

Newsletter Autumn 2014



Editorial

As incoming SICSA director I'll start by acknowledging the great job the outgoing team of Rod Murray-Smith, Jon Oberlander and Aaron Quigley did in steering SICSA through the creation of the new Data Lab Innovation Centre, initiating the new knowledge exchange programmes, preparing for the transition beyond the initial funding period for SICSA and further developing the research and education facets of SICSA. The new team of Ian Miguel (SGA Director), Karen Petrie (Education Director) and Iadh Ounis (KE Director/Deputy SICSA Director) and I know we have a tough job to emulate our predecessors.

SICSA continues to provide a focus for concerted activity across the Scottish academic computing community. As I saw at the recent SICSA PhD Conference in St Andrews, the SICSA Graduate Academy has built a genuine PhD community and the research themes continue to engage researchers across the Scottish Universities. We will strive to improve on these successful SICSA initiatives to extend participation in the SICSA Graduate Academy and bring the activity of all the themes up to the level of the most active.

SICSA's *raison d'être* is to create the necessary critical mass to compete nationally and internationally. Increasingly it also acts as the voice of Scotland's academic Computing and Informatics community. In the face of an uncertain future SICSA can provide a voice that carries the weight of the whole community. This is particularly

important when pressing issues surrounds us. The award of Centres for Doctoral Training by EPSRC has radically shifted the distribution of PhD funding in Scotland; SICSA will explore what can be done to maintain a healthy PhD community across Scotland. The introduction of the new SFC-funded Innovation Centres that focus on translational research have the potential to transform Knowledge Exchange work across the sector; SICSA will attempt to serve the interests of the academic community through this transformation. In Education we see the challenge of meeting the rising demand for graduates in our discipline; again we will work with our Board and the Schools to understand how best to meet the rising demand. The list goes on: the post-referendum landscape, continuing restrictions on research funding from UK and EU sources, ...

If SICSA didn't already exist we would need to invent it to help coordinate and represent the interests of the community. It is against this backdrop that we are negotiating the future of SICSA with SFC. The first round of SICSA funding runs until mid-2015. We are at an advanced stage of negotiations with SFC and hope to be able to announce plans beyond this date shortly.



Professor Stuart Anderson

SICSA welcomes incoming Directors

Steven Kendrick

During August 2014 SICSA bid farewell to three Directors and welcomed their replacements, who will be in post for the next 2 years.

We say goodbye and thank you for all of the hard work and commitment to Professor Rod Murray-Smith, outgoing SICSA Director; Professor Aaron Quigley, outgoing Deputy Director and Director of KE; and Professor Jon Oberlander, outgoing SGA Director. All three outgoing Directors have been instrumental in driving SICSA forward in a time of changing landscapes; and in securing a sustainable future for SICSA beyond the end of the original funding period. Through their commitment to SICSA and hard work, the outgoing Directors have been instrumental in securing a long term future for SICSA beyond the original funding end-date of July 2015. We wish all of the outgoing Directors a hearty thank you and the very best for the future.

The incoming Directors came into post on 1st August 2014. Read more about them below:

SICSA Director – Professor Stuart Anderson

Stuart replaces Professor Roderick Murray-Smith as overall Director of SICSA. Stuart is a Professor of Dependable Systems at Edinburgh. He is particularly interested in socio-technical systems, resilience of such systems and how Social Science and Informatics provide a unique perspective on the conception, design, deployment and operation of computer-based systems. Stuart is also interested in Social Computation and Collective Adaptive Systems and recently worked on the development of a Digital Health Institute, designed to stimulate innovation and knowledge exchange



SICSA Deputy Director and Director of Knowledge Exchange – Dr Iadh Ounis

Iadh replaces Professor Aaron Quigley as Deputy Director and Director of KE. Iadh is the leader of the Terrier Team at the University of Glasgow, where he and his team are developing and evaluating novel large-scale text information retrieval techniques and applications. Iadh has extensive teaching experience at all undergraduate and postgraduate levels, covering both general Computing Science topics (e.g. Database Systems) and specialised research-driven courses and is currently the Director of the Computing Science PGT programmes at Glasgow, overseeing Masters programmes. He is also an outreach champion for the School of Computing Science.



SICSA Graduate Academy Director – Dr Ian Miguel

Ian replaces Professor Jon Oberlander as SICSA Graduate Academy Director. Ian is a Professor of Computer Science at the School of Computer Science, University of St Andrews, where he is a member of the Constraints Group. His research interests are in automated constraint modelling and constraint solver design. He gained his PhD from the University of Edinburgh in 2001. Following post-doctoral research at the University of York, in 2004 he received a Research Fellowship from the Royal Academy of Engineering.



SICSA PhD Conference 2014

Aileen Orr



The SICSA PhD Conference 2014 took place on 9th & 10th of June at the beautiful University of St Andrews. The Committee worked very well together; achieving a full programme of Workshops, Poster Session, interesting Keynote Speakers and Theme Events.

The sun was shining for most of the conference which meant the delegates could also take in the surroundings of the University and some of the picturesque scenes from the rooftop of the Museum of St Andrews (MUSA), which hosted this year's Industry Drinks Reception.

We were pleased to have representatives from various businesses including Skyscanner, Amazon, ScotlandIS, Aridhia at the Industry Drinks Reception. As with last year the delegates were delighted to get the opportunity to chat to the Industry guests over a glass of bubbly and gain insight into the companies that they may one day work with.

This year's Keynote Speakers were Professor Mike Edmunds (The Antikythera Mechanism and the Origins of Computing) and Professor Nitin Vaiya (Resilient Distributed Consensus). Whilst the topics were quite different both were very positively received by the delegates.

Photographs and video footage as well as Keynote Speakers presentation slides can be accessed at the SICSA web-site: www.SICSA.ac.uk.

Organisation for the SICSA PhD Conference 2015 is now underway and we are excited to announce that it will take place on 24 & 25 June at the University of Glasgow. We have the student committee members on board who are from the SICSA institutions and the planning has begun.

The annual SICSA PhD Conference is open to all PhD students who are currently studying computer science and informatics in Scotland – you do not have to be funded by SICSA to attend the Conference.



Education Short Themes

Karen Petrie

We're pleased to announce that SICSA Education is launching two short themes:

1. Towards a Continuum in School to University Computing Education will be lead by Richard Connor, University of Strathclyde along with Quintin Cutts, University of Glasgow and Greg Michaelson, Heriot Watt University,
2. Recruiting and Supporting Women in Computing. Theme leader to be confirmed.

The period of time allotted for these themes is deliberately short as education continues to evolve. So we will plan to launch different themes over time to adapt to changes in education policy, technology, funding opportunities and the interests of the SICSA academic communities.

The two new themes come as a result of an open call, which was circulated at the end of February with a deadline of the end of March. In total 4 bids were submitted to this call. The SICSA Directorate reviewed all of these bids and chose the 2 final successful proposals.

Launch Event for Towards a Continuum in School to University Computing Education

With the Curriculum for Excellence rolling rapidly towards university entrance, there is an unmissable opportunity to ensure school education in computing fits well with university education. The primary purpose of Towards a Continuum in School to University Computing Education is to form a network of interested academics, to identify relevant opportunities, and to speak with a unified voice to the various organisations involved.

The theme opened with a workshop, held in Glasgow on 25th June 2014. The main purpose of the first workshop was to identify interested individuals from the Higher Education sector. To ensure focus, participants worked on concrete topics, as well as higher-level policy ideas; the concrete topics of the day were:

(a) the assessment of program comprehension skills using the SQA-adopted pseudocode notation ("Haggis"), and

(b) teaching computing without computers: educating for Computational Thinking

Everyone was welcome and indeed encouraged to attend, the only criteria being that (1) they had a passionate interest in the subject, and (2) were prepared to do some work towards it. Which meant we had a very lively mix of school teachers and academics from the fields of both education and computing. This looks like it will be an exciting theme to watch develop.



Launch Event for Recruiting and Supporting Women in Computing

The main purpose of Recruiting and Supporting Women in Computing is to help more women to get through the pipeline from school to university than on to careers. This theme will have two main purposes:

- (a) a pilot of a STEM school proposal which will be undertaken by a team from Abertay University lead by Natalie Coull, and
- (b) to help SICSA members to get Athena Swan accreditation.

This theme will be launched by an Athena Swan workshop in Edinburgh on Tuesday the 16th of September.

We are still looking for someone who is interested in chairing this theme. If you are interested in leading this initiative please email: admin@sicsa.ac.uk

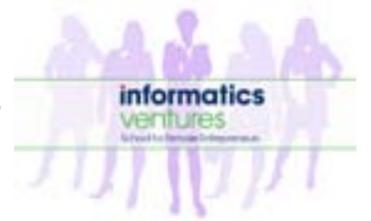
What's been happening in Informatic Ventures?

Nicola Hogg

Here come the girls.....School for Female Entrepreneurs

This year Informatics Ventures tried something a little different....and the results were unexpected and hugely encouraging.

Each year, informatics ventures holds the school for entrepreneurs which sees around 20 participants from SICSA and the wider community take part in a week long residential entrepreneurship course at the Stirling management Centre. It's a great course to start exploring very early stage ideas under the guidance of an experienced entrepreneurship team and because everyone's in the same boat (usually a little bit nervous and unsure of the business journey ahead) there is a great sense of camaraderie with friendships and contacts made that last well beyond the course.



However, Informatics Ventures is keen to encourage more women into business so decided to be bold and offer a weekend version of the school....to women only! And the results? Well they had more applications than ever before and a whole new cohort of women expressing an interest in commercialisation activities! To keep things fair, Informatics Ventures hope to sponsor places on another course that the men can get involved with but this has been a sure sign that there is a whole heap of female business talent waiting to emerge, who perhaps just need a different environment to flourish in.

The course will run from 12th – 14th of September with an update on the event in a later edition of the newsletter.



DEMOfest14 returns to Edinburgh with focused themes to build strong industry attendance

DEMOfest returns to Edinburgh this Winter and will take place on the 30th October in the Informatics Forum. DEMOfest is now in its seventh year and while it is going from strength to strength we are making the event even better this year with a stronger focus on selected themes to draw the best industry crowd to make your connections on the night more meaningful. The newly established Innovation Centres are a key gateway for connecting academia and industry and have therefore shaped DEMOfest's exhibition themes this year which are:

- Data Science & Digital Technologies
- Health & Life Sciences
- Robotics & Artificial Intelligence
- Sensors & Imaging
- Smart Tourism

Applications to exhibit are now open so if you are working on research in the above areas with commercial potential and want to explore opportunities for collaboration between academia and industry further apply now! <http://www.surveygizmo.co.uk/s3/1750170/DEMOfest-14-Application-to-exhibit>

iVTuesday returns in September with Sir Robin Saxby

Informatics Ventures monthly speaker series returns from its summer break this September and opens with a bang on 23rd September with Sir Robin Saxby, founder of ARM, the country's leading Micro-processor Intellectual property company. So why attend? Well aside from the free food and drink you have the opportunity to connect with future employers, entrepreneurs, mentors and future collaborators. There's no better way to get inspired than hearing from those who have been there and done it and Sir Robin definitely has!

Teaming with Start-ups at Glasgow 2014



So you can't fail to have noticed the Commonwealth Games in July and just like many other organisations, Informatics Ventures got in on the action by delivering 'Teaming with Start-ups' with Scottish Enterprise on behalf of Scotland House. It was an opportunity to sell Scottish businesses to an international audience and saw 12 of the companies from EIE (Engage Invest Exploit - Informatic's Venture's annual investor showcase) pitch for talent this time instead of investment. Money will get a new business so far but what really drives a business is a strong team at its core. The event saw CEO's requesting advisory board members, company directors and even technical appointments so there really was something for everyone. The day was made even more special by a very engaging keynote from the charismatic John Innes who after living life as a rock star (genuinely!) turned his hand to the IT world and went on to build the Amor Group, Scotland's largest indigenous IT company, before recently selling to Lockheed Martin. Everyone embraced the competitive commonwealth spirit by choosing their 'golden pitch' with the winner receiving a trophy...and gold medal of course. Well it was the games after all!

Internships; more than just a job interview

Internships are a relatively new aspect to SICSA but they are far from a new concept and are pretty much mandatory in the states! The topic of internships crops up all the times during discussions on how to improve the employability of our graduates but you shouldn't look at internships solely as a route to a job. Internships will take you to a new environment where you will be working on different problems under varying constraints. You may face time pressures or have to work in very different team structures than you are used to, and while sometimes it may not feel comfortable, you will be growing as an individual and researcher during this process.

There is no denying that an internship is looked on favorably by employers (just listen to the PhD Conference Industry Panel session to confirm that!) but equally if you want to stay in academia you will be regarded as a more rounded researcher for having gained this experience and insight into industry that will come in more than handy further down the line. So, if you want to be challenged and go on an priceless personal and professional journey, look into the SICSA internship programme – it's one of the most flexible you will ever find as you decide where to go and for how long – within reason of course! Next deadline is 30 October 2014.

Hear from one of the SICSA students currently on Internships:

David Braude, CereProc, Edinburgh

Best thing you have worked on whilst on the internship so far: So far working on paralling the existing system has been the most challenging

One way that the internship has helped your research:

Helped me figure out how to parallise my own work which should speed turn around time on experiments.

One thing you have learned about yourself from the internship:

I can very quickly adapt to working in different environments

Three skills you have gained from the experience

Increased understanding of speech synthesis technologies, parallisation in Python, understanding of LSFs

Sum up your internship experience in three words:

Interesting difficult work

Paolo Pareti, Nil, Tokyo

Best thing you have worked on whilst on the internship so far:

A web application for Linked Data visualization.

One way that the internship has helped your research:

It gave me the chance to see the area of my research from a different perspective. I learnt to use new tools and techniques that will be extremely useful when I resume my main research topic.

One thing you have learned about yourself from the internship:

I like working in a team.

Three skills you have gained from the experience?

Managing a project with collaborators. A skill that is difficult to develop doing research as a PhD student, as projects are often individual. Speaking Japanese (...but not much yet) , Linked Data integration.!

Sum up your internship experience in three words:

Fun, social and rewarding

News from SICSA

New SICSA Web Site and Experts Finder launched

Throughout this year SICSA has been working closely with Glasgow-based web and graphic design agency, Red Empire, to develop a brand new SICSA web site; which launched on 13th August. The project came to fruition as a result of a communications review in late 2013 – at that time the SICSA Directors agreed that the pool required a high quality web site, befitting of a world class research cluster.

Alongside the new web site, Dr Iadh Ounis and Dr Craig MacDonald of the University of Glasgow developed a new SICSA Experts Finder search engine, which has been integrated into the new site. Of the search engine, Craig MacDonald said: "SICSA builds upon the number of excellent researchers working in close proximity in Scotland, and by working cooperatively we can develop and extend Scotland's research position in Computing Science and Informatics. However, knowing who to cooperate with in SICSA can sometime be challenging. Often people ask themselves or others: who is it that has done research about a similar problem?"

To address this challenge, Iadh and Craig developed the SICSA Experts Finder search engine. The search engine allows you to enter a query, and receive a ranking of SICSA academics who are predicted to have relevant expertise, based around their recent publications. So far, they have collected 23,000 publications for 1585 academics across the SICSA institutions. So, when you're looking for someone in SICSA to help you with 'mobile search', 'information retrieval' or anything else, then check out the Experts Finder!

Special thanks go to the team at Red Empire – Adam and Scott; Steven Kendrick (SICSA Executive Officer); and Nicola Hogg (SICSA Executive Assistant) who have put many hours of hard work and creativity into the project from beginning to end. Thanks also go to the Experts Finder developers, Craig MacDonald and Iadh Ounis and their team at the University of Glasgow.

Staff Profiles

Aileen Orr, University of Glasgow – SICSA Executive Assistant

Aileen joined SICSA in March of this year and is based in the School of Computing Science with the University of Glasgow. Aileen came to SICSA with 15 years' Human Resources experience within the University of Glasgow but she started her working career in the Hospitality Industry. When asked what attracted her to the post of SICSA Executive Assistant she said "after working in a University central service for 15 years, the idea of working intimately within a School, whilst being in contact with all Universities throughout Scotland was too appealing to ignore"

Whilst she loves her native Scotland, especially the highlands, Aileen enjoys her visits to the east coast of America where she has extended family. As well as their 4 year old daughter, Aileen and husband Brian have a 23 year old son who is currently studying in Tennessee after being awarded a Soccer Scholarship.



Lauren Colvin, University of St Andrews - Secretary

Lauren joined the University of St Andrews in 2007 based in Registry and working on student records. She made the move to the School of Computer Science in 2014. She divides her worktime between the University her role as Secretary in Computing Science and administration for SICSA. She is a born and bred Fifer and currently lives in Anstruther. She enjoys travelling and spending time with family and friends



News from around SICSA



Cisco-University of Glasgow Hackathon Prize Winners

The winners of the joint Cisco Systems and University of Glasgow "Internet of Everything" Hackathon were announced earlier this summer.

Congratulations go to Computing Science students Jarana Manotumrukha, Bruno Peres, and Tomasz Sadowski, who received prizes from Professor Jonathan Cooper, Vice Principal for Knowledge Exchange at the University of Glasgow, for their winning entries in the Cisco Hackathon event.

Participating students took on the challenge to create innovative uses for the Smart Citizen Kits - environmental sensors which were placed and connected around the University of Glasgow, demonstrating just a little of what can be achieved by connecting smart interactive devices. The competition has been hosted by the University's School of Computing Science, which is home to world-class research in Information Retrieval and Embedded Networks and Distributed Systems.

Overall winner Jarana, from Thailand, picked up £500 in Amazon vouchers for his 'Entertain Me' mobile app. Second-placed Bruno, from Brazil, took home £250 in vouchers for the 'Campus Companion' mobile app and Tomasz, from Poland, received £100 for 'Operation Dark Sky'. Each of them also received goodies from Cisco.

The projects were showcased at the Glasgow Science Centre during the Commonwealth Games 2014.

You can read more about the Hackathon event on Cisco's blog at <http://ow.ly/A1c5E> or view Cisco's promotional short video, including an introduction by the Hackathon's organisers Dr Iadh Ounis and Dr Craig Macdonald.

New research aims to improve energy efficiency, cut costs and carbon emissions

Against a world backdrop of increased concerns about energy security, price fluctuations and, of course, the need to address climate change, six new research projects including one at the University of Edinburgh's School of Informatics, were launched earlier in the summer which aim to gain a fuller understanding of how energy is managed in the country's non-domestic buildings.

Funded with £3 million from the Engineering and Physical Sciences Research Council (EPSRC), on behalf of the Research Councils UK Energy Programme (RCUKEP), the research will address how to use technology, data and information, mathematics, law and sociology to create better energy strategies and behaviours in the public and private, non-domestic buildings stock.

Non-domestic buildings such as offices, supermarkets, hospitals and factories account for approximately 18 per cent of UK carbon emissions and 13 per cent of final energy consumption.

Dr Nigel Goddard, Director of the Institute for Adaptive and Neural Computation, at the School of Informatics will lead the "Data-Driven Sociotechnical Energy Management in Public Sector Buildings" Project. This project will aim to construct a feedback loop to give information to building managers and occupants on their energy consumption, the activities using energy, and how much for each one, with suggestions on how to reduce energy expenditure and use.



Forthcoming events from SICSA

SICSA 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.

September 2014

SICSA Summer School on Argumentation: Computational and Linguistics Perspectives

Thursday 4th September – Monday 8th September at the University of Dundee

SICSA Sponsored Conference: The 7th International Conference on Security of Information & Networks

Tuesday 9th September – Thursday 11th September at the University of Glasgow

Distinguished Visiting Fellow Professor Beth Simon, University of California

Video explanations for university (computing) courses: Lessons drawn from MOOCs, University of Glasgow, Monday 1 September at the University of Glasgow

Distinguished Visiting Fellow Professor Beth Simon, University of California

How we teach impacts students learning, performance, and persistence: Results from three studies of Peer Instruction in Computer Science University of Glasgow, Friday 5 September at the University of Glasgow

Distinguished Visiting Fellow Professor Ian Watson from University of Auckland, New Zealand

Details can be found at www.sicsa.ac.uk/news-events/

Please note that there will be a number of further events throughout the coming months and exact dates and details are still to be confirmed. Please check www.sicsa.ac.uk/news-events/ for regular updates.

Funding opportunities from SICSA

We grow as a community when you grow as researchers so take advantage of the funding available to you as an individual researcher, or the calls that will help you contribute back to the community.

Academics and Postdoctoral Researchers in Scotland are automatically part of SICSA and therefore eligible to take advantage of SICSA funding calls - see below for all funding opportunities:

Host a Visitor (DIVF / DVF)

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.

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

Individual Research Funding

Industry Fellowships: Continue your professional development by working collaboratively with industry as part of this 1 year fellowship (2 years part time).

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.

Event Sponsorship

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.