



Scottish Crucible Alumni Network

Examples of tangible impacts of undertaking Scottish Crucible programme

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Dr Catherine Jones - Scottish Crucible 2017

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I applied for the Scottish Crucible in early 2017, as a post-doctoral researcher working within the Rolls-Royce University Technology Centre for Electrical Power Systems, within the Department for Electronic and Electrical Engineering at the University of Strathclyde. Crucible provided me with an excellent opportunity not only to share research ideas and ultimately collaborate with academics outside the engineering research community, but also has positively influenced my research, teaching and collaborative activities on both a national and international scale.

Crucible directly inspired a 5th year MEng group project that I proposed and am currently running, to build an historical fitness machine. This will provide the platform for future collaborative research planned with Historian Dr Lucas Richert (2017 Cruciblist), with research funding proposals planned to explore these machines and their influence on society further. This interdisciplinary collaboration has also provided inspiration for outreach work with schools, planned for later in 2018.

Away from collaborative projects with History, my core research interests lie in electrical power systems, often applied to aerospace applications, such as proposed future aircraft where propulsion is provided either all or in part by electrically driven propulsive fans. Participation in Crucible provided me with the confidence and ambition to continue to build my interdisciplinary activity in this area (e.g. combining electrical power systems with materials science) and to successfully apply for travel funding to identify and develop collaborative opportunities with NASA.

Ultimately, Crucible has encouraged me to see the wider picture beyond Ohm's Law and to investigate the areas of electrical power engineering that are strongly influenced by external factors.

Dr Chris Cummins - Scottish Crucible 2015

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For me, the Scottish Crucible programme was both a fascinating opportunity to engage with fellow researchers across a wide range of disciplines, and a valuable step in my own academic development. It's a very effective way of building a community of people who are dealing with many of the same practical issues in our working lives even while addressing seemingly very different research goals. And I found it a great help in overcoming the inertia that would have kept me doing the same kind of work within my own narrow field, rather than taking on some of the challenging but exciting prospects in the wider world of research and beyond.

In practical terms, Crucible equipped me with the confidence to tackle those challenges, and a lot of very useful advice about how to approach them. For instance, I currently co-supervise a PhD project on communication in emergency-response medical teams, which we hope has the potential to go considerably further, and ultimately help improve patient outcomes. I've also recently started a Leverhulme Trust-funded project on the effect of bilingualism on cognitive bias. Both these projects involve trying to translate the insights from one field into potentially impactful outcomes in another, and thus require interdisciplinary work, awareness of the various stakeholders and their needs, and potentially an understanding of how to use academic research to inform policy. I feel that the experience of Scottish Crucible has stood me in good stead in all these respects and more, and I consider myself very fortunate to be able to draw on that experience.

Dr Dimitrios Gerogiorgis - Scottish Crucible 2015

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After attending Scottish Crucible, I was awarded a Royal Academy of Engineering Industrial Fellowship to work with Molson Coors on a project that aims to rigorously optimise high-quality beer production. This will be achieved via state-of-the-art computational algorithms and industrial data, leading to energy- and resource-efficient process intensification.

Molson Coors will acquire unprecedented brewing insight, via flavour quantification and systematic model parameter estimation. The collaboration will serve high-fidelity modelling and comparative evaluation of optimisation methodologies, and strengthen university links with the UK beverage industry. Master's level and PhD projects will be developed and undergraduate teaching will be invigorated by new computational and experimental industrial case studies.

Dr King Han Aaron Lau - Scottish Crucible 2015

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The Scottish Crucible has certainly been an enriching experience while starting out as an early career academic/scientist. It quickly provided me a professional network in Scotland. It is helping me start collaborations with peers/researchers both from my own university e.g. fellow Cruciblist, Dr Michelle MacLean, University of Strathclyde and externally, e.g. Dr Dimitrios I. Gerogiorgis, University of Edinburgh with whom I have submitted 2 cross disciplinary proposals in the areas of Chemical Engineering and Chemistry/Nanotechnology.

Scottish Crucible has helped me gain exposure to the executive team within my university, as well as to validate my track record externally, that could have contributed to winning large international research awards. I have included my cruciblist award on my CV, and have had some grant successes, including a 3-site US\$1.05M/£760k international collaborative research grant, as lead-PI, from the Human Frontier Science Program (a multi-governmental agency).

Some of the benefits of Scottish Crucible may be difficult to quantify, but the experience has certainly helped to validate my track record, to help establish a research network (in Scotland), and to gain research and communication skills that are helping me in furthering my career.

Dr Miguel Garcia Sancho - Scottish Crucible 2014

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I attended the Crucible in 2014 as a Chancellor's Fellow starting my tenure-track at the University of Edinburgh. The programme was very valuable to get to know the Scottish University system – I had just arrived from Spain at the time – and met a bunch of very interesting colleagues from all the disciplines. This informal, interactive atmosphere is crucial for the Crucible. Being able to network with a group of like-minded young academics is invaluable, and this works not only at the professional level: I made very good friends at the Crucible and, in many cases, we are still in touch.

After concluding the programme, I was awarded two research grants and became a Principal Investigator:

- The first one was awarded by the BBSRC and explored the history of Dolly the sheep. It finished in Dec 2016 and employed a postdoctoral researcher who

is now based in one of the best history of science departments in Britain at the University of Manchester: http://www.stis.ed.ac.uk/research/projects/completed_projects/historicising_dolly

- The second grant was awarded by the European Research Council and looks at the history of yeast, human and pig genomics. It is still ongoing (started in Oct 2016) and employs two postdoctoral Research Fellows: <http://www.stis.ed.ac.uk/transgene>

In sum, the Crucible has been incredibly inspirational to get my ideas flying!

Dr Clare Taylor - Scottish Crucible 2010

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It is hard to believe that eight years have passed since I applied to take part in Scottish Crucible, but believe me when I say that some of the learning I took away from Crucible still regularly helps!

In addition to meeting some great people that I am still in touch with, one of the most important things that I took away from Crucible is that the best outcomes happen when you work with a diverse range of people, especially when those people are from outside of your immediate research focus. This has enabled me to get involved in all kinds of interdisciplinary applied research, some of which has been funded through small awards, and some of which has landed larger amounts of funding. And because Crucible really built my confidence to network, I have made some important contacts in industry which has led to funding of commercial projects.

But research collaboration is only part of the story, and Crucible offers so much more, including getting to work with the inimitable Vivienne Parry on engaging with the media. Indeed, Vivienne was very much in the back of my mind when I said yes to the BBC to consult on a science documentary, which I ended up appearing in. And I often remember Vivienne's words in my current role as General Secretary of the Society for Applied Microbiology, for whom I regularly give comment to the media on stories/events relevant to microbiology.

Crucible was pivotal in my early career as an academic in shaping who and how I work with others, and as a result, I occupy a leadership position within my academic School and am currently leading a major piece of University work. I cannot recommend the experience highly enough.

Professor Rune Todnem By - Scottish Crucible 2009

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Simply put, I would not be where I am today without the Scottish Crucible.

I was very fortunate to be accepted for the inaugural SC back in 2009 when I was working at Queen Margaret University, Edinburgh, and I truly believe it changed my life. Why? Because of the excellent focus on how we as individuals and groups can all make a difference. In fact, this has become my life mantra: it's all about being MAD – Making A Difference! Not as a choice – but as an individual and organisational responsibility which none of us should abdicate from.

This mantra informs all I do. It informs how I raise my son; how I design and deliver undergraduate and postgraduate courses; how I position MBA and Executive MBA delivery and developmental sessions for industry; what research I undertake and how articles are positioned; and how I live my life. This focus – enhanced by my SC experience – has

informed my professional development. With a focus on organisational change and leadership, I am serving as editor-in-chief of Routledge's Journal of Change Management; I have co-edited and co-authored leading books on change, leadership and ethics; co-founded the Public Leadership Foundation with its focus on developing emerging leaders who all want to contribute to solutions to challenges found in the public sphere; and I have become an authority in the field. Being an authority is of course of no importance in its own right. It's only important if we can be MAD.

Last but not least: in 2009 I met a fantastic group of people. Both those arranging and delivering the Scottish Crucible, and the other participants who are all MAD. Together, we can provide even more MADness.

To me, the Scottish Crucible was fun. It was an honour. It was life-changing!

Prof Mirela Delibegovic - Scottish Crucible 2009

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I was an inaugural member of the 2009 Scottish Crucible. At that time, I was an RCUK fellow concentrating on my research and desperately trying to work out how to make my research more interdisciplinary and meaningful. When an email advertising the Scottish Crucible programme arrived, I applied the same day. It was exactly what I was searching for and it was certainly the best thing I have done for my professional as well as personal development. I would say that they could not have put a better mix of individuals together and I would consider every single participant in my year as a good friend!

The exposure to the Scottish Parliament and civil servants was eye opening and put into context the importance of what we do in our research as well as how we present it in lay language in 2 minutes (the elevator pitch). The opportunity to spend 2 days at different universities around Scotland was superb and also got us to really brainstorm and work together on novel ideas. Every time I came back from one of the labs, I was absolutely exhausted but exhilarated.

I went from being a research fellow to senior research fellow to Reader and Professor in 8 years and I would say that without the Crucible, this would not have been possible. One of the pilot grants of £5K went to our interdisciplinary collaboration between a psychologist from Strathclyde, a physicist from Edinburgh, chemist from Glasgow and myself. It made us come up with ideas that we would never have done before; we still work together as a part of the Research the Headlines project which continued when we became the members of the RSE Young Academy. Overall this was, and still is, the best leadership and professional development programme I have ever done and most importantly, it was incredibly fun!

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