

DVF Report

October 1, 2017

SICSA Fellow: Professor Daniel J. Sorin, Duke University, USA

Host: Dr Vijay Nagarajan, University of Edinburgh

Professor Daniel Sorin (Duke University, USA) has completed a 3-month DVF from SICSA, hosted by Dr Vijay Nagarajan and the School of Informatics at the University of Edinburgh. During this time, he has presented his research, taught a master class in his area of expertise, and engaged in research with Scottish researchers.

To disseminate his current research while in Scotland, Prof Sorin gave seminar talks at the University of Glasgow (host: Dr Jeremy Singer, topic: computer processors for robotics) and the University of St Andrews (host: Dr Susmit Sarkar, topic: verification-aware computer architecture), and he has scheduled an upcoming (Nov 15) seminar talk at Heriot-Watt University (host: Dr Chris Fensch, topic: processors for robotics). He also has scheduled an upcoming (Oct 12 and 13) master class on shared memory and memory consistency models at the University of Edinburgh, which is the subject of a book that he co-authored.

To generate new research collaborations, Prof Sorin has initiated research discussions with Drs Vijay Nagarajan, Boris Grot, and Ram Ramamoorthy. With Dr Nagarajan, he has been working on the synthesis of coherence protocols and verification of new coherence protocols. With Drs Nagarajan and Grot, he has been discussing the extension of shared memory consistency models to larger-scale systems. With Dr Ramamoorthy, he has started to think about using formal methods to verify robotic motion planning. Prof Sorin also intended to collaborate with Dr Sethu Vijayakumar in the robotics group, but he has been unable to do this (yet) due to Dr Vijayakumar's travel during this time.

The DVF will continue to have impact after its end date, assisted by Prof Sorin's additional nine months of sabbatical at the University of Edinburgh. The DVF has supported the initiation of research projects that we will continue to pursue.