UCL SECReT is the £17m international centre for PhD training in security and crime related research at University College London.

For OPEN EVENING dates and SCHOLARSHIPS please see our website

www.ucl.ac.uk/secret
About us

UCL SECReT was set up in 2008 following a £7m cash grant award by the EPSRC (Engineering and Physical Sciences Research Council) and £10m of cash and in-kind support from industrial, academic and public sector partners. The centre is a world-class interdisciplinary centre applying the latest techniques in a variety of disciplines to problems in the crime and security domain.

Our students

Over 100 researchers have already entered the SECReT PhD programme. Our students come from a range of scientific backgrounds to pursue research in crime or security domains across the engineering and social sciences. They work on real world problems including radicalisation, terrorism, organized crime, cyber security, explosives, baggage screening, forensic analysis, transport security, wildlife crime, and sex trafficking. They go on to work for a range of public and private sector organisations such as the Home Office, the National Crime Agency, the MoD Defence Science and Technology Lab (dstl), the NHS, Trilateral Consulting, Darktrace, and take up a variety of academic and research positions at top universities.

SECReT Industry Partners

SECReT partners comprise a broad spectrum of stakeholders in the crime and security world, including the Home Office, SELEX, Rapiscan, L3 Communications, Atomic Weapons Establishment, DSTL, Wynyard Group, Met Police, National Crime Agency, BTP, NHS, HP Labs, Thales, BAE and BT. They range from large technology developers to top-rated academic institutions through to SMEs (Small and Medium Enterprises) and law enforcement bodies. We welcome partners from across the globe.

If you wish to be a partner of UCL SECReT please contact us.

What does UCL SECReT bring to its partners?

- An active role in one of Europe’s largest research centres in crime and security.
- Opportunity to support, guide the research of, and ultimately recruit the brightest researchers in the field.
- Opportunity to co-bid for UCL IMPACT awards and UCL CASE awards which will subsidise a student to carry out a piece of research for your agenda. Your organisation will contribute between 33–50% of the costs.
- Opportunity to support a studentship (cost to you £54,000 –£108,000 over 4 years) and gain a dedicated piece of research, one that benefits from the centre’s environment.
- Opportunity to put your data to use to generate research relevant to your agenda.

Who should apply?

Students applying should normally have (or expect to achieve) a minimum of a 2.1 degree. The subject area should be grounded in a science based subject widely defined (e.g. computer science, chemistry, engineering, information and communications technologies, materials, mathematical sciences, physics and some life and social sciences).

We welcome applications from EU and overseas students.

Course Fees

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<th>Home/EU residents</th>
<th>Overseas residents</th>
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<tr>
<td>Amount</td>
<td>£4,770 per annum</td>
<td>£22,180 per annum</td>
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Funding and Scholarships

Students can be accepted onto this PhD programme under a number of different funding regimes.

- They may apply for scholarships that we have available within SECReT – please see our website for up-to-date details. Scholarships may cover fees, or stipend and fees.
- They may apply for other scholarships (eg. other UCL scholarships – see www.ucl.ac.uk/prospective-students/scholarships/scholarships/graduate).
- They may be sponsored (eg. by a commercial or public-sector organisation).
- They may be self-funded.

To apply: www.ucl.ac.uk/secret
Taught Modules

Students will take a number of taught modules during the four years. These include:

**Doing Research in Security Science**
Covering philosophical and practical approaches to formulating research questions and developing and implementing research designs.

**Risk and Contingency Planning**
Covering techniques and processes for identifying, analysing and managing security risks to critical infrastructures.

**Foundations in Security and Crime Science**
Sets out the foundational concepts, theories and approaches that underpin crime science. Outlines the crime science approach to understanding, preventing, detecting and investigating crime and security problems.

**Quantitative Methods**
Provides students with an understanding of how to analyse and visualise quantitative data for their research projects.

**Introduction to Cybersecurity**
Provides an overview of key challenges and techniques in cybersecurity including fundamentals of cryptography, security design principles, and threat modelling.

**Ethics, Research and Security**
Covering topics such as public engagement, human rights, ethics, sustainability and policy impact.

**Optional Module**
Students may choose from a wide variety of optional modules available across UCL covering an array of social and engineering science disciplines.

Programme Structure

**ROUTE A**
Under this route you will carry out a foundation year (leading to an assessed MRes qualification) at the beginning of your integrated PhD. This year will involve taught courses (described below) and research skills training, plus enable you to prepare for your PhD by designing and carrying out a pilot research project. Our experience shows that students who complete this year are better equipped to design a sound PhD research proposal. After this foundation year you will carry out your PhD. We also encourage students to pursue a 3-6 month internship during this PhD period at a public sector or private sector organisation (see our website for our list of partners), and to examine opportunities for the exploitation of their research and future career.

**ROUTE B**
Under this route you will directly begin your PhD (i.e. without the foundation year), but will have the opportunity to take a number of taught modules. We expect you to take ‘Foundations in Security and Crime Science’ and ‘Ethics, Research and Security’, as well as an optional module of your choice. These taught modules will not be assessed.

Research Areas

**Crime and Security Analysis**
How crime events occur and affect complex systems in the physical world or cyberspace. This research focuses on understanding what influence criminals’ decision making, the patterning of crime events in time and space, crime reporting, intelligence analysis and security operations, and directly informs the design of prevention policies and security measures. Students typically come from political science, crime science, psychology, geography, computer science, statistics and mathematics. During their PhD, they develop a strong theoretical knowledge in social/behavioural sciences along with advanced skills for complex systems analysis:

- Big data analysis
- Ecological modelling
- Scripting and process analysis
- Geographical analysis
- Social network analysis
- Human error analysis

**Design and Technology**
The design and evaluation of crime prevention and security measures eg. the emergence of new materials, sensors, and algorithms for security applications.

With a focus on technological innovation and a powerful network of external partners, researchers come from physics, chemistry, electronic engineering and computer science:

- UAVs
- Radar
- Chemical sensors
- X-ray scanners
- Cyber
- Ethics and technology

**Forensic Science**
This research addresses all stages of the forensic science process from the crime scene, to the analysis of evidence, the interpretation of those results and their presentation to a court. The focus of research projects within the forensic sciences broadly fall in two domains, 1) developing our understanding of trace evidence dynamics, and 2) addressing the interpretation of forensic evidence and intelligence. Students come from a range of backgrounds and develop a strong understanding of a particular forensic science domain and theoretical frameworks to enable more robust inference and interpretation of the significance and weight of intelligence and evidence.

Key research areas include:

- Forensic geoscience (soils, sediments, pollen, diatoms etc.)
- DNA
- Fingerprints
- Trace evidence (Gun shot residue, explosives, fibres, paint etc.)
- Inference and Interpretation (Bayes Nets, Inductive Logic Programming)
- Cognitive Forensics (decision making, cognitive issues)
Crime and Security PhD training  
@ University College London

UCL is consistently ranked as one of the world’s best universities. As one of Europe’s largest multi-faculty universities and recognised as one of the best applied research facilities in the world, UCL has the academic resources to provide a terrific training environment for researchers aiming to achieve genuine excellence in their chosen field of crime or security research. With 20 departments from across UCL involved in this new training centre, (the majority nationally rated in the top tier of their discipline in the recent UK-wide Research Excellence Framework exercise) a truly interdisciplinary community has been brought together at the university to create a unique experience for our students.

Amongst the many centres at UCL focusing on crime and security research are the UCL JDI Centre for the Forensic Sciences, the JDI Centre for Security Technology, the Centre for Ethics and Law, and the Centre for Law Enforcement Audio Research.

**John Atkinson**

John graduated from SECReT and is now employed as a Cyber Security Expert at Darktrace, a rapidly growing security company with machine learning at its heart. Darktrace’s technology provides a powerful cutting-edge “enterprise immune system” that automatically adapts to its environment. His research into privacy leaks from wireless communications and mobile devices was also applied to hunting fugitives in Channel 4’s ‘Hunted’, a primetime TV series that explored the wealth of private information given away freely in modern Britain and the surveillance techniques available to the state.

**Ella Cockbain**

After graduating Dr Ella Cockbain now holds a prestigious ESRC ‘Future Research Leaders’ Fellowship at UCL. This grant was awarded for her three-year study into human trafficking for labour exploitation, conducted with the support of the National Crime Agency. Ella also recently led a team of UCL researchers on a Nuffield-funded collaborative study into the sexual exploitation of boys and young men in the UK (with Barnardos and NatCen Social Research).

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**UCL SECReT**

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