

Report on the visit of  
**Professor Dana S. Scott**  
**SICSA Distinguished Visiting Fellow**  
27<sup>th</sup> June – 23<sup>rd</sup> July 2010

Professor Dana Stewart Scott FBA, FNAS, Emeritus University Professor of Carnegie Mellon University, Pittsburgh, Pennsylvania, USA and Visiting Scholar, University of California, Berkeley, spent four weeks in Scotland from 27<sup>th</sup> June to 23<sup>rd</sup> July 2010, based at the Informatics Forum, University of Edinburgh, hosted by Dr. Alex Simpson and Prof. Michael Fourman. The report below summarises the highlights of the visit.

On Tuesday 29<sup>th</sup> June, **Scott in Scotland**, an afternoon of invited talks on semantics of programming languages, was held at the Informatics Forum. The main event of the programme was a 1-hour invited talk by Professor Scott. This was preceded by three ½-hour invited talks by prominent Scottish researchers: Prof. Gordon Plotkin (University of Edinburgh), Prof. Neil Ghani (Strathclyde University), and Dr. Murdoch J. Gabbay (Heriot-Watt University). The event attracted 50 participants: 30 from the University of Edinburgh, 15 from other SICSA universities, and 5 from outside Scotland. The academic programme was followed by a reception to encourage interaction between participants, and then a dinner for invited speakers. Full details of the meeting, including abstracts and slides of talks, are available at:

<http://homepages.inf.ed.ac.uk/als/ScottInScotland/index.html>

From 30<sup>th</sup> June to 8<sup>th</sup> July, Professor Scott gave a series of three 1¼-hour seminars, entitled *A Probabilistic Modal Set Theory*, at the Informatics Forum. The seminars were attended by 15 participants from the University of Edinburgh and by 1 from Strathclyde University. By popular demand, an extra 1¼-hour session was added to the third seminar, on the afternoon of 8<sup>th</sup> July. Details of the seminars, including copies of the slides, are available at:

<http://homepages.inf.ed.ac.uk/als/ScottInScotland/seminars.html>

Each seminar was followed by a sandwich lunch in the Informatics Forum, at which academic discussion was continued. These lunches were particularly popular amongst the PhD-student and Research Associate participants of the seminars, with Jeff Egger, Willem Heijltjes, Matteo Mio, Ohad Kammar and Benedict Kavanah, especially, enjoying discussions with Professor Scott.

On Monday 5<sup>th</sup> July, Professor Scott travelled to St. Andrews, where he delivered a seminar entitled *Reflections on Geometry*. In addition to the local participants, which spanned the Schools of Computer Science, Mathematics and Philosophy at St. Andrews, the seminar was attended by a group of 5 people who travelled to St. Andrews from the University of Edinburgh.

From 9<sup>th</sup> to 21<sup>st</sup> July, the Edinburgh School of Informatics hosted the fifth Federated Logic Conference (FLoC'10). This year the congress combined 8 major conferences and 48 workshops. In addition to the main conferences, Scott attended two workshops: **Proof Systems for Program Logics**, as programme committee member; and **Automated Mathematical Theory Exploration**, as invited speaker. At the latter, he gave two talks: *Duality in Projective Geometry*, on the first day, and *Some Challenges for Automated Theorem Proving*, on the second day.

Over the visiting period, Professor Scott had many meetings with postgraduate students and colleagues at the Informatics Forum. Amongst the students, interaction with Matteo Mio was

particularly fruitful. After attending a talk by Mio on his PhD research on the probabilistic mu-calculus, Scott made a connection with the content of his own seminar series, and this led to discussions between the two. Scott suggested that Mio might take a more algebraic approach to the semantics of the probabilistic modal mu-calculus, opening up a possible direction for further developing his PhD-research.

As his host, I myself had several useful discussions with Professor Scott. We are currently both working on approaches to formulating the notion of randomness, and on applications of such formulations. I am just starting to write a series of papers on my own approach to this topic, and my discussions with Professor Scott during his SICSA visit were influential on this research.

In summary, Professor Scott's visit combined international events (FLoC conferences and workshops), popular SICSA-wide events (**Scott in Scotland** and the seminar in St. Andrews), smaller research seminars with follow-up discussion, and interactions with individual researchers. All involved found it to have been a very successful and stimulating visit.

*Alex Simpson*  
*20<sup>th</sup> September 2010*