MoCaO

Mathematics of Computation and Optimisation

Special Interest Group of AustMS

Another special group?

Our main interest is in rigorous mathematical design and analysis of numerical algorithms for models based on differential equations and mathematical optimisation. Our group was established by a vote of the AustMS executives in 2015. Currently, the group consists of more than 140 members.

Executives (from 1 January 2019) Chairs: Andrew Eberhard (optimisation) and Thanh Tran (computing) Secretary: Guoyin Li Treasurer: Alexander Kruger

What we do

Organise seminars, meetings and events

Members of our group have been holding regular meetings and seminars. This year we organise WoMBaT 4 (December 8-10).

Communicate information

Our web page contains the information about upcoming meetings, visitors and other important events related to mathematics of computation and optimisation.

Engage with industry and government

MoCaO fosters engagement of our researchers with industry and government bodies, promoting the use of modern mathematical tools for decision making, based on the intelligent use of big data and advanced modelling techniques.

Special session

This year, two special sessions at the 63rd meeting of the Australian Maths Society are aligned with MoCaO:

Optimisation

Organisers: Vera Roshchina (UNSW), Andrew Eberhard (RMIT), Ryan Loxton (Curtin University)

Computational Mathematics

Organisers: Bishnu Lamichhane (University of Newcastle) and Quoc Le Gia (UNSW)

The special session Optimisation will focus on new mathematical and computational developments and their applications in continuous and discrete optimisation, as well as in optimal control and calculus of variations.



Join MoCaO!

Simply check MoCaO box next time you renew your AustMS membership.

E-mail us at **mocao@rmit.edu.au** or visit our web page **mocao.org**.

The focus of the special session Computational Mathematics will be on numerical analysis and approximation theory and includes numerical techniques for partial differential equations, inverse problems and regularisation and parallel numerical algorithms.

Dates: 3–6 December 2019 **Location:** Monash University, Clayton Campus, Melbourne



The background image was obtained by running Douglas Rachford algorithm for 1000 iterations starting at each pixel. The pixels are then colored according to the proximity—after the final step—to feasible points or to attractive periodic points. Colors were chosen based on indigenous Australian art. The image is provided by Scott Lindstrom and Matthew Skerritt (University of Newcastle).