he was selected to serve on the



Homeland Security Committee. He is also an associate member of the Federal Law Enforcement Officers Association.

Mr. Barnes served on active duty with the United States Army as a Radio Operator during the Viet Nam War. Upon graduation from Officer Candidate School as Distinguished Graduate, he served as a mortar platoon leader. He is a life member of the 101st Airborne Division Association, and the Vietnam Veterans of America.

Mr Barnes earned an Associates Degree from Brookdale Community College, a Bachelors Degree summa cum laude and Masters Degree from the City University of New York, John Jay College of Criminal Justice as well as his Doctorate in Jurisprudence from Seton Hall University School of Law.

Robert Partridge

Rob is Head of The Security Academy at BT, which has three main objectives; Developing the workforce of today, Developing a workforce of the future, and creating a skills pipeline in Cybersecurity across the entire industry – this latter element demands that the head of the Security Academy is intrinsically involved in ensuring learning interventions for Cybersecurity take place at all levels from early years through to Higher Education. Creating a cadre of individuals who have the right skills to be employed by organisations like BT is critical to commercial success, and that of UK PLC – and as such is a key part of the role.

Rob has held the position of Head of The Security Academy for three years. Educated in business studies at Leeds Metropolitan University and the University of Kent, Rob has worked for BT for 27 years. He is a member of various government employer panels for development of learning solutions (specifically apprenticeships) and is also responsible for hosting Cybersecurity Challenge Master Class events on behalf of BT. Rob is also part of the employers steering group for GCHQ's Academic Centres of Excellence for Cybersecurity Education programme.

Tim Kidd

Tim is Executive Director for Jisc Technologies and responsible for bringing together Jisc's digital technology related people, organisations, strategy, services and operations. He ensures its digital IT capabilities and expertise are applied cost effectively and imaginatively – making a real and sustained difference to research and education in the UK.

Jason Hart

Jason Hart is VP Cloud Solutions at SafeNet where he drives the 'as a service' offerings. Prior to SafeNet, He was the CEO and VP Sales of Cryptocard, acquired by SafeNet in March 2012. Jason, a former ethical hacker, has over seventeen years of experience in the Information Security industry, and has used his knowledge and expertise to create technologies that ensure organizations stay one step ahead of the security game. Prior to SafeNet (and Cryptocard) Jason held senior positions within a number of organizations, including Ernst & Young's Information Security Assurance and Advisory Services practice. Jason has created and developed entire security frameworks as well as Information Security Assessment Methodology.

Philip Zimmerman

Philip R. Zimmermann is the creator of Pretty Good Privacy, an email encryption software package. Originally designed as a human rights tool, PGP was published for free on the Internet in 1991. This made Zimmermann the target of a three-year criminal investigation, because the government held that US export restrictions for cryptographic software were violated when PGP spread worldwide. Despite the lack of funding, the lack of any paid staff, the lack of a company to stand behind it, and despite government persecution, PGP nonetheless became the most widely used email encryption software in the world. After the government dropped its case in early 1996, Zimmermann founded PGP Inc. That company was acquired by Network Associates Inc (NAI) in 1997. In 2002 PGP was acquired from NAI by a new



company called PGP Corporation, where Zimmermann served as special advisor and consultant until its acquisition by Symantec in 2010. Since 2004, his focus has been on secure telephony for the Internet, developing the ZRTP protocol and creating products that use it, including Silent Phone and Zfone. Zimmermann is Co-founder of Silent Circle, a provider of secure communications services.

Before founding PGP Inc, Zimmermann was a software engineer with more than 20 years of experience, specializing in cryptography and data security, data communications, and real-time embedded systems. His interest in the political side of cryptography grew out of his background in military policy issues.

Zimmermann has received numerous technical and humanitarian awards for his pioneering work in cryptography. In 2015 he received the US Privacy Champion Award from the Electronic Privacy Information Center. In 2014 he was inducted into the Cybersecurity Hall of Fame, and Foreign Policy Magazine named him one of the Leading Global Thinkers of 2014. In 2012 the Internet Society inducted him into the Internet Hall of Fame. In 2008 PC World named him one of the Top 50 Tech Visionaries of the last 50 years.

In 2006 eWeek ranked PGP 9th in the 25 Most Influential Products introduced since the invention of the PC in 1981. In 2003 he was included on the Heinz Nixdorf Museums Forum Wall of Fame, and in 2001 he was inducted into the CRN Industry Hall of Fame. In 2000 InfoWorld named him one of the Top 10 Innovators in E-business. In 1999 he received the Louis Brandeis Award from Privacy International, in 1998 a Lifetime Achievement Award from Secure Computing Magazine, and in 1996 the Norbert Wiener Award from Computer Professionals for Social Responsibility for promoting the responsible use of technology. He also received the 1995 Chrysler Award for Innovation in Design, the 1995 Pioneer Award from the Electronic Frontier Foundation. In 1995 Newsweek named Zimmermann one of the “Net 50”, the 50 most influential people on the Internet.

Zimmermann received an Honorary Doctorate (Docteur Honoris Causa) from the Université Libre de Bruxelles in 2016. He received his bachelor’s degree in computer science from Florida Atlantic University in 1978. He is a member of the International Association of Cryptologic Research, and the League for Programming Freedom. He has served as a Fellow at the Stanford Law School’s Center for Internet and Society. He served on the Roundtable on Scientific Communication and National Security, a collaborative project of The National Research Council and The Center for Strategic and International Studies. He also served on the Board of Directors for Computer Professionals for Social Responsibility, and currently serves on the Advisory Boards for Santa Clara University’s Computer Engineering Department, Hush Communications, and AllClearID.

Keith Cottenden

With over 20 years’ experience, Keith is a highly professional and motivated director with a results driven, logical and methodical approach to service delivery. He has an established reputation as a cybersecurity consultant with extensive knowledge of the principles and practices of digital forensics and eDiscovery.

Keith is the Director responsible for the investigations team at CYFOR and is responsible for directing all forensic operations within the company. He provides specialist knowledge of information technology investigative techniques and dealing with complex evidential and legal issues, while instructing investigating officers and counsel where appropriate. He also ensures evidence continuity, evidential integrity and admissibility of any recovered evidence in a manner acceptable to a Court of Law.

His exemplary career includes 22 years in the Royal Air Force Police specialising as a Counter Intelligence and Information Technology Security investigator and joined CYFOR in 2004.



He has personally completed over 200 cases during this period and has worked on behalf of law enforcement agencies, solicitors and corporate clients on a variety of UK based and international cases. He is a highly experienced and respected digital forensic expert witness who is regularly instructed in significant civil litigation cases and regularly gives evidence in criminal and civil courts including the High Court of Justice.

Keith is experienced in conducting investigations and consulting at clients premises worldwide, preparing complex technical reports for clients and court that are easy to understand, informative and precise. He has the relevant understanding of British, EU and US law in relation to civil litigation, computer based fraud, misuse and corporate IT legislative requirements, bolstered with a comprehensive knowledge of the ACPO guidelines and the procedures relating to the investigation of computer crime. He has presented hundreds of seminars and has spoken at national and international conferences and is frequently quoted in the media. He has featured on the BBC's Panorama and Rip-Off Britain series respectively as well as Sky News.

He is an honorary visiting lecturer in advanced digital forensics at De Montfort University and a visiting fellow within the School of Computing, Engineering and Physical Sciences at the University of Central Lancashire; Keith has a postgraduate degree in Forensic Computing and is an EnCase Certified Examiner.

Karla Jobling

Karla is an experienced and passionate recruitment business owner, with experience of recruiting to CXO level, across a variety of industries. As the COO of BeecherMadden, Karla is committed to developing the company to an award winning, global recruitment company, offering the highest levels of customer service. Prior to BeecherMadden, Karla worked as an on-site recruiter for a FTSE250. Karla has recently been appointed as a judge to the Cybersecurity Awards and has been a speaker at a number of events, regarding women in cybersecurity. Karla is also the owner of Tatius Group.

Panel member: Dr Scott Belshaw

Dr. Scott Belshaw holds a Ph.D in Juvenile Justice from Prairie View A&M University, a member of the Texas A&M University System. He earned his Bachelor of Science in Social Sciences and Psychology from the University of Houston. He also holds both a Master of Liberal Arts from Houston Baptist University and a Master of Arts in Criminology from the University of Houston – Clear Lake. Dr. Belshaw's Ph.D dissertation examined sexually abused females in the juvenile justice system. His dissertation research has been cited and used by numerous advocacy groups and organizations.

Dr. Belshaw is currently an assistant professor (tenure-track) of criminal justice at the University of North Texas. Dr. Belshaw also serves as an adjunct professor of forensic psychology at Argosy University in the Dallas area. Dr. Belshaw has taught undergraduate and graduate courses in criminal justice and psychology. Dr. Belshaw has also served on thesis and dissertation committees for students at the University of North Texas. Dr. Belshaw has also served on staff and faculty search committee at UNT and has served on student conduct committees for the office of the dean of students at UNT. Dr. Belshaw also serves as faculty and alumni advisor for the Pi Kappa Alpha (PIKE) Men's Social Fraternity at the University of North Texas.

Prior to entering academia, Dr. Belshaw's criminal justice experience includes working for the Harris County Texas Community Supervision and Corrections Department as a probation officer and court chief probation officer. He also served as the gang intelligence officer for the state jail in Houston, Texas. During his tenure working in the state jail in Houston, Texas, Dr. Belshaw served as a member and chairman of the case classification committee. In this role he evaluated the risk levels of the inmates and placed them in the appropriate security-housing wing. Dr. Belshaw also served in charge of the Topp Street State jail's Grievance and Internal Affairs Office investigating inmate grievances and staff violations of facility's policies and procedures.



He also served as a counselor and probation officer at the county boot camp program. Dr. Belshaw was also the creator of the county's "Prison For a Day" program. This program was similar to the "Scared Straight" program in New Jersey. Dr. Belshaw has served as a probation and sentencing advisor to the judges of Harris County, Texas. Dr. Belshaw has an extensive background in interviewing and interrogations in the public and private sectors.

Dr. Belshaw owned and operated a Forensic Investigation and Mitigation firm licensed by the Texas Department of Public Safety. Dr. Belshaw's company serviced numerous criminal law firms, governmental agencies and members of the general public on private investigative related matters. Dr. Belshaw has been appointed by the various district and appellate courts to assist in numerous capital murder cases (trial and appellate cases). Dr. Belshaw is an expert in the field of criminal mitigation and sentencing and has been called upon numerous times to testify in that capacity. Dr. Belshaw has testified on probation and legal related issues in sentencing. Dr. Belshaw has also worked on cases in the juvenile justice field including transfers and certification hearings.

Dr. Belshaw served on various agency boards and advocacy group boards of directors. This includes Texas Criminal Justice Coalition and the Denton County Mental Health and Mental Retardation PNC board. Dr. Belshaw also served on an advisory boards for mentoring agencies in the Houston and surrounding areas. Dr. Belshaw is also a veteran of the U.S. Navy and Naval Reserve and served during Operation Desert Storm.

Panel member: Dr Brooke Miller

Dr Brooke Miller is a Lecturer in the Department of Criminal Justice at the University of North Texas. Prior to joining the faculty at UNT, she was a faculty University of Phoenix and an associate faculty member at Collin County College. She received her B.S. and M.S. in Criminal Justice from the University of North Texas and her Ph.D. from the University of Texas at Dallas. She teaches Computer Crime, Senior Seminar, Crime and Justice in the United States, and Community Corrections both in the traditional and online classroom.

Panel Chair: Dr Simon Fox

Simon is a senior lecturer in criminology and leader for the MSc Criminology and Criminal Justice at Southampton Solent. A former police officer, he has an MA in criminal justice from Southampton University and a PhD on policing accountability, human rights and rational – legal bureaucratic models of cooperation.

Simon's current research interests are international/transnational police cooperation, and he has organised, and will participate in, the first ACRO-Southampton Solent University Cyber Crime Conference (2014) to bring together US and European law enforcement agencies, entitled Becoming Cyber Savvy, sharing cyber intelligence between public and private authorities in the fight against domestic and international crime.

PROGRAMME

- 09.15 Morning and Coffee (hosted by Philip Ells, Head of Ealing Law School, and Dr Danni Novakovic, Head of Computing, both of University of West London)
- 9.40 – 9.45 Opening address – Interim Deputy Vice-Chancellor, Professor Anthony Woodman

SESSION ONE – SCALE AND SOURCE OF ATTACKS

- 9.45 – 11.00 Dr Bray Barnes – The Threat – How Vulnerable Are You?
- Threats; who are the attackers? Insiders, Terrorists, Activists, Country/state actors
 - Who is attacked?
 - How may I be attacked?

11.00 – 11.30 *Tea*

SESSION TWO – EXAMPLES OF ATTACK AND RESOLUTION

- 11.30 – 12.00 Tim Kidd – The public sector: making Janet resilient for universities across the UK
- 12.00 – 13.00 Jason Hart, Gemalco – Live hacking demonstration
Philip Zimmerman – The Black Phone/Silent Circle

13.00 – 14.00 *Lunch*

SESSION THREE – GROWING THE CYBER WORKFORCE

- 14.00 – 14.30 Karla Jobling – Women in the cyber workforce
- 14.30 – 15.00 Robert Partridge – Training through apprenticeships
- 15.00 – 15.30 Keith Cottenden – The view of the forensic investigator
- 15.30 – 16.00** *Tea*
- 16.00 – 16.30 Questions to the Panel
- 16.30 – 16.45 Dr Danni Novakovic – UWL response to the training needs of today
- 16.45 – 17.15 Dr Bray Barnes – Concluding Observations: What are my next steps?
- From 17.15 Drinks/canapes



Cost: 1 ticket £375,
5 or more £350,
10 or more £300
Alumni price £250

Tea, Coffee and light refreshments
will be served all day, and buffet
lunch will be provided.



SPONSORSHIP

Sponsorship Package includes:

- Targeted email to business database
- Invitation to University of West London (UWL) alumni to attend
- 5 Complimentary tickets
- Event brand ambassadors
- UWL Blast radio exposure
- Banner advertising on UWL website – sponsored logos on website advertising conference
- Dedicated sponsor booth at the event
- Future Collaboration Opportunities – potential to develop long term relationships beyond the event
- City am 12 page report
- Event Brochure for circulation on the day – details speakers , bios , timetable , sponsors
- Ticket price – 1 ticket £375, 5 or more £350, 10 or more £300