

CTAC 2022

Queensland University of Technology, Brisbane, Australia

29 November – 2 December, 2022

The 21st Biennial Computational Techniques and Applications Conference (CTAC-2022) was hosted by the School of Mathematical Sciences and Centre for Data Science at Queensland University of Technology in Brisbane.

The ANZIAM Special Interest Group in Computational Mathematics is responsible for this series of conferences, the first of which was held in 1981. The meeting provides an interactive forum for researchers interested in the development and use of computational methods applied to engineering, scientific and other problems. Participants of the conference are able to submit a short article based on their presentation for publication in this special section of the ANZIAM Journal (Electronic Supplement). The editors, Tim Moroney, Qianqian Yang, Vivien Challis and Elliot Carr, thank the referees whose efforts have helped improve the quality of these conference proceedings.

This Special Section of the ANZIAM Journal (Electronic Supplement) contains the refereed conference papers.

The eight keynote presentations were as follows.

- **Chris Drovandi, Queensland University of Technology**
Likelihood-Free Bayesian Inference and Model Misspecification
- **Jennifer Flegg, The University of Melbourne**
Mathematical Modelling of Avascular Tumour Growth
- **Frances Kuo, The University of New South Wales**
Lattice Meets Lattice—Application of Lattice Cubature to Models in Lattice Gauge Theory
- **Christian Lubich, University of Tuebingen**
Convergent evolving surface finite element algorithms for geometric evolution equations
- **Marco Palombo, Cardiff University**
Perspectives on AI-powered brain microstructure imaging
- **Emilie Sauret, Queensland University of Technology**
A hybrid Lattice Boltzmann approach for simulating viscoelastic instabilities and elastic turbulence
- **Karen E Willcox, The University of Texas at Austin**
Predictive Digital Twins: From Aerospace Engineering to Computational Oncology
- **Andy Wilkins, CSIRO**
The Importance of Mathematics

The presentation by Andy Wilkins was a public lecture. The conference attracted 76 registered participants, and featured a total of 54 contributed talks.

CTAC2022 Organising Committee (QUT)

- Tim Moroney
- Qianqian Yang
- Ian Turner
- Vivien Challis
- Elliot Carr
- Sarie Gould

CTAC2022 Scientific Committee

- Kevin Burrage (QUT)
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- Linda Stals (ANU)
- Ian Turner (QUT)
- Qianqian Yang (QUT)

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- Centre for Data Science, QUT
- Modelling and Simulation Society of Australia and New Zealand Inc
- Mathematics of Computation and Optimization (MoCaO) special interest group of the Australian Mathematical Society
- The ANZIAM Student Support Scheme