

Response to call for evidence, SFC Research Pooling Initiative

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I was closely involved in the SICSA Research Pool from its outset and was a joint author (with the late Prof J.Oberlander) of the initial pooling proposal for computer science (SICSA). I served as Director of the SICSA Graduate School for 2 years (2009-2011) and as SICSA Director for 2 years (2011-2013).

My comments here relate specifically to the SICSA Research Pool as I had only limited contact with other pools.

Section 1: Initial research pooling initiative

Q1a. What has been the impact of the initial research pooling initiative?

From a computer science perspective, the impact of the research pooling initiative has been incredibly positive. From a diverse and rather uncommunicative set of departments who sometimes considered each other with mutual suspicion, SICSA has created a genuine community where collaborative options may be explored, where there is an improved understanding of the issues and problems that different departments face, where interaction with local industry has very significantly improved and where there has been a clear improvement in research performance, especially amongst what might be thought of as the 'mid-range' universities.

I can highlight a couple of examples that demonstrate this culture change:

1. The Datalab. This is a Scottish innovation centre with approximately £13m funding which is a university/industry collaboration. It is emerging as one of the foremost knowledge transfer centres in the world. I do not believe that the level of collaboration that has been achieved here would have been possible without SICSA's collaborative culture.
2. The emergence of a 'Scottish' HCI (Human-Computer Interaction) research community. SICSA helped pull together disparate work in HCI and create what is now an internationally recognised research community that publishes a disproportionate number of high-quality papers in the top conferences and journals in this area.

Before research pooling, many departments had excellent interactions with industry but these were mostly industries elsewhere in the UK and Europe. I believe that one of the most important long-term contributions of SICSA has been to change this so that local industry is much more involved with Scottish universities.

There is no doubt whatsoever that the computer science pool was effective in attracting world-class academic staff to Scotland, most of whom have stayed and continue to contribute to the community. For example, Dr Adam Barker was appointed as a pool funded lecturer from Melbourne in 2010, has developed a long-term collaboration with Google and was recently appointed to a Chair in Cloud Computing at St Andrews.

It provided opportunities for attracting excellent graduate students from abroad, several of whom have continued to work in Scotland and to contribute to the research and industrial community. I know that a number of SICSA graduate students have been involved in the creation of startup companies, which are contributing to Scotland's reputation in digital innovation.

Q1b. What lessons can be learnt from the research pooling initiative?

I think that there are two key lessons that should be learnt:

1. Pooling should not just be about research excellence. Rather, it should encourage all aspects of the work of universities - education, research and knowledge transfer. This allows pool members whose strengths are not in research to participate as equals and to share different kinds of expertise (e.g. teaching very large classes) . We must remember that teaching is our bread and butter and that focusing on research elitism is not necessarily conducive to improving the quality of education that we offer our students.
2. Inclusiveness is better than elitism. The original goals of the pooling initiative were solely focused on research and this encouraged the creation of pools that limited membership and which were uneasy collaborations of competing institutions. Whilst these may well have contributed to research improvement they are fundamentally brittle collaborations that are unlikely to contribute to culture change.

Computer science is not an equipment-intensive discipline so the equipment sharing aspect of pools was not really an issue for us. I cannot comment on its effectiveness. Funding for staff was very welcome indeed but I believe that the most important research contribution was in funding for postgraduate students. The SICSA Graduate school was very successful indeed in both conventional research metrics (PhDs awarded, papers published, etc.) but also in fostering collaboration across the Scottish university community.

Section 2: Pooling now and in the future

Q2a. In the current research landscape, what is the perception of, and role for, the pools?

As I retired in 2014, I don't have an up to date understanding of the role of the research pools. My general impression is that the collaboration and culture change that was engendered by SICSA is continuing, albeit of a more limited scale because of reduced funding.

Q2b. Should research pools have a continuing role in the Scottish research base?

In any large-scale initiative such as the research pooling initiative, it is inevitable there will be successful and less successful collaborations. I believe that it is important to learn from the

successful collaborations and to continue research pooling across the community. The challenges faced by the university community over the next few years are immense and I think that we are better equipped to tackle these collaboratively rather than competitively.

I would strongly encourage a continuation of research pooling with a significant level of funding, diverting funding if necessary from other areas. The competitive and artificial allocation of funding according to fairly arbitrarily measured 'research excellence' has created an 'us and them' community without, in recent years anyway, doing much to actually improve research excellence (as distinct, perhaps, from improving some of the arbitrary metrics that are supposed to measure this).

My experience as a pool director does not really qualify me to comment on whether interdisciplinary pools are effective. However, I did spend more than 20 years working across disciplines, particularly with the social sciences and I experienced all of the common problems of inter-disciplinary working.

In short, whilst governments and, to some extent, universities claim to encourage interdisciplinary working, they have, so far, done nothing to change the metrics used to measure research success. These do not recognise that the contributions from interdisciplinary work are often in the gaps between disciplines rather than central to the disciplines involved. Frankly, I think interdisciplinary pools (and other initiatives to promote interdisciplinary research) will inevitably face the same problems. Whilst the notion of formal research assessment continues (and university promotion committees continue to prioritise conventional research contributions), then it will inevitably be very challenging to make interdisciplinary collaborations effective.

Section 3: Anything else

SICSA made a deliberate decision to make the pool director an internal appointment and to rotate to directorship, initially between the three core members (Edinburgh, Glasgow and St Andrews). I think this was an important contribution to its success because it avoided the perception that the research pool was somehow distinct from other departmental activities. Whilst making internal appointments has its own difficulties (senior academics have many other pressures), I think that it should be encouraged.

I completely support the notion that research pools should contribute to economic development but I think it is important not to be constrained by 'development priorities' as set by government and Scottish Enterprise. These make it more difficult to explore new, risky, areas of collaboration that have significant potential and an important role of pools should be to support entrepreneurs willing to take innovation risks. In reality, most such efforts will fail but we only need a small number of successes to make these worthwhile. I would therefore encourage any future pool funding to include a 'risky' component that allows academics to become involved in small startups in perhaps unfashionable areas.