

# Informatics Research Day 2017: Welcome!

Jane Hillston

2nd May 2017

# Agenda

- 9:15 – 9:20 Welcome
- 9:20 – 10:00 Funding landscape and research news
- 10:00 – 10:30 Research programmes
- 10:30 – 11:00 *Coffee*
- 11:00 – 12:00 Three minute thesis and  
Three minute research presentations
- 12:00 – 12:30 ICT Theme Strategy and Priorities (EPSRC)
- 12:30 – 13:30 *Lunch*
- 13:30 – 15:00 Break-out sessions
- 15:00 – 15:30 *Coffee*
- 15:30 – 16:30 Report back from break-out sessions

# Break-out session topics

- **Implications of Brexit** — Stuart Anderson and Alan Kennedy (European Funding Advisor, RSO)
- **PhD Recruitment** — Boris Grot
- **Global Challenges Research Fund** — Ewan Klein and Catherine Burns (Head of Strategic Research Development, RSO)
- **Generating Impact** — Stephen Gilmore and Keith Edwards (apologies from Michael Fourman)
- **Public Engagement** — Areti Manataki and Kasia Kokowska
- **Building Multidisciplinary Collaborations** — Jon Oberlander, Guido Sanguinetti and Janet Ball (College of Science and Engineering Manager, RSO)

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- Elicit from you ideas of how we can better promote and support research in the school.

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- Enjoy the day!

# Funding landscape and research news

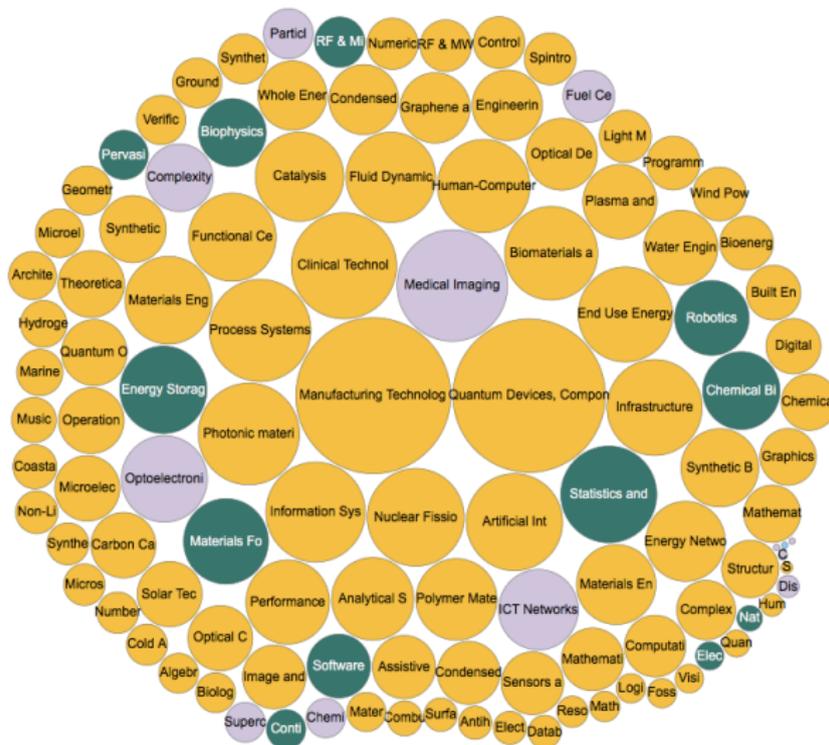
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# Outline

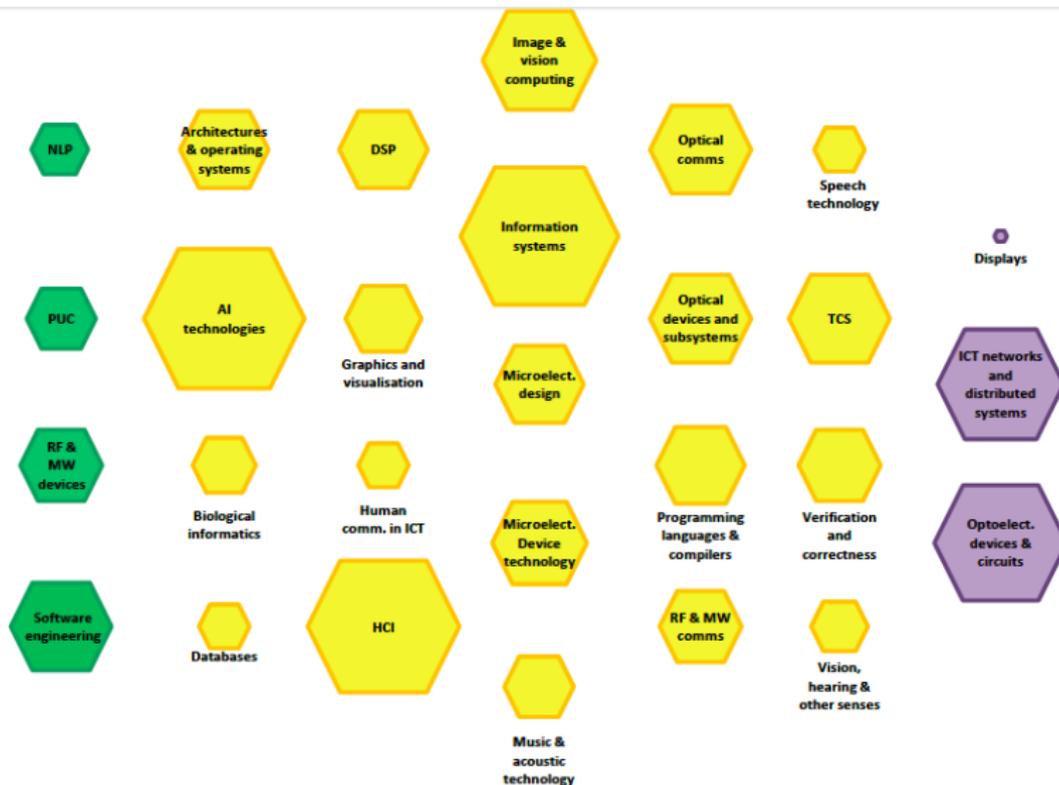
- 1 External Research Landscape
- 2 Internal Research Landscape
- 3 Research Evaluation Framework news
- 4 Support for Research

# EPSRC News: Balancing Capability



[https://www.epsrc.ac.uk/research/ourportfolio/vop/  
pack/RESEARCHAREA/](https://www.epsrc.ac.uk/research/ourportfolio/vop/pack/RESEARCHAREA/)

# EPSRC ICT Research Areas



# New Cross-ICT Priorities

- Data Enabled Decision Making
- Future Intelligent Technologies
- Safe and Secure ICT
- Cross-Disciplinarily and Co-Creation
- People at the Heart of ICT
- New and Emerging Areas

Note that

- **Programme Grant** applications must address *Cross-Disciplinarity and Co-Creation* and *People at the Heart of ICT*.
- **Fellowship** applications must address the *People at the Heart of ICT* priority; also *Cross-Disciplinarity and Co-creation* for **Established Career Fellowships**.

# GCRF — Global Challenges Research Fund

- UK Government "Tackling Global Challenges in the National Interest"
- International development in low and middle income countries
- Budget of £1.5bn over 5 years
- Capacity and capability, address problems, respond to crisis
- RCUK Themes: Health, Clean energy, Sustainable agriculture, Conflict and humanitarian action, Foundations for economic development, Resilient systems, Mass migration and refugee crises
- UN Sustainability Development Goals

# ISCF — Industrial Strategy Challenge Fund



In July 2017 the Government published the Industrial Strategy green paper which contains a number of proposed measures:

- Increased funding for PhD studentships in STEM subjects
- New fellowships for industry-relevant STEM research
- A new Industrial Strategy Challenge Fund

# ISCF — 6 key areas

Funding will focus on:

- healthcare and medicine
- robotics and artificial intelligence
- batteries for clean and flexible energy storage
- self-driving vehicles
- manufacturing and materials of the future
- satellites and space technology

Government has committed to increasing investment in research and development by **£4.7 billion** over the next 4 years.

# ISCF

In the last few days there have been some first indications of the scale of funding for different areas. For example it was announced that:

- The plan is to invest £38m in “new collaborative research and development projects, working with industry partners to develop the next generation of AI and control systems need to ensure the UK is at the forefront of the driverless cars revolution”.
- Investment of £93m over four years to “develop AI and robotics systems that can be deployed in extreme environments which occur in offshore energy, nuclear energy, space and deep mining”.
- A much larger investment of £243m will go towards research into clean and flexible energy, or the ‘Faraday Challenge’, to help promote the design, development and manufacture of batteries for the electrification of vehicles.
- There is also £197m going towards research into cutting-edge healthcare and medicine.

# European Funding

- Both H2020 Research and Innovation Actions and ERC grants (Starting, Consolidator and Advanced) continue to be open for UK Applicants.
- The UK Government has undertaken to honour the funding commitments from the research projects from the EU Commission at the point of the UK leaving, until the completion of the project.
- People are nevertheless understandably nervous about how applications from the UK will be received.
- Evidence both from the School and more widely in the University is that we continue to have success in gaining grants for the Commission.

# School Successes – Grants

- Murray Cole (PI), *Pattern Discovery and Program Shaping for Heterogeneous Manycore Systems*, EPSRC, £423K.
- Steve Renals (PI), *Ultrax2020*, EPSRC, £1.2M.
- Chris Williams, *Clinical Validation of Molecular Alveoscopy for the Bed-Side Diagnosis of Pneumonia in Critically Ill Patients*, Wellcome Trust, £2M
- Aggelos Kiayias, (PI), *Blockchain Technology Laboratory*, IOHK (a leading blockchain research and development company),
- Subramanian Ramamoorthy, (PI), *Common Ground Learning and Explanation*, DARPA, \$550K.
- Myrto Arapinis and Elham Kashefi, (PIs), *Entrapping Machines*, American Air Force Office of Scientific Research, \$1.6M.
- Maria Wolters, (PI), *ELEMENT, leveraging speech analysis for the early detection of signs of dementia*, EIT Digital, 1.4K Euros.

# Huawei-Edinburgh University Joint Laboratory

- Wenfei Fan will lead the new Huawei-Edinburgh University Joint Laboratory.
- This is the first such lab for Huawei and it aims to stimulate basic research in informatics.
- Initial funding of £1.8M over three years has been agreed.
- A first call in January attracted 22 applications; 6 have been selected for funding.
- We anticipate another call in the autumn.

# Huawei funded projects: first tranche

- Shay Cohen:  
*Deep Learning for Natural Language Applications*
- Kousha Etessami:  
*Game-theoretic Approaches to Mobile Data Privacy*
- Wenfei Fan:  
*The Other Side of Big Graphs: Dependency Theory, Practice and Applications*
- Björn Franke:  
*McDoC – Many-Core In-Memory Database on a Chip*
- Mark Steedman:  
*Building and Interrogating Knowledge Graphs from Text*
- Charles Sutton:  
*LODE: Unsupervised Machine Learning for Organising and Exploring Data*

# School Success – Awards

- Phil Wadler on the ACM **SIGPLAN Distinguished Service Award 2016**.
- The RemIX Project, led by Peter Buneman, won a **European Broadband Award**, the only UK winner.
- A team of our PhD students has been chosen by Amazon to compete for the inaugural \$1.5M **Alexa prize**.
- Perdita Stevens' paper "*Bidirectional Model Transformations in QVT: Semantic Issues and Open Questions*" was selected as the **most influential paper** from MODELS 2007.
- Jon Oberlander won the **Tam Dalyell Prize** for science communication.
- Pramod Bhatotia won **best paper award at EuroSys'17**.
- Wenfei Fan won **best paper award at SIGMOD'17**.



National Cyber  
Security Centre

**EPSRC**

Engineering and Physical Sciences  
Research Council

## Academic Centre of Excellence in Cyber Security Research

Cryptography and Distributed Ledger

Quantum-enhanced Security

Socio-technical Security

Protocol and Program Verification

Secure Future Networks

Device Security

Data Science and Security

<http://web.inf.ed.ac.uk/security-privacy/about-us>

# Reporting Successes

- If you have a success please let us know! Help us celebrate all the great work that goes on in the School.
- Grants will be notified to the School in any case, but without you passing on information we don't necessarily hear about things like best paper awards.
- Please email the Informatics Communication Team ([infcomms@inf.ed.ac.uk](mailto:infcomms@inf.ed.ac.uk)), copying in me ([jane.hillston@ed.ac.uk](mailto:jane.hillston@ed.ac.uk), Johanna ([hod@inf.ed.ac.uk](mailto:hod@inf.ed.ac.uk)) and your Director of Institute.
- The Informatics Communication Team ([Kasia Kokowska](#) and [Ségolène Gallus](#)) will work with you to ensure that your achievement is suitably publicised.

# New Research Programmes

Research programmes are cross-institutional groupings of staff interested in a common research topic. The current research programmes are:

- **Deep Learning** – Tim Hospedales and Amos Storkey
- **Internet of Things** – Ewan Klein and Paul Patras
- **Programming Languages** – James Cheney and Michael Steuwer
- **Data-centric Computing** – Boris Grot and Vijay Nagarajan
- Security and Privacy
- Bioinformatics

# Interaction with EPCC

- In order to build and strengthen links between EPCC and Informatics, we will be holding a short “Get to Know You” event 2pm – 4pm on Friday 12th May.
- An [eventbrite link](#) will be circulated later today.
- **Friday 12th May:** 2 minute presentations from EPCC and Informatics staff, followed by mingling to make initial contacts.
- **Friday 26th May:** Submission of half-page proposals, from which around 6 will be selected for allocation of further development resource (ie. EPCC staff time).
- The aim is to fund exploratory projects that will allow promising collaborations to develop into full external proposals.

# New appointments

- Benjamin Bach
- (Vaishak Belle)
- Pramod Bhatotia
- Michael Gutmann
- Tim Hospedales
- (Walid Magdy)
- (Michael Mistry)
- Andreas Pieris
- Kartic Subr
- Ivan Titov
- Maria Wolters



# Stern Review and Consultation

- After the outcome of the last REF in 2014, the Government asked Lord Stern to conduct an independent review of the process.
- His review was published in the summer of 2016, and made a number of recommendations.
- HEFCE then organised a consultation on the proposals which concluded on 17th March.
- Responses from the School were channelled through the University and through UKCRC (UK Computing Research Committee).
- We expect a framework to be published this summer and the next REF to take place in 2021.
- HEFCE have initiated the process of appointing panel chairs.

# Changes proposed by Stern

- The inclusion of all research-active staff
- Non-portability of outputs
- Group rather than individual assessment of output quality
- The approach to research impact
- The information required to assess the research environment
- The introduction of an institutional-level assessment of impact and environment

# Open Access Compliance

- For papers to be eligible for return in REF, they must be lodged in PURE within **3 months of paper acceptance**.
- **David Beamish** contacts everyone approximately every three months asking them to verify their PURE record – please reply.
- Increasingly open access compliance is important for funders as well as for REF.
- For example, FP7 and H2020 project publication outputs are expected to be included in **OpenAire** — this can be set up to happen automatically from PURE, but only if papers are in PURE.

# University REF preparedness plans

- The open access compliance with respect to research outputs is monitored monthly.
- In February/March a **REF-readiness exercise** was conducted:
  - There was a check that all potentially returnable staff had **three** suitable publications
  - The emphasis was on process rather than content at this stage, so there was no judgement of quality – that will come later
  - Steve Renals (our REF czar) and I carried out the check and filed a report to College Research Office.
  - Michael Fourman (our Impact Champion) reported on our process for capturing and developing impact case studies.
- We anticipate that there will be another exercise around the same time next year, but that it will be a **mock REF exercise**, i.e. quality of papers will be checked in addition.

# School REF preparedness

- Steve presented about REF at Research Lunch in October 2016.
- We will dedicate another Research Lunch to REF once the final framework is published.
- We plan to hold a workshop on writing the 100 word statements which have to accompany papers submitted to REF in summer or autumn 2017.
- Michael is continuing work to find out about potential impact case studies, currently assisted by Heather Walker.
- David Beamish and other members of the Research Data Team will continue to try and ensure that all possible papers are open access compliant and therefore eligible for REF return.

# Support for research

When you are preparing a research proposal there are many sources of support available to you:

- **Portfolio Managers (PMs)**: involve your institute PM in your research proposal as soon as possible.
- **The Research Support Office (RSO)** can give advice on funders and programmes. They also offer examples of successful research funding applications.
- **Director of Research (DoR)**: The DoR has an office hour every Monday 12.00 – 13.00 in her office, IF3.49.
- **Director of Institute (DoI)**: Your DoI is also available to support your research and offer advice.
- **Your peers**: When preparing a proposal it is a good idea to get feedback colleagues, especially those in other institutes.

# Sources of information and support

- **Research lunches:** 1pm on the last monday in every month (except April). Usually a speaker from elsewhere in the university informing us about collaboration opportunities or support services we may wish to take advantage of.
- **Workshops on specific topics in Informatics:** arranged on an ad hoc basis to address particular needs. So far GCRF and Fellowships. Forthcoming ones on **Responsible Research and Innovation** (20th June) and **100 work REF statements** (TBC).
- **Learning lunches and other events organised by RSO:** The RSO offer occasional information sessions, often featuring particular funders. The best way to find out about these is through the **RSO Blog**.
- **Business Development Executives:** can help make links with appropriate companies and obtain letters of support.

# What would you like?

Please use the post-it notes on your table to make some suggestions of possible:

- Research Lunch topics/invites
- Workshop topics
- Other activities, e.g. "pitching sessions", proposal clinics, ...?