

Invitation for Submissions to the Topical Collection “Mathematics of Computation and Optimisation” (MoCaO) in Advances in Computational Mathematics (ACOM)

Objective:

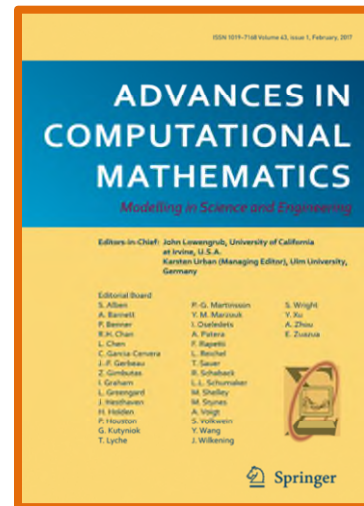
In an effort to promote interaction between researchers in Computational Mathematics and Optimization we plan a collection of articles in ACOM whose topics span both research fields.

High-quality research papers, reviews on theoretical and methodological advances, and novel applications that employ cross disciplinary tools are the aims. Short communications of work in progress that attracts wide audience’s interest and creates new opportunities for cooperation are also welcomed.

In recent years, challenges in sophisticated applications have set a stage for the synergy between advanced computational techniques for differential equations, theoretical and numerical optimization and optimal control. We seek papers that address issues that are common to these areas or import tools from other areas for use in a novel fashion. Both theoretical works and applications are welcomed. For instance, the use of theory developed in optimisation and/or variational analysis being used to study differential equations and their numerical solutions would be of interest. The use of methods for the study of ODEs to develop convergence analysis for descent methods in optimisation is another example.

Possible targeted applications include, but are not limited to, optimization of investment strategies and trading decisions, modelling and forecasting of the behaviour of financial assets, control of the formation of shapes in manufacturing, modelling of storage devices and magnetic sensors, reservoir engineering (oil recovery and carbon storage).

This is an initiative of the [Mathematics of Computation and Optimisation](#) special interest group of the Australian Mathematical Society.



Guest Editors:

- Jerome Droniou (Monash University, Melbourne, Australia)
- Andrew Eberhard (RMIT, Melbourne, Australia)
- Guoyin Li (University of New South Wales, Sydney, Australia)
- Russell Luke (University of Goettingen, Germany)
- Thanh Tran (University of New South Wales, Sydney, Australia)

The board is chaired by [Thanh Tran](#).

Time Schedule:

Submission deadline: July 31, 2021