sicsa* The Scottish Informatics & Computer Science Alliance

Newsletter Summer 2014

Editorial

The dying days of 2014 saw the long-awaited publication of the Research Excellence Framework results. Collectively, Scottish Informatics and Computer Science did well with most institutions improving on the parameters they had targeted. In terms of overall "research power" we saw the majority of Scotland's institutions holding their own or improving their relative position. The SFC investment in Research Pooling has certainly contributed to the ability of Scotland's institutions to compete effectively in the REF. The first phase of SICSA funding comes to an end in June 2015 to be succeeded by a new co-funded SICSA 2 that will continue the work of the research pool covering 14 Scottish HEIs. As I write, the revised consortium agreement is already in advanced draft stage.

The REF result is very positive for Scotland's institutions but it does contain some less positive messages. We still have much to learn about how to characterise our impact since for many institutions that is lower than we anticipated. One new development that can help us in improving our impact stories is the creation of the SFC-funded Innovation Centres. There are opportunities for interaction on Informatics and Computer Science with all eight centres but we believe there are very strong opportunities with CENSIS on sensor systems, DHI on digital health and The Data Lab on big data. SICSA now has representation from all three on our Advisory Board and we are in discussion on how pooling can improve the interaction between the Innovation Centres and Scottish researchers.

SICSA is particularly heavily involved in The Data Lab.

The appointment of its new CEO gives it renewed impetus and SICSA's Education Director is leading on the implementation of The Data Lab Education Programme that has launched multiple coordinated Masters programmes that will see their first students in September 2015. This is a great achievement given a very tight timescale from the award of The Data Lab. We look forward to a productive partnership between SICSA and The Data Lab.

Post-election, we can only expect a spending review that will see a reduction in UK science spending through the research councils and the Junckers initiatives in Europe have also seen movement of funds from Research towards Innovation and Employment. SICSA will work with the theme groupings to see that the mechanisms we have in place support the Scottish Institutions effectively to work together to maintain and develop Scottish Informatics and Computer Science research.

Our annual Graduate Academy PhD conference takes place in Glasgow June 24-25. This brings together PhD students from across Scotland and is one of the highlights of the SICSA event calendar. The Graduate Academy demonstrates the effectiveness of pooling in building collective strength through cooperation. Going forward the Graduate Academy will be an essential element in ensuring the health of our PhD community.

Professor Stuart Anderson, SICSA Director

Bright future ahead for SICSA

Steven Kendrick

We are delighted to announce that the Scottish Informatics and Computer Science Alliance (SICSA) will receive funding from the Scottish Funding Council for 5 further years. This funding will be matched by the SICSA member institutions. The funding secures the future of SICSA from August 2015 until July 2020.

SICSA will consist of 14 full-member institutions, details of which are available at http://www.sicsa.ac.uk/about-us/our-members/. The lead Higher Education Institution for this phase of SICSA will be the University of Glasgow, with the core project support team also being based there. Currently, the next phase of SICSA funding from SFC will not include funding for PhD studentships or academic staff appointments. However, we will be in a position to continue to offer a broad range of funding programmes aimed at research students, early career researchers and academics working across the discipline. Well-established SICSA events such as the SICSA PhD Conference and SICSA DEMOfest will also continue on an annual basis. Furthermore, we will continue to develop the established SICSA Research Themes and in addition to this there will be a number of short-themes and Research Challenges each year in order to kick-start activity in new and emerging areas.

Stuart Anderson, SICSA Director, says of the SFC announcement: "SICSA has demonstrated the effectiveness of the Research Pools by maintaining and developing Scotland's research power, as demonstrated by the results in the recent Research Excellence Framework exercise. SICSA-2 will continue the work of developing research collaboration across all the Scottish Informatics and Computer Science Schools and Departments; the SICSA Graduate Academy will provide strong support for a Scotland-wide PhD community; SICSA Education will work with Schools, Universities and employers to evolve curricula and delivery methods to meet the rapidly growing demand for Digital Skills; and SICSA Knowledge Exchange will work with companies and the new SFC-funded Innovation Centres to strengthen the impact of Scottish research. In particular we welcome the Data Lab Innovation Centre that is working closely with SICSA to bring the benefits of "big data" to Scottish organisations and companies."

For full details about all of the SICSA funding programmes and our exciting programme of events, please see www.sicsa.ac.uk.

SICSA PhD Conference 2015

Aileen Orr

The SICSA PhD Conference 2015 will take place at the University of Glasgow on 24th & 25th June. The focus of the workshops this year will be essential skills required for studying for your PhD and beyond. The Committee have worked hard to ensure these sessions are not only useful and informative but also collaborative and interactive.

As with the last couple of years the Conference tickets were snapped up extremely quickly which indicates this event is increasing in popularity year on year.

Along with the workshop sessions there will also be two Keynote Speakers; Professor Jimmy Lin from Maryland University and Entrepreneur Mr Ian Ritchie whom I'm sure will be delivering very interesting & enthusiastic talks. There will be the customary Poster Session which always provides a variance of themes and research and to ensure the delegates get some social time, we are having a Glasgow City Open Bus Tour and a tour of the Kelvingrove Art Gallery & Museum. The Civic Reception will be held in the stunning Glasgow City Chambers which will provide beautiful surroundings for our delegates to have some-down time while they network with their fellow students and guests.
We look forward to seeing you on 24th June! #SICSAConf15

Introducing SICSA Research Challenges

Stuart Anderson

In the Autumn of 2014 SICSA opened a call for SICSA Research Challenges. Research Challenges are aimed at stimulating multidisciplinary work directed at a challenge that has impact outside Informatics and Computer Science. Our goal is to stimulate work that draws on SICSA themes, the work of other Research Pools and the new SFC Innovation Centres. The call generated considerable interest and proposals were assessed on: breadth, multidisciplinarity, potential for impact, sustainability, timeliness, quality and novelty, appropriateness of the team and potential for interaction with Innovation Centres. Four proposals were eventually funded: Visually Impaired Access to Visualised Data, UX for mHealth, Future Cities, and Enabling Environments. These are all now fully in operation and we will report progress and outcomes in a future newsletter.

The Research Challenge Leaders of the 'Visually Impaired Access to Visualised Data (VIVID)' Challenge, Dr David Flatla & Dr Chris Lim (University of Dundee) recently provided the some background to their Challenge and updated us on some of the activities they are planning.

"Visualisation is an increasingly valuable tool for understanding our world; visualisations are used in news and weather reporting, computer applications, printed media, and in many professions (e.g., doctors, scientists, graphic designers). However, for those with visual impairment, visualisations typically present more barriers than opportunities, thereby preventing people with visual impairment from directly benefitting from these visual presentations of data.

As a start to addressing this digital inequality, we are carrying out three key activities as part of our SICSA Research Challenge - VIVID (Visually-Impaired access to Visualised Data).

First, we are currently in the process of creating a network of relevant stakeholders (involving individuals, and local and national groups representing people with visual impairment). We have made contact with many of these people and groups, and are in the process of organizing visits to go and conduct interviews to gather their initial thoughts and insights.

Second, we are planning a workshop with these individuals in August this coming summer. The goal of this workshop is to facilitate an in-depth exploration of both the challenges that people with visual impairment experience when dealing with data visualisations, as well as to categorise the tools and techniques they use to accommodate. This will also serve to help workshop participants share knowledge and strategies for dealing with the challenges presented by visualisations.

Third, we are coordinating having Professor Kathleen McCoy (University of Delaware, USA) join us as a Distinguished Visiting Fellow before, during, and after our workshop. Prof. McCoy's expertise in creating verbal summaries of charts and visualisations will be of benefit both to our project in general, as well as contributing to the specific goals of our workshop in August.

The SICSA Research Challenge Leaders

Enabling Environments (Identifying Health Promotion Elements in Care Homes)
Dr Sebastian Stein & Dr Kyle Montague

Future Cities
Professor Matthew Chalmers

UX for mHealth
Dr John Rooksby, University of Glasgow

Visually Impaired Access to Visualised Date (VIVID)
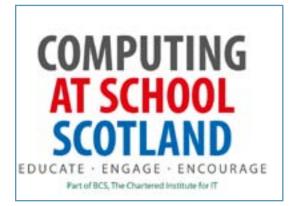Dr David Flatla and Dr Chris Lim

SICSA Education Update
Dr Karen Petrie

SICSA Education All Hands Meeting

The 10th of March saw the annual SICSA education all-hands meeting. This was a chance for the education reps from all Universities to get together and reflect on what has been achieved this year and what we would like to see from SICSA education next year. We had two interesting updates from this years short themes Supporting & Recruiting Women in Computing and Towards a School-University Education Continuum in Computing. This included an advertisement for the up and coming Haggis day on the 11th of May. Both of these themes will end at the end of July this year.

So that lead us in to the main business of the meeting, deciding what the priorities are for SICSA Education spending in 2015/16. Many views were shared on this issue. The outcome which seemed to be favoured by the majority of parties was to make smaller amounts of money available for one off workshops such as a day on teaching first year programming or an event around how to recruit students from areas of multiple deprivation. So expect an open call for funding of up to £1000 per workshop, to fund these activities in May/June. We could have an exciting and varied programme of events next year.

Computing Science Education Conference:
Saturday 7th November,
School of Computing, University of Dundee

In partnership with SICSA Education, Computing at School, Scotland, BCS, College Development Network, ScotlandIS, Education Scotland and the School of Computing at the University of Dundee

Following the success of three annual conferences looking at Computing Science in Primary and Secondary, CAS Scotland are delighted to be partnering with SICSA Education to provide an academic and research strand, and partnering with ScotlandIS and College Development Network to provide an industry and vocational strand. This will be the first ever conference in Scotland to bring people together with interests in computing education from primary teachers to HE academics including those from industry.

A workshop can either involve Computers or can be 'unplugged' and will involve plenty of participation (1 or 2 hours). A seminar will involve a presentation to share information with the audience (15 or 30 minutes) A discussion forum will be a small group format where you can chair a small session with participants or a Q & A panel based format with a larger audience (30 minutes or 1 hour).

Proposals can be submitted on the CAS Scotland website: www.cas.scot

Dates for your diary:
Programme announced and ticket on sale: June 2015
Date of Conference: Saturday 7th November 2015

To become involved in the SICSA Education group or if you have any questions about SICSA Education Activities please email the SICSA Education Director, Karen Petrie or join the mailing list.

Distinguished Visiting Fellows
Aileen Orr

Since the last Newsletter in autumn 2014 there has been a great amount of activity relative to Distinguished Visiting Fellows. We have approved funding for 15 DVFs who have travelled to Scotland and given talks, seminars and facilitated workshops across the SICSA institutions. This is a very popular area of the SICSA Graduate Academy and we look forward to seeing this continue into the next phase of SICSA.

Dr Gabriela Oche from University of Stirling hosted DVF Professor L Darrell Whitley from Colorado State University in January this year. He visited some SICSA institutions giving talks and workshops and it was a very productive trip. I spoke with Dr Oche about hosting a SICSA DVF:

Why Professor Darrell Whitley?
Darrell Whitley is globally leading in the fields of evolutionary computation and combinatorial optimisation. His work is relevant to both the theory and practical applications of these computational tools. These are key areas for several research groups in Scotland which are involved in both the theoretical underpinning and real-world applications of search methodologies and nature-inspired algorithms. These methodologies are successfully applied to industrial and scientific problems in transportation and logistics, software engineering, medicine and bioinformatics to name a few.

Professor Darrell Whitley

How was the application process?
It was smooth and light in terms of paper work. It was easy to get the information and forms from the SICSA website and questions were promptly answered when contacting SICSA via e-mail.

How well attended were the events?
Professor Whitley gave a talk on his current research at the University of Stirling where he also held a number of fruitful on-to-one meetings with academic and research staff. There was also a Workshop held at Napier University which was attended by 25 researchers from at least 3 different Universities and Dr Whitley did a one hour talk at this workshop which was followed by approximately 3 hours of discussions. The focus on this being on industrial applications and the degree to which current theory supports (or does not support) the development of applications.

Are there any plans for future collaboration
Yes, we have a joint paper appearing this summer in the leading international conference GECCO '15: 2015 Genetic and Evolutionary Computation Conference. Further work is also under development. There are also plans for preparing funding applications in both theoretical aspects and real-world applications of combinatorial optimisation.

Will there be a reciprocal visit to Colorado State University?
Yes, I'm planning to visit Professor Whitley and his group in Colorado in the summer 2016.

Would you apply for a SICSA funded in the future?
Yes, I will consider applying again, although at the moment, I do not have any concrete plans

Thinking of applying for SICSA DVF Funding?

The DVF scheme is designed to provide wider benefits for the Scottish research community including knowledge exchange, mentorship, access to new industry and academic partners the development of new research programs with other academic institutions and industry. DVF applications have a 94% success rate of receiving the requested funding, therefore if you would like to bring someone over to visit the SICSA institutions as a Keynote Speaker for your Conference or to give a talk or facilitate a workshop, SICSA financial support is available; just fill in the DVF application form and send in to us for consideration.

Success story of a SICSA funded student

Aileen Orr

Since SICSA commenced in 2008 we have provided funding for 90 studentships across the SICSA institutions. Here we have feedback from 1 such student who has now graduated and is pursuing a successful career in his chosen field.

Andrew Macvean, (former student at Heriot Watt University): UX Researcher at Google

Can you tell us about your education and what was your early incentive to study computer science?
Choosing to study Computer Science at university was an easy decision for me, it was always the subject I felt most passionately about at high school and resonated most closely with my own interests. Maybe I am a product of my time, but personal computers were really only making their way into the 'average home' when I was a around 10 or 11. As soon as my family had one, I was obsessed, with a great curiosity to really understand how they worked. When I began programming, and saw all that was possible, I always pursued CS related activities whenever I had the chance.

What prompted you to embark upon a PhD and in particular why did you choose to apply for a SICSA studentship?
As I got to the end of my undergraduate degree, I realized I wasn't done learning. After 4 years, you've still only really scratched the surface. My favourite part of my undergraduate was my final year dissertation. Conducting novel research, and trying to push the boundaries of knowledge was exciting, and I jumped at the chance to do 4 more years. SICSA was also a natural choice, having the collaborative power of all of Scotland's institutions, with the shared knowledge and opportunities that brought with it, was an opportunity I had to pursue.

What type of SICSA activities were you involved in throughout your PhD studies & were they beneficial to you?
I was involved with a few small bits and pieces throughout the years. I attended a few workshops / conferences that were SICSA funded / hosted, as well as taking the opportunity to listen to tech talks / presentation from SICSA guests, such as Jeffrey Ullman. I also served on the organizing committee for the SICSA PhD conference, which was a great opportunity to work closely with fellow PhD students / academics with whom our paths wouldn't normally have crossed. Broadly speaking, many of the events SICSA put on extended my knowledge and understanding of both academia and industry, as well as allowing me to network with many people definitely worth knowing.

You are now a User Experience Researcher at Google based in Seattle, how is this going and what do you feel are your major challenges and achievements?
I have been full time at Google for 9 months now, and I am thoroughly enjoying every minute. Although UX research is maybe not something many CS students think about, those that are leaning more down the HCI routes would likely find it a challenging and rewarding profession. I actually still work in a very technical area, API usability, and coming from a CS background has helped me greatly. There are so many exciting projects and opportunities here at Google, it really is like Disney Land for computer scientists. In terms of challenges, the work is certainly demanding, it keeps you on your toes and working hard, but I think most of us who have gone down the PhD route wouldn't want it any other way. Achievement wise, I am happy to say there have been a few. I have been involved with a few product / feature launches that have gone successfully, and conducted research that has lead to some impactful changes to our products.

Why did you pursue a career in industry rather than academia?
For me, it really wasn't a difficult choice. At Google, academic contributions are heavily valued, and collaboration with academia is encouraged. The research I do here impacts Google products, but it also contains novel contributions that would be welcome at academic conferences. I hope to have a few publications out this year. I saw Google as the best of both worlds.

SICSA Events

SICSA organises and supports a diverse and inspiring range of events, including international conferences, summer schools and workshops; these events are happening all year round.
Please visit the SICSA Events calendar to find out more about the forthcoming events. Our Twitter and Facebook feeds will continually keep you updated on events.

June 2015
Data Science/Modelling & Abstraction: Second SICSA Deep Learning Workshop
9th June at the Informatics Forum, University of Edinburgh

SICSA Medical Imaging & Sensing Workshop: Smart Sensing Technologies and Environments for Health
12 June at Glasgow Caledonian University

SICSA PhD Conference:
24-25 June at the University of Glasgow

SICSA Summer School Computational Interaction:
22-26 June at the School of Computing Science, University of Glasgow

July 2015
BICOD/Tapp 2015 – British International Conference on Databases (BICOD 2015) and Theory and Practice of Provenance workshop (TaPP 2015)
6-9 July at the Informatics Forum, University of Edinburgh

SICSA Summer School on Natural Language Generation,

Summarisation and Dialogue Systems
20-24 July at Kings College, University of Aberdeen
August 2015
SICSA HCI Doctoral Consortium 2015
24 August at the University of Dundee

September 2015
AVoCS 2015 and AI4FM 2015
1-4 September at the International Centre for Mathematical Sciences

Cyber Security Breakfast Meet-ups for SMEs will be taking place on the last Thursday and Friday of each month at Edinburgh (Dome, New Register House) and Glasgow (the Corinthian Club) respectively.

Funding opportunities from SICSA
Academics and Postdoctoral Researchers in Scotland are automatically part of SICSA and therefore eligible to take advantage of numerous SICSA opportunities.

Research Theme Event Sponsorship
To support small to medium scale meetings/ workshops/ symposiums or other creative formats that align with the SICSA research themes.
Summer School Sponsorship
Funding to support the costs of making free places available to Scotland based students at informatics focussed Summer Schools.
Host a Visitor (DVF/*DIVF)
Host an eminent researcher or leading industry figure for 1 week – 3 months. Collaborate & share them with SICSA to inspire the next generation of researchers.
Summer & Winter School Bursary
If there's an international summer/winter school that you would like to attend to benefit your research, SICSA has bursaries available to help meet the costs. Applying is simple and can be done at any time.
Conference Sponsorship
Attracting prestigious events to Scotland improves the visibility and esteem of SICSA institutions, as well as providing access to renowned international events for academics and PhD students closer to home

Pools Engagement in European Research Support (PEER)
Support for networking activities for policy influencing and project preparation at a European level. Multi-site bids and SME involvement prioritised.
Researcher Exchanges (PECE)
Build your career with a research exchange in Europe, North America, China or India. Develop international collaborations & enjoy a change of scenery to boot.
***Postgraduate Industry Intership**
Intern at any company, anywhere in the world gaining valuable work experience and apply your research in a real business context.
***Early Career Industry Fellowship**
The world really is your oyster with this fellowship so think big and go after something you have always wanted to do but didn't think would be possible.
***Final funding call is 30 June 2015.**