# Cyber Security @ UWE

**Prof. Phil Legg**

**Professor in Cyber Security**

**Co-Director: UWEcyber ACE-CSE**

**Programme Lead: MSc Cyber Security**

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UWEcyber — Gold Award — in association with National Cyber Security Centre — Department for Digital, Culture, Media & Sport — Academic Centre of Excellence in **Cyber Security Education**

# About Me

- Professor in Cyber Security
- Programme Leader for NCSC-certified MSc Cyber Security
- Co-Director of UWEcyber (NCSC ACE-CSE)

- Research interests:
  - Cyber security, Machine Learning, Data Visualisation

- Research domains:
  - Insider threat detection, cyber situational awareness/resilience, AI for security and security of AI, privacy-preservation, explainability

# Cyber Security at UWE

- NCSC Gold Academic Centre of Excellence in Cyber Security Education (ACE-CSE)
- NCSC-certified MSc Cyber Security
- NCSC-certified Cyber Security Technical Professional (Degree Apprenticeship)
- BSc Cyber Security and Digital Forensics

- Regional: Outreach / Bootcamps / Workshops
- National: CISSEUK, ACE-CSE network

- Research: Partnership PhD Scheme
- Research: Cyber Security and Cyber Crime Cluster (CSC3)
- Research: NCSC / DSTL / EPSRC / industry funding opportunities

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# Current Projects







- NCA – Research activity includes hardened device forensics to assist NCA with criminal investigation

- ASC & SW ROCU – Research on dark web contextual analysis using Natural Language Processing and indicators of activity

- Synalogik – InnovateUK funded projects on improving digital investigation of Counter Terrorist Financing, Organised Crime Groups, and Suspicious Activity Reporting (FET/FBL)

# Current Projects

- AWS – Research activity on federated machine learning for security process at cloud scale. Maintaining customer privacy whilst ensuring secure and safe compute.

- Ribbon Communications – Partnership PhD research investigating cyber security attack mitigation on telecommunications infrastructure, including fraudulent call record behaviours.

- VQ Communications – Visualisation and remediation of containerisation software security

# Current Projects



- MOD – Ongoing student project collaboration and input into taught modules.

- BAE/Techmodal – Partnership PhD investigating adversarial machine learning for evading and improving AI-based cyber defenses.

- Leonardo – Ongoing collaboration to form research-based MSc projects.

- Montvieux – Partnership PhD investigated interpretable machine learning models for prediction of global conflict events.

# Current Projects

**Fusion Processing**
Centre for Connected and Autonomous Vehicles

**National Cyber Security Centre**
a part of GCHQ

[dstl]

- Fusion Processing / CCAV – Previous project on security assessment of CAV (part of BRL CAVForth)

- NCSC – Previous research projects on malware propagation assessment, and IoT home security.

- DSTL – Previous research projects on human-machine teaming for collaborative learning for security event detection, and on intrusion detection and response with integrated business process modelling
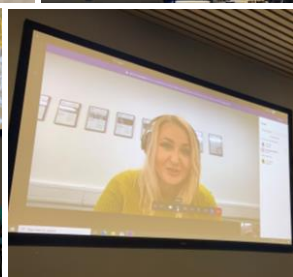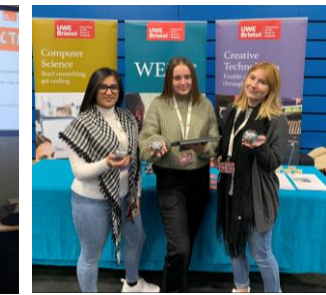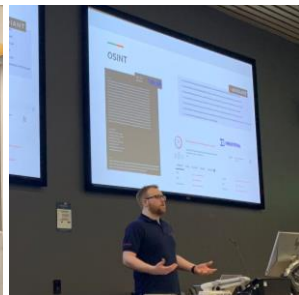
# Cyber Security Education Outreach

NCA National Crime Agency

SOUTH WEST POLICE ROCU — Regional Organised Crime Unit

Cyber First

Ministry of Defence

amazon web services

AVON & SOMERSET CONSTABULARY

SYNALOGiK

ribbon communications

LEONARDO

TECHMODAL

VQ COMMUNICATIONS

Fusion Processing

MONTVIEUX

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UWE Bristol — University of the West of England

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# Thank you for listening

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