

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: Andreas Steyven

Email address: a.steyven@napier.ac.uk

Institution: Edinburgh Napier University

Title of event: SICSA Pre-EC Day 2018

Location of the event: Edinburgh Napier University

Date of event: 21/06/2018

From which SICSA Research Theme was this event funded? AI theme

Total funds claimed for event: £1,100

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

The inaugural SICSA Pre-EC meeting allowed presenters of papers at evolutionary computing conferences in 2018 to showcase their work to researchers in Scotland working in the area of Evolutionary Computation. The day also provided an opportunity for researchers unable to attend the summer conferences to hear about some of the latest research being undertaken in Scotland.

There were 12 talks split across 3 sessions. A poster session was also held over lunch. The list of talks (title, speaker, institution and original venue) is given below:

- Engineering Sustainable and Adaptive Systems in Dynamic and Unpredictable Environments
Jeremy Pitt, Imperial College London/Edinburgh Napier University (ISOLA 2018)
- Can justice be fair when it is blind? How social network structures can promote or prevent the evolution of despotism
Simon Powers, Edinburgh Napier University (ALIFE 2018)
- Towards In Vivo Genetic Programming: Evolving Boolean Networks to Determine Cell States
Michael Lones, Heriot-Watt University (EuroGP 2018)
- Past Visions of Artificial Futures: One Hundred and Fifty Years under the Spectre of Evolving Machines
Tim Taylor, Associate of University of York and University of London (ALIFE 2018)
- Iterated racing algorithm for simulation-optimisation of maintenance planning
Benjamin Lacroix, Robert Gordon University (WCCI 2018)
- Balancing the Diversification-Intensification Trade-off Using Mixtures of Probability Models
Joan Alza, Robert Gordon University (CEC 2018)

- Evolutionary Computing by An Ensemble framework
Wenjun Wang, University of Aberdeen (IEEE Transactions)
- Evolution of a Functionally Diverse Swarm via a Novel Decentralised Quality-Diversity Algorithm
Andreas Steyven, Edinburgh Napier University (GECCO 2018)
- Multifractality and Dimensional Determinism in Local Optima Networks
Sarah Thomson, University of Stirling (GECCO 2018)
- A Rolling Window with Genetic Algorithm Approach to Sorting Aircraft for Automated Taxi Routing
Sandy Brownlee, University of Stirling (GECCO 2018)
- On the Synthesis of Perturbative Heuristics for Multiple Combinatorial Optimisation Domains
Christopher Stone, Edinburgh Napier University (PPSN 2018)

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

37 signups, about 30 attendees.

Institutions represented:

- University of Stirling
- Edinburgh Napier University
- Robert Gordon University
- Heriot-Watt University
- University of Strathclyde
- University of Aberdeen
- Imperial College London
- Associate of University of York and University of London Worldwide

Outcomes:

Please give details of any research papers that have come or are pending as a result of this activity:

The prEC workshop acted as a catalyst for collaboration, resulting in the submission of a Carnegie grant proposal entitled "Towards Grammar-Aware Operators for Genetic Improvement of Software". This has been submitted by Dr Alexander Brownlee from Stirling University in collaboration with Dr Kevin Sim from Edinburgh Napier University. This small proof of concept proposal will, if successful, fund a research assistant for 3 months leading to submission of a paper to IEEE Transactions on Evolutionary Computation and will hopefully nurture a more substantial research proposal in the future.

Please provide details of any grant applications that have come or are pending as a result of this activity:

The prEC workshop acted as a catalyst for collaboration, resulting in the submission of a Carnegie grant proposal entitled "Towards Grammar-Aware Operators for Genetic Improvement of Software". This has been submitted by Dr Alexander Brownlee from Stirling University in collaboration with Dr Kevin Sim from Edinburgh Napier University. This small proof of concept proposal will, if successful, fund a research assistant for 3 months leading to submission of a paper to IEEE Transactions on Evolutionary Computation and will hopefully nurture a more substantial research proposal in the future.

Please provide details of any further outcomes that have come as a result of this activity:

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

Yes. Establish the Pre-EC Day as an annual event being hosted by a different SICSA institute every year.