good safety decisions to be made. They are designed to be taken part-time over two or three years; or full-time over one year.

The Department also has a number of collaborations in place to provide tailored versions of the course. If you are working in the railway industry but have relatively little knowledge in this domain we offer an MSc in Railway Risk and Safety Management, in collaboration with the Railway Centre at the University of Birmingham. If you work for Jaguar Land Rover, we can offer you the MSc in System Safety Engineering with Automotive Applications, in collaboration with the Technical Accreditation Scheme.

Your background

These courses are specifically directed at those with several years of industrial experience. An appropriate degree is desirable, but many applicants will have reached degree-level knowledge through their work experience.

STAFF LIST

For an up-to-date list, see the Department web page.

Professor and Head of Department

Neil Audsley, DPhil (York) – Embedded real-time systems: architectures, memory; analysis programming; high performance

Professors

James Austin, PhD (Brunel) – Neural networks; e-science and grids; parallel computation; neuro-inspired computation
Samuel Braunstein, PhD (Caltech), CPhys, FinstP – Quantum information and computation; black holes
Alan Burns, DPhil (York), FReng, FIEEE, FBCS, FIET – Real-time systems; resources scheduling; real-time programming languages; mixed criticality; cyber physical systems
Ana Cavalcanti, DPhil (Oxford) – Software verification; formal methods; real-time; concurrency; object-orientation
Peter Cowling, DPhil (Oxford) – Artificial intelligence; operational research; graph search; heuristics; games
Anders Drachen, PhD (Macquaire, Sydney) – Games: game analytics; business intelligence and user research
Edwin Hancock, PhD, DSc (Durham), FinstP, FIET, FBCS – Computer vision; pattern recognition; machine learning; complex networks
Tim Kelly, DPhil (York) – Development, modelling, analysis and certification of high-integrity systems
John McDermid OBE, FREng, PhD (Birmingham) – Safety engineering; security; safety-critical software; large-scale software engineering
Richard Paige, PhD (Toronto) – Model-driven engineering; software engineering; enterprise systems; optimisation; security
Helen Petrie, PhD (London) – Human–computer interaction; disabled and older users; psychological aspects of technology use
Stefano Pirandola, PhD (Camerino, Italy) – Information theory; quantum computation; quantum cryptography
Colin Runciman, DPhil (York) – Programming languages and systems; functional programming
Susan Stepney, PhD (Cambridge), CEng, FBCS – Bio-inspired algorithms; unconventional computation; emergent properties; artificial life
Richard Wilson, DPhil (York) – Inexact graph matching; structural pattern recognition; stereo and shape-from-shading

Readers

Paul Cairns, DPhil (Oxford) – Digital gaming experience; modelling user interactions; human–computer interaction
Dan Franks, PhD (Leeds) – Complex networks; agent-based modelling; bio-inspired computing; swarm robotics
Steve King, DPhil (Oxford) – Formal software development; provably-correct software; safety-critical software
Suresh Manandhar, PhD (Edinburgh) – Natural language processing; minimally supervised learning of syntax and semantics
Leandro Soares Indrusiak, Dr-Ing (TU Darmstadt) – Real-time and low-power multi-processor systems

Senior Lecturers

Iain Bate, DPhil (York) – Real-time and critical systems design and analysis; wireless sensor networks
Radu Calinescu, DPhil (Oxford) – Self-adaptive software systems; formal modelling and verification at run time
James Cussens, PhD (London) – Machine learning; probabilistic graphical models; discrete optimisation
Jeremy Jacob, DPhil (Oxford) – Mathematical modelling and design of systems and languages with a focus on security
Dimitar Kazakov, PhD (Prague) – Artificial intelligence; machine learning; computational linguistics; language origins
Dimitris Kolovos, PhD (York) – Model-driven engineering; object-oriented design; software architecture; programming languages
Mark Nicholson, DPhil (York) – System safety engineering; data safety; systems engineering; statistical analysis
Nick Pears, PhD (Durham) – Computer vision and pattern recognition; machine learning; 3D shape analysis/modelling
Detlef Plump, Dr-Ing, Habilitation (Bremen) – Graph-based programming models; theoretical computer science
Fiona Polack, PhD (Cambridge) – Software engineering; complex simulation; model-driven engineering
William Smith, PhD (York) – Face recognition; shape-from-shading; reflectance/appearance modelling
Alan Wood, PhD (London) – Distributed computing; co-ordination systems and languages
Lecturers

Rob Alexander, PhD (York) – Safety of autonomous robots; search-based testing; empirical safety engineering

Adrian Bors, PhD (Thessaloniki) – Image processing; computational intelligence; motion estimation; digital watermarking

Chris Crispin-Bailey, PhD (Teesside) – Novel processors and arrays; code optimisation and translation; VLSI design

Ibrahim Habli, PhD (York) – Software architectures; product-line development; software safety; safety cases

Daniel Kudenko, PhD (Rutgers) – Artificial intelligence for games; machine learning; user modelling

Simon O’Keefe, DPhil (York) – Neural networks; binary correlation matrix memory; non-standard computation

Christopher Power, PhD (Western Ontario) – Human-computer interaction; accessibility; user requirements; evaluation methodologies

Siamak Shahandashti, PhD (Wollongong) – Cyber security and privacy; applied cryptography; design and analysis of electronic voting and biometric authentication systems

Vasileios Vasilakis, PhD (Patras, Greece) – Network security; wireless networks and Internet of Things

Lecturers (Teaching/Scholarships)

Katrina Attwood, PhD (Leeds) – System safety engineering; requirements engineering; language of safety; organisational safety; safety cases

Lilian Blot, PhD (UEA) – Volumetric data; medical and biological image analysis and 3D representation

Christian Fairburn, PhD (York) – Human factors in safety-related systems

Mike Freeman, PhD (York) – Hardware architecture for high-speed text and vector processing

Richard Hawkins, PhD (York) – Software safety assurance; assurance cases

Oleg Lisagor, PhD (York) – Safety engineering; analysis of software-intensive systems; model-based safety assessment

Angus Marshall, BSc (Abertay), CEng – Human factors of security; commercial forensic computing

David Pumfrey, DPhil (York) – Hazard identification; risk assessment; system and software safety analysis

Tommy Yuan, PhD (Leeds Met) – Argumentation; dialogue systems; dependability arguments; autism software

Senior Research Fellow

Rob Davis, DPhil (York) – Real-time systems; scheduling analysis; industrial applications