

MSSANZ Digest

Past digests are now accessible from the MSSANZ website (<http://www.mssanz.org.au/weekly.html>).

1. MODSIM 2019 News

A reminder of our invitation to you to submit full papers and extended abstracts to the 23rd International Congress on Modelling and Simulation (MODSIM2019). Email queries to modsim2019@mssanz.org.au

There is only **two weeks** until the submission closing date of **31 July**.

2. Society Noticeboard

Scholarship or Employment Opportunities

- [PhD project with industry funding, The University of Melbourne, on modelling shoreline vegetation at Lake Victoria, NSW](#) (Expressions of interest close 14 July 2019).
- [Lincoln Agritech Modelling Scientist, Environmental Water Research](#) (Applications close 27 July 2019).
- Interdisciplinary PhDs to develop decision support tools for complex health and social issues are being offered by CSART (Computer Simulation and Advanced Research Technologies). PhD scholarships (3 in total) are being offered at the University of Lugano and Swiss Tropical & Public Health Institute (Switzerland), the Brain and Mind Centre at the University of Sydney (Australia), and the University of Saskatchewan (Canada). For further information or to submit your application, please email contact@csart.com.au. The pdf attached to this weekly digest gives more information.

Society updates

To support the participation of our international members, we have updated some of our policy statements to comply with European Commission open access requirements. We have updated our copyright statement and this is posted on the index pages for all of our past conferences (e.g. [MODSIM 2017](#)). We have developed a [privacy statement](#) that outlines what personal information we collect, why we collect it and how we manage the data.

3. Feature Sessions at MODSIM 2019

B5. OR methods, platforms and applications	C1. Agricultural systems	E5. Ethical and sustainable finance
F5. Modelling the impact of low carbon energies	G4. Integrating translational ecology in freshwater systems	G7. Integrated modelling and data science for environmental and human health
H5. New approaches to measure and model the dynamics of rivers, wetlands and constructed water bodies	I2. Health care decision support: applications and challenges	J1. Integrated participatory systems approach for modelling socio-ecological systems
J9. Being socially inclusive in your modelling practices: what does this mean and what are the benefits?	K8. Advances in large scale hydrological modelling to improve assessments of water availability in a changing world	K21. Cumulative impacts of mining on water, ecology and society

For further information on [Session K1 'Collaborative arrangements to support and improve water modelling'](#) please view the attached pdf. This session is supported by the Queensland Water Modelling Network (QWMN) and the NSW Water Modelling and Monitoring Hub (MaMH). The intention is publish (post-MODSIM) a synthesis paper on insights into how to structure and use collaborative networks and other arrangements to improve water models and modelling.

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Advertisement for PhD Scholarships

PhD Opportunity

An exciting opportunity exists to undertake an interdisciplinary PhD with CSART (Computer Simulation and Advanced Research Technologies). We are seeking candidates interested in contributing to the development of next generation decision support tools to better inform solutions to complex health and social problems. The ideal candidate will be passionate, hardworking and will help drive forward CSART's mission to increase the impact of public policy and of government & donor investments. The PhDs will undertake (through our affiliate institutions) a program of study in systems modelling and simulation, applications of advanced research technologies, and/or big data analytics. Three PhD scholarships are offered as a joint endeavour between the University of Lugano and Swiss Tropical & Public Health Institute (Switzerland), the Brain and Mind Centre at the University of Sydney (Australia), and the University of Saskatchewan (Canada), with one candidate to be enrolled and based within centres of excellence at each institution, but with an interconnected and coherent program of research.

Background

CSART is a not-for-profit organization working to build global capacity in the use of computer simulation and advanced research technologies to support policy and planning decisions that better address our most complex, persistent health and social problems. *We know* that in a complex world, the solutions we invest in often don't lead to the impact we strive for. *We understand* that we need to evolve from the rudimentary analytic tools and approaches we have relied on over the past half a century if we are to achieve significant and lasting impacts for complex global challenges such as poverty, food insecurity, infectious disease elimination, homelessness, crime, mental illness and suicide, substance abuse, domestic violence, threats to child health and well-being, chronic disease, and significant disparities across populations. *We believe* that the next generation of advances to tackle these complex problems will come from an approach that crosses the boundaries of individual sciences and shares innovation across nations through a genuine commitment to Open Science.

CSART is working at the intersection of computer science, data science, systems science, health and behavioral sciences and citizen science to put better analytic tools in the hands of decision makers. Through partnerships between academic centres of excellence, government and non-government agencies, and community stakeholders, CSART supports the translation of cutting-edge technological innovation into practical, advanced, transparent and interactive computer simulation-based decision support tools. CSART is committed to creating the necessary workforce, technological, and systems infrastructure to bring forward a fundamental shift in decision analysis in the health and social sectors.

We are looking for three highly capable, energetic, driven PhD candidates to take operational responsibility for catalyzing the establishment of a range of research and development activities in collaboration with CSART Directors and affiliates.

Eligibility criteria

Suitable applicants would include those with either:

- A Master's Degree in a social, economic or public health related discipline WITH quantitative analytic experience and an interest in building expertise in application of computer simulation or advanced research technologies and big data analytics; or
- A Master's Degree in computer science or data science with experience in system dynamics modelling, agent-based modelling, discrete event simulation, network analysis, machine learning, WITH an interest in transitioning into health and social policy applications of those skills.

Strong written and verbal communication skills as well as good time management skills are essential. The ability to think critically and analytically, and the capacity and motivation for self-directed learning are also essential. Applicants must be available to commence full-time candidature by January 2020.

Amount Awarded

The annual scholarship stipend will be awarded according to the standard / regulated rate of the country of candidature (e.g. according to the Swiss National Science Foundation regulations in Switzerland) subject to satisfactory progress.

Application Guide

Your application should include the following. 1) Curriculum vitae; 2) Copy of an academic transcript; 3) Proof of citizenship or permanent residency; 3) Names and contact details of at least two referees; 4) A sample of your written work (this may include an assignment from an undergraduate program, a thesis chapter, dissertation or a published or unpublished paper on which you were the primary author); and 5) A single page 'Statement of Purpose', which should outline your reasons for pursuing an advanced degree in general, how your skills and research interests align with the purpose and mission of CSART, which of the country PhD positions you are applying for and why (Switzerland, Canada or Australia), and your ultimate career goals. For further information or to submit your application, please email contact@csart.com.au

Applications close on **30 August 2019**.

MODSIM 2019

Call for extended abstracts

Session K1:
**Collaborative arrangements to
support and improve water
modelling**

*A joint initiative of the Queensland Water Modelling Network
and the NSW Modelling and Monitoring Hub*

**Modelling &
Monitoring Hub
(MaMH)**

Session description

Background

Collaborative, multi-stakeholder networks and communities of practice are increasingly being recognised for their effectiveness in supporting and improving the design, improvement and delivery of models and modelling tools for policy, planning and management purposes. The Queensland Water Modelling Network (QWMN) and the NSW Water Monitoring and Modelling Hub (NSW MaMH) are two examples.

Session aims

This session will identify, discuss and synthesise practices for establishing and maintaining effective collaboration arrangements across State and local governments, university, research organisations, the private, not-for-profit and community sectors to support and improve the use of models for real world application. The focus of this session is to better understand the key elements and processes that underpin how modellers can more effectively engage with non-modellers to generate more participatory and useful outcomes.



Call for extended abstracts – deadline 31st July

What are we looking for?

We are calling for extended abstracts that provide case study and research insights into the structure, management and impact of collaborative, multi-stakeholder networks and communities of practice for improving the use and usefulness of models and modelling tools.

Contributions are welcomed from a wide range of application domains including (but not limited to) water management, environmental planning, land planning and multi-sector resource allocations. Experiences and tools to monitor and evaluate effective collaborative arrangements will also be discussed.

Why submit?

Session participants will have the opportunity to engage in a collaborative discussion to share and critically synthesise insights.

A multi-authored paper will be produced and submitted for publication based on those insights.



The who and the how

Queensland Water Modelling Network (QWMN)

- Dr. Paul Lawrence, Jean Erbacher and Jenny Riches, QLD Department of Environment and Science
- Dr. Brian S. McIntosh, International WaterCentre

NSW Modelling and Monitoring Hub (MaMH)

- Dr. Ed Couriel, Manly Laboratories

Questions?

Contact Brian McIntosh on b.mcintosh@watercentre.org

Submit your extended abstract:

<https://www.mssanz.org.au/modsim2019/instructions.html>

Abstract submission deadline 31st July





“The CRC Catchment Hydrology and eWater CRC had a constant focus on ‘what is the big future goal of the industry’, and there was funding to make that happen. There seems to have been a lack of collective push and industry momentum and a more pragmatic/operational approach since the end of these CRCs. It is great to see the QWMN stepping in to fill this gap through the External Engagement Program.”

Feedback on the QWMN External Engagement Program