A Research Powerhouse

Since 1957, when Glasgow became the first university in Scotland to have an electronic computer, the School has built a reputation for excellence in Computing Science research. Today, our School of Computing Science is considered a research powerhouse and one of the foremost Computing Science departments in the UK, setting itself the highest standards in research, and research-led learning and teaching.

We have 48 tenured academic staff, 10 teaching staff, 6 Research Fellows, 30 Research Associates/Assistants, and around 90 PhD students. Our research strategy is based on combining world-leading theoretical work with practical applications.

Key Facts and Figures

- Top in Scotland for research impact with 68% of our impact judged world-leading and 32% internationally excellent.
- Ranked 6th in the UK on research intensity-weighted GPA rank order (Times Higher Education Subject Ranking on Intensity).
- Ranked equal 16th amongst UK computer science departments, rising to 10th position on research volume with 84% of all research judged world-leading or internationally excellent.
- Ranked in the top 100 in the QS World University Rankings for Computing in 2016 and THE World Subject Rankings 2017.
Research Highlights
The School has many excellent and active areas of computing science research conducted by internationally celebrated research groups and world-leading academic staff. Our research is organised into Sections, each home to many overlapping themes.

Human Computer Interaction
Known as “GIST”, researchers in this section create and use novel, interactive systems to better understand, entertain, protect and support humans in their everyday lives. Areas of specialism include Multimodal Interaction, Social Robotics and Social Signal Processing, and Human Centred Security.
gla.ac.uk/schools/computing/research/researchsections/gist-section

Glasgow Systems Section
The GLASgow Systems Section (GLASS) researches parallel and distributed systems, networked systems and (safety-critical) software systems. It has a strong focus on real-world systems, and cover all scales and across the hardware-software spectrum. The group contributes to, develops and releases open source research software. There are several research groups within the section: The Glasgow Parallelism Group, Networked Systems, and Systems Engineering.
gla.ac.uk/schools/computing/research/researchsections/systems-section

Formal Analysis, Theory and Algorithms
The FATA section is led by Professor Simon Gay. It develops and applies mathematics and logic to the design and analysis of algorithms and complex computational systems. We are especially interested in bringing the clarity and insight of formal theories to hard application problems of real practical significance. There are three main topics: Algorithms and Complexity, Programming Language Foundations, and Formal Methods.
gla.ac.uk/schools/computing/research/researchsections/fata-section

Information, Data, and Analytics
Technological advances in sensing, data acquisition, mobile devices and the impact of the Internet are leading to increasing amounts of data sampled more rapidly and comprehensively than ever before. If we are to acquire novel insights and knowledge from this data, it needs to be matched by innovations in data management, storage and retrieval and ultimately in data analytics. The many forms of data, their complexity and variations present challenges from information and data systems, to algorithms and inference about patterns through modelling, leading to visualisation, communication and human-computer interaction. Our research is organised in four world-leading groups in Data Systems, Human-Computer Interaction & Machine Learning, Information Retrieval and Computer Vision & Autonomous Systems.
gla.ac.uk/schools/computing/research/researchsections/ida-section

Centre for Computing Science Education
As Computing Science comes of age as a profession, the Centre for Computing Science conducts research and influences practice in how to promote and teach computing at each stage of education across the lifespan. It work with the Scottish Government, Skills Development Scotland and high school computing teachers to develop the national curriculum, and advise on best practice in the teaching of our discipline. The Centre is led by Professor Quentin Cutts MBE and has been developed in partnership with the School of Education.
www.ccse.ac.uk
How to Work With Us
Accessing the knowledge and expertise of the School can take many guises depending on the needs of our industrial partners.

**Collaborative Research**
Organisations with areas of research interest or challenges that overlap with our expertise may work with us on jointly defined research projects. This gives our research partners immediate access to new research, and the ability to apply this to their business problems promptly. Various funding mechanisms exist to support such collaborations including RCUK funding, Horizon 2020 (EU) funding, and Innovate UK funding.

**Consultancy**
Companies can directly access the expertise and knowledge of our academic staff by a consultancy arrangement, where the relevant member of staff will be engaged to apply their research to a project of your specification.

**Specialist Short Courses**
Our research produces new techniques and skills that may be beneficial to your workforce and your business. Our staff can arrange to provide bespoke specialist courses designed to equip your team with cutting edge skills and knowledge.

**Visiting Fellowships and Staff Exchanges**
Often the deepest learning takes place through immersion in the culture of a research environment. Research partners may arrange to send their staff to the School as Visiting Fellows to participate in one of our research groups. Similarly, companies may offer placements and fellowships to our research staff, students and academics to aid collaboration.

**Industrial PhDs**
Sponsoring a PhD student to complete a body of research on behalf of your organisation under the supervision of one of our academic experts offers companies a very cost-effective means of collaboration, and often serves as a means of

**Talks, Lectures and Workshops**
The School is home to a vibrant research community which welcomes researchers from industry and other universities to speak and participate in our seminars, give guest lectures and run workshops within the School. Likewise, our staff are regularly invited to speak at company events and meetings.

**Knowledge Transfer Partnerships**
Part-funded by Innovate UK, organisations located in the UK work on projects of 1-3 year duration in which a graduate (Knowledge Transfer Associate) works under the supervision of one of a member of academic staff with relevant research expertise to solve problems and apply research evidence to practice in a partner company.

**License our Intellectual Property**
Many of the tools, methods and technologies developed in our laboratories have demonstrable value in industry. Companies can access this intellectual property by license via an arrangement with the lead academic, supported by the University’s Commercialisation Team.

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Funding Opportunities to Support Collaboration

There are several sources of public sector funding available to enable research innovation and academic-industry collaborations, each with a different purpose and degree of emphasis on applied versus more blue-sky research. The University has extensive experience in working with these sources of funding and offers research partners guidance and support with navigating the options available.

Research Councils UK
rcuk.ac.uk

Innovate UK
ukri.org

Knowledge Transfer Partnerships
ktp.innovateuk.org/

EU Horizon 2020
europa.eu/programmes/horizon2020

Scottish Enterprise R&D Funding
scottish-enterprise.com

Innovate Vouchers
interface-online.org.uk/how-we-can-help/funding

Further Information
For further details on how to work with us, and assistance with identifying research and expertise best matched to your needs please contact our Business Development Manager, Jill Dykes

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