The School of Informatics
University of Edinburgh
The School of Informatics

• World Leading Research
  • Top Rated Teaching
  • Award Winning Staff
• Bright and Brilliant Students
• Maximising Impact on the Wider Community
• Building on Our Success
Our Vision

Our vision at the School of Informatics at Edinburgh is to retain and strengthen our position among the top five world-leading centres of research and teaching in computation, information and cognition.
World Leading Research

The School of informatics at Edinburgh University is one of the largest in Europe with 250 academic and research staff, 100 support staff and nearly 1,300 students.

 According to the latest Research Excellence Framework (REF), We produced more world-leading and internationally excellent research (4* and 3*) than any other university in the UK in the REF 2014 assessment for computer science and informatics.
World Leading Research
Research Areas- Institutes

**ICSa**  | Institute for Computing Systems Architecture

**COMPUTER SCIENCE:** Parallel Computing, Micro Architectures, Wireless Protocols & Apps, Iterative Compilation, Self Timed Circuits

**CISA**  | Centre for Intelligent Systems and their Applications

**ARTIFICIAL INTELLIGENCE:** Intelligent Planning, Proof Planning, Security Engineering, Applied Computational Logic, Knowledge Engineering, Virtual Worlds

**IPAB**  | Institute of Perception, Action and Behaviour

**ROBOTICS:** Robotics, Vision

**Informatics**

**IFCS**  | Laboratory for Foundations of Computer Science

**THEORY:** Databases Languages, Semantics, Complexity & Alg Concurrency & Modelling, S/W Engineering Theory

**IANC**  | Institute for Adaptive and Neural Computation

**BRAIN:** NeuroInformatics, Machine Learning

**ILCC**  | The institute for Language, Cognition and Computation

**LANGUAGE:** Natural Language Processing, Multi Modal Interaction, Information Extraction, Speech Synthesis
Research Areas - EPSRC Centres for Doctoral Training

Data Science

Pervasive Parallelism

Robotics and Autonomous Systems
Research Profiles

Virtual Worlds for Teaching, Research and Emergency Response

Many people believe that virtual worlds, are forerunners of how we will interact online in the future. Currently a lot of research is being done into how virtual worlds can be used to aid collaboration and interaction for a variety of uses from disaster planning to supporting workshops, meetings and social events. Staff at the School of Informatics, are carrying out a variety of projects in this area and are working with a wide range of departments and units across the University. Research is focused on virtual worlds to assist emergency response and planning.

Machine Learning for Robotics

An important area of our research is machine learning for robotics. Here researchers are exploring how robots can learn complex tasks that humans often take for granted using techniques such as motion tracking and speech recognition. By exploring how robots can better sense, plan and move, researchers can apply this knowledge to a number of different uses. For example, by using robots in the rehabilitation and care of patients, to enhance prosthetic limbs and for carrying out tasks in hostile or dangerous environments.
**Addressing parallel computing**

Computer technology is in the middle of a revolution right across the spectrum from mobiles, laptops and PCs to the servers you access across the internet. Historically computational instructions were executed one at a time but in quick succession, however in recent years as processor speeds increased, the power generated by the computer processor could no longer be dissipated. To solve this, chip designers have managed to continually increase speeds by designing multi core processors and moving to a system of parallel computing, meaning that instructions execute not just one at a time but many at the same time.

Researchers at the School of Informatics are focusing on how to improve performance by writing new parallel programming languages which could enable the next 50 years of progress. [www.nutshell-videos.ed.ac.uk/murray-cole-addressing-the-parallel-programming-crisis/](http://www.nutshell-videos.ed.ac.uk/murray-cole-addressing-the-parallel-programming-crisis/)

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**Broadband for Remote Rural Areas**

Researchers at the School are working with partners to bring wireless access to rural and remote areas of Scotland. In the Tegola project a high speed internet network via the academic network Janet has been deployed to serve the islands of Eigg, Rum, Muck and Canna as well as some remote parts of the mainland.

The technology makes use of a low-cost network of relays that connect to the internet at the Gaelic College on Skye, Sabhal Mòr Ostaig, which is a constituent of the University of the Highlands and Islands. A local company, HebNet, has helped extend the provision to other communities in the north-west Highlands.

[www.tegola.org.uk/](http://www.tegola.org.uk/)
Award Winning Staff

The School received a top ‘excellent’ rating in the most recent Scottish Higher Education Funding Council (SHEFC) Teaching Quality Assessment exercise.

The School is home to some of the best researchers and students in the world, many of whom have received prestigious awards.

Recent Awards:
- Yangtze River Scholar Award
- CADE Herbrand Award
- IJCAI Award for Research Excellence
- 3 Royal Society Fellows
- 1 Fellow of British Academy
- 3 Fellows of Royal Academy of Engineering
- 18 Fellows of Royal Society of Edinburgh
- 3 Academia Europaea
- 10 Fellows of British Computer Society
- 2 BCS Roger Needham Awards
- 2 ACM Fellows
- 2 Fellow of Cognitive Science Society
- 5 AAAI Fellows
- Google Anita Borg Scholarships
- Young Scientist Award
- 4 RSE Enterprise Scholarships
- 2 Sir William Siemens medal winners
- EU ISA Teaching, e-Learning and Overall High Performer Awards
- At least 2 EPSRC Advanced Fellowships
- HP Labs Innovation Research Award
- 2 SIGPLAN Programming Languages Achievement Award
- IPEC Nerode Prize
- 1 IEEE Fellow
Athena SWAN Silver Award

In 2016, The School received its second Athena SWAN Silver Award, which recognises informatics as a supportive environment for females in the area of Science, Technology, Engineering, Medicine and Mathematics (STEMM).
Staff Profiles

Professor Alan Bundy
Alan is Professor of Automated Reasoning at the School of Informatics. Originally from London, Alan started his career with a PhD in Mathematical Logic from Leicester University. Alan joined the School in 1971 as a research fellow and has recently won the IJCAI Award for Research Excellence. This award is given to a scientist who has carried out a programme of research of consistently high quality yielding several substantial results.

Professor Wenfei Fan
Wenfei is Professor of Web Data Management at the School. A graduate from Peking University, Wenfei worked for a number of years at the University of Pennsylvania before joining us at Edinburgh. Today, his work is focused on database research and he is considered one of the top database researchers of his generation. He has made substantial contributions both to the theory and to the practice of the subject. Professor Fan has won a number of awards including the Roger Needham Award and the Yangtze River Scholar Award which is regarded as one of the most prestigious academic awards given by the People’s Republic of China.

Professor Gordon Plotkin
Gordon Plotkin obtained a doctorate in Artificial Intelligence from Edinburgh University in 1972 and is now one of our most prominent Scientists. He is a Fellow of the Royal Society, a member of Academia Europaea and a Fellow of the Royal Society of Edinburgh. He may be best known for his work on the operational semantics of programming languages, in particular for Structural Operational Semantics. He has also contributed to many other areas of the semantics and logic of programming languages.

Professor Jane Hillston
Jane Hillston is Professor of Quantitative Modelling in the School of Informatics. She is a Fellow of the Royal Society of Edinburgh. Professor Hillston received her BA in Mathematics from the University of York in 1985, followed by an MSc in Mathematics from Lehigh University in the USA in 1987 and a PhD in Computer Science from the University of Edinburgh in 1994, where she has continued to work. In 1995, her thesis won one of the BCS/CPHC Distinguished Dissertation Awards and was published by Cambridge University Press. In 2004 Professor Hillston received the first Roger Needham Award for a distinguished research contribution in computer science.
Bright and Brilliant Students

We attract the brightest and the best to our school many of whom go on to great things.

Each year we encourage students to enter for prestigious prizes such as the Young Software Engineer of the Year, organised by ScotlandIS, the trade association for software and IT in Scotland.

Our students have won eight out of the last 12 Young Software Engineer of the Year Awards.
Notable Alumni

Bob Kowalski
Now Professor Emeritus and Senior Research Fellow with the Department of Computing, Imperial College London, Bob Kowalski studied for his PhD at the School of Informatics (then the Department of Computer Science) in the 1970s. Professor Kowalski has been dubbed the ‘father of logic programming’.

Lincoln Wallen
Dr Lincoln Wallen is Head of Research and Development at Dreamworks Animation. He was formerly CTO at Electronic Arts Mobile where he was instrumental in shaping EA’s approach to the mobile business. Prior to joining EA, Lincoln was with Criterion Software and MathEngine. Dr Wallen studied for his PhD at the University of Edinburgh.

Bill Laing
Bill Laing is corporate vice president of Microsoft’s Windows Server and Solutions Division and personal consultant to the company’s chairman Bill Gates. Prior to joining Microsoft, Bill held research and teaching posts at the School of Informatics as well as studying for his undergraduate degree here.

Andrew Fitzgibbon
Currently working at Microsoft Research, Andrew studied for his PhD in Artificial Intelligence from the School of Informatics in 1997. Andrew has won a number of prizes and has developed an automated camera tracker used in numerous feature films including the Harry Potter series and the Lord of the Rings trilogy.
An International Community

Our staff and students are attracted here from countries across the globe because of our reputation for excellence in research and teaching.

We are an international community of students and researchers.
Students - from all over the World

www.inf.ed.ac.uk
Staff - from all over the World
Our Commercialisation Activity

- Consultancy
- Licensing
- Knowledge Transfer Partnerships (KTPs)
- Studentships
- Centres of Innovation
- Partnerships and Collaborators
- Networking and Events

61 start ups and spinouts created in the past 6 years alone.
Our Commercialisation Activity

Start up examples…

**Kotikan**
Kotikan is Scotland’s largest independent mobile application development company with a complete focus on mobile devices. They have internal design, development and quality assurance teams who have developed a wide range of applications for Android, BlackBerry, iPhone, iPad and Windows Phone. Originally founded in 2007 by Gavin Dutch, Andrew Williams and Graham Jones, all graduates of the School of Informatics, Kotikan have worked with the likes of Skyscanner to develop hugely popular apps. [www.kotikan.com](http://www.kotikan.com)

**Speech Graphics**
Speech Graphics Ltd is an award-winning company which offers advanced lip sync solutions for the video game industry. They use audio-driven method to analyse an input audio signal to move an animated character’s face in synchrony with the audio. Recent projects have included a music video for Kanye West and the world’s first high fidelity animation of human speech organs. [www.speech-graphics.com](http://www.speech-graphics.com)

Spin out examples…

**Actual Analytics**
Actual Analytics use cutting-edge video analysis to analyse behaviour, a crucial step in the development of drugs treating diseases such as Alzheimer’s and Parkinson’s. Their customers cut costs by automating a time-consuming and error-prone manual step in the $80bn drug discovery pipeline. The solution has been validated with multiple top-ten pharmaceutical companies and some of the world’s leading academic institutions across Asia, North America and Europe. [www.actualanalytics.com](http://www.actualanalytics.com)

**TigerFace Games**
TigerFace games use a multi-touch interface to enable two children to talk and work together to solve puzzles using the same device. The company develop for iOS, Android and SMART Table platforms and are based in Edinburgh. Founded by Managing Director Kate Ho, a graduate of the School of Informatics where she studied for a PhD in requirements engineering, TigerFace Games have won a number of awards for their educational games. [www.tigerfacegames.com](http://www.tigerfacegames.com)
Some of our Collaborators

- Corious Media
- Cast
- Axiope
- Pfizer
- Sun
- Research is Cool
- Affective Media
- Anarkik3D
- CereProc
- hubdub
- Scottish Enterprise
- level
- FireGrid
- BBC
- HSBC
- textensor
- Pandora
- I-C2 Systems
- FLEXPANION
- WINTERWELL ASSOCIATE
- NESTA
- traceall
- IBM
- timberpost
- BLOXX
- Nielsen BuzzMetrics
- Graham Technology
- Orkell
- specialmovi
- Xilinx
- Amazon
- GlaxoSmithKline
- gsk
- NXVision
- iBehave
- ARMS
- SLAM
- The Whisky Shop
- Microsoft
- MySnoCaT
- Mobile Acuity
- Narrative Software
- Linear B
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