

## SICSA Research Theme Activity Report

Please complete all sections of this reporting template and submit within 3 months of your event or activity taking place. This report will allow the SICSA Directors to provide detailed information about the progress of the SICSA Research Themes to the Pool funders, SFC, and your cooperation is appreciated.

Name of event organiser: Prof Andrew Ireland

Email address: a.ireland@hw.ac.uk

Institution: Heriot-Watt University

Title of event: A Scottish Theorem Proving Meeting

Location of the event: International Centre for Mathematical Sciences (ICMS), The Bayes Centre, 47 Potterow, EH8 9AB

Date of event: December 14, 2018

From which SICSA Research Theme was this event funded? Theory, Modelling and Computation

Total funds claimed for event: TBC – up to £350 was awarded

**Please outline in brief what took place at the event, providing details of speakers and titles of talks:**

The event was organised into three parts. The first part involved three speakers:

- William Kavanagh (University of Glasgow) gave a talk entitled *“Model Checking for Interesting Stochastic Turn-Based Games”*
- Kirsty Duncan (Heriot-Watt University) gave a talk entitled *“William Existing landscape in verification of neural networks”*
- Juan Casanova (University of Edinburgh) gave a talk entitled *“Meta-resolution: A Least Commitment Algorithm for Enumerating Provable Instantiations of Formulas Containing Meta-variables”*

Each of the three speakers are at different stages in their PhD studies. It has been a feature of STP meetings to give research students and new academics the opportunity to present their research within a relatively informal environment. After the talks, and during the tea/coffee break, there was the opportunity for PhD students and post doc researchers to present posters and demos:

- Xue Li (University of Edinburgh) presented a poster on *“Repairing Datalog-like logical theories by combining abduction, belief revision and conceptual change”*
- Kobby Nuamah (University of Edinburgh) presented a poster on *“Functional inference over heterogeneous data”*
- Andreas Bueff (University of Edinburgh) presented a poster on *“Computationally Attractive Logic-based Learning”*

- Alasdair Hill (Heriot-Watt University) gave a tool demo: “Proof-Carrying Plans”

The final part of the event focused on a group discussion on how STP should evolve in order to better reflect the growing diversity of our community. The outcomes of the discussion are summarised below.

**Please provide details of how many attended and if possible, information about which institutions were represented:**

The event attracted 28 participants – which was more than had been predicated. In terms of spread, a mix of research students, research associates and academics attended from across central Scotland, i.e. University of Glasgow, University of Edinburgh, University of Dundee, University of Strathclyde as well as Heriot-Watt University

**Outcomes:**

The discussion part of the meeting focused on how STP should evolve. Over the last twenty one years STP has gradually changed from an event for theorem proving researchers into one that now brings together researchers with a wide spectrum of interests in formal representation and reasoning – from the applied to the theoretical. To reflect this natural evolution it was agreed that the STP name should also evolve. Specifically, a name that embodies “verification”, “representation” and “reasoning”, but also one that retains “Scottish”. The process of finding a new name is ongoing. It was felt that the re-branding should also be accompanied with changes to the format of the forum. Specifically, it was felt that each meeting could also include an invited tutorial (or keynote speaker), potentially from someone out with our community. This would seek to broaden the reach of our community whilst opening us up to new challenges and opportunities.

Finally, Alison Pease (Dundee) and Rob Stewart (Heriot-Watt) volunteered to take on joint co-ordination of the forum formerly known as STP

**Do you have any plans to bid for further SICSA Theme Funding in the future?**

SICSA Theme funding was greatly appreciated. We will certainly aim to make further bids in the future. For example, where invited keynote speakers are non-local, then SICSA support with travel and accommodation costs would be very helpful.