



THE
OPERATIONAL
RESEARCH
SOCIETY

Simulation Workshop



Learn • Connect • Focus • Join

27-29 March 2023

National Oceanography Centre, Southampton

Join us for our **11th**
Simulation Workshop event

The Simulation Workshop is a showcase of both simulation and modelling across industry and academia, providing a great opportunity to celebrate developments in the field as well as a unique opportunity for extensive collaboration between OR networks and individuals alike.

In partnership with



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Welcome and introduction from the committee co-chairs

Welcome to the 11th Operational Research Society Simulation Workshop SW23

This year we meet in person for the first time since the COVID-19 pandemic, and we are very excited at the prospect! The location, the National Oceanography Centre in Southampton (NOCS), is a stunning waterside venue adjacent to the Ocean Village marina and the cruise liner terminal.

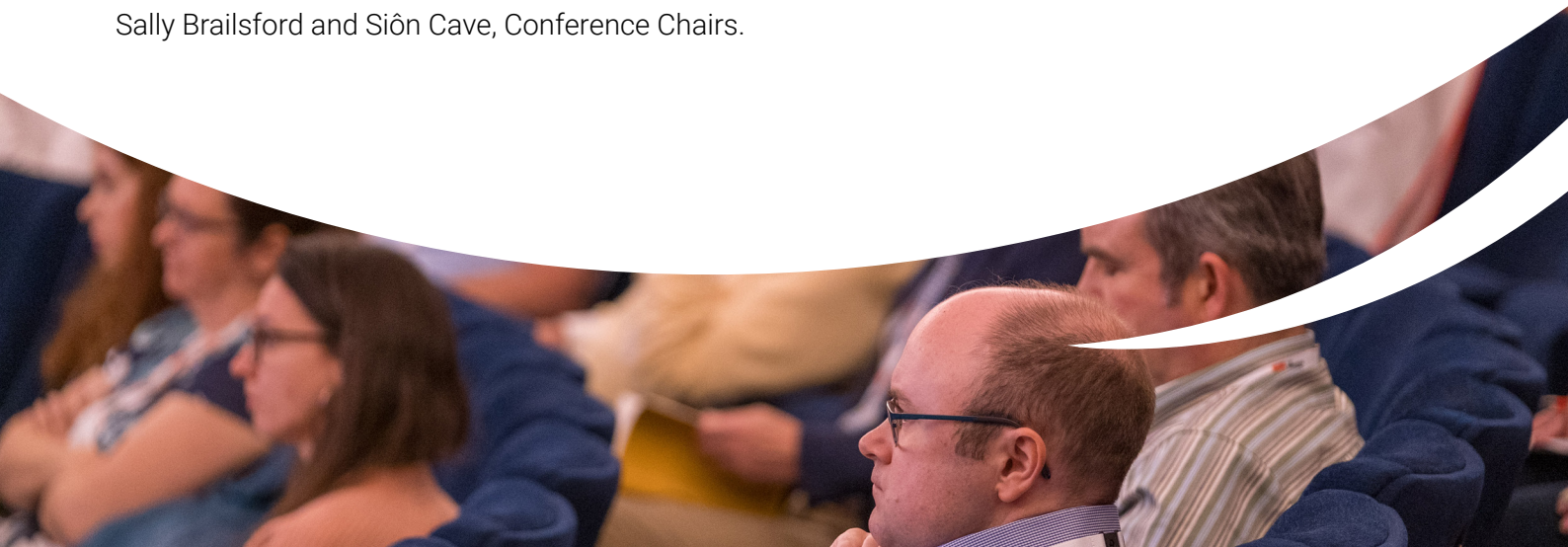
As ever, the programme includes a wide range of exciting talks, bringing you up to date with recent developments in simulation research as well as providing introductory tutorials in a variety of topics. This year we have introduced a new 'case study' category, describing real-world applications of simulation. There will be many opportunities for informal networking, including a Gala Dinner, and a drinks reception kindly sponsored by Taylor & Francis, publishers of the Journal of Simulation (JoS). This will include a brief introduction to the journal from two of its editors, Christine Currie and Navonil Mustafee.

The scientific programme includes 20 contributed papers, 14 posters, 5 case studies, 2 keynote lectures and 5 tutorials. The keynote speakers are Professor Raghu Pasupathy from Purdue University, Illinois, and Professor Susan Howick from the University of Strathclyde. Raghu will present a new method for quantifying the error in simulation output based on the idea of batching, traditionally regarded as a variance reduction technique. Susan will discuss mixing OR methods to tackle complex problems and will reflect on over 25 years of combining system dynamics with other methods.

This year's tutorials will cover conceptual modelling, hybrid simulation, business process modelling, metamodeling, and system dynamics for supply chains. Another of our sponsors, Simul8 Corp, are running a workshop session related to the cost-of-living crisis. On the final day, Tillal Eldabi will chair a panel session in honour of Ray Paul, who sadly died last year after a long battle with Parkinson's Disease. Ray, a world leader in simulation theory and practice, was the driving force behind the creation of the Simulation Workshops and JoS.

In conclusion, we would like to thank everyone who contributed to SW23; authors, speakers, sponsors, session chairs and reviewers. We are particularly grateful to those people across the OR Society and SW23 committee whose hard work over the past year has made the workshop possible. We are really looking forward to seeing old friends again and making new ones.

Sally Brailsford and Siôn Cave, Conference Chairs.





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Keynote Speakers:

The conference features a packed schedule of practitioner and researcher papers detailing applied case studies and theoretical developments in the field of computer simulation. Our programme is filled with interesting papers showcasing simulation work on discrete event simulation optimisation, metamodels, system dynamics, hybrid simulation, as well as on teaching simulation in the classroom. You will hear from authors of different destinations from the UK and around the globe.



Professor Raghu Pasupathy

Professor of Statistics, Purdue University

Talk title: 'On constructing confidence regions from generic simulation output'

The method presented by Professor Pasupathy results in provably valid confidence regions and competes favorably with the famous bootstrap and subsampling techniques from classical statistics. This presentation will provides the true analogues of the chi-square and the Student's t distributions --- fundamental distributions resulting from William Gosset's seminal 1908 paper --- for the simulation context.



Professor Susan Howic

Professor of Management Science and Vice-Dean (Academic) Strathclyde Business School

Talk title: 'Mixing methods: reflections for simulation'

While a key focus of the presenter's research and work with industry has included using system dynamics, much of her work has also focused on combining system dynamics with other methods, including other simulation methods. This presentation will reflect on over 25 years of mixing system dynamics with other OR methods and will consider lessons for simulation.



Conference Programme

DAY 1 - MONDAY, 27 MARCH

13:00

Registration

14:00

Tutorial:
Conceptual Modelling
(Stewart Robinson)
Charnock Lecture Theatre

Tutorial:
Business Process
Modelling (Gerd Wagner)
Access Grid Room

Applications of Agent
Based Modelling
Seminar Room

15:30

Coffee Break

16:00

Tutorial:
Hybrid Simulation (Sally Brailsford)
Access Grid Room

17:30

Tutorial:
Meta- Modelling (Russell Barton)
Seminar Room

Tutorial:
Dave Exelby, Sion Cave - Beer Game
Conference Room

18:30

Simulation SIG Meeting - Access Grid Room

DAY 2 - TUESDAY, 28 MARCH

8:30

Registration

9:00

Welcome Address - Charnock Lecture Theatre

9:15

Keynote Address- Raghu Pasupathy - Charnock Lecture Theatre

10:30

Coffee Break

11:00

Poster presentations - Charnock Lecture Theatre

12:00

Lunch

13:00

Simul8 Workshop
Conference Room

Simulation Methodology
Access grid room

14:00

Simulation modelling of patient flow
Conference room

Simulation and Sustainability
Access grid room

15:30

Coffee Break/Poster Session

16:00

Applications of Simulation Optimisation
Seminar Room

Simulation Modelling of COVID-19
Access grid room

17:00

Editors Meeting JOS - Conference Room

18:00

19:00

Journal of Simulation: introduction to the journal, drinks reception and editorial board meeting
Mezzanine Lounge Area, Leonardo Royal Southampton Grand Harbour Hotel

20:00

Gala Dinner - Leonardo Royal Southampton Grand Harbour Hotel

Conference Programme

DAY 3 - WEDNESDAY, 29 MARCH

8:45

Keynote Address- Susan Howick - Charnock Lecture Theatre

10:00

Coffee Break

10:30

System Dynamics in healthcare
Access Grid Room

Simulation modelling of supply chains
Conference Room

12:00

Lunch

13:00

The practice of healthcare simulation modelling
Access Grid Room

Implementation of simulation in complex systems
Conference Room

14:00

Panel in honour of Ray Paul - Charnock Lecture Theatre

15:00

Coffee & close





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- Determining the impact of process changes
- Planning and validating new processes
- Assessing return, before any investment
- Identifying problems with complex processes
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- Building buy-in for changes

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Gala Dinner Event

Join us on Tuesday 28th March for the Simulation Workshop Gala Dinner Event at The Mezzanine Suite, Leonardo Royal Southampton Grand Harbour hotel, with a stunning glass atrium located near the Southampton Waterfront. The evening will kick off with an arrival drink, followed by a three-course gala dinner meal as well as wine served at the table followed by your choice of tea or coffee.

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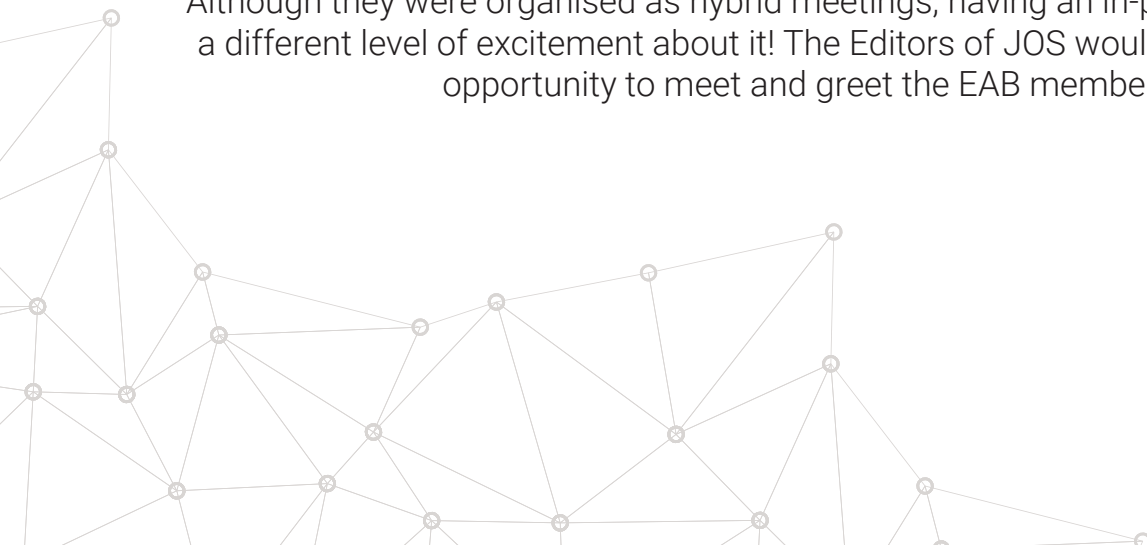


JOS Reception:

The Editors of the Journal of Simulation will be hosting a drinks reception to mark the journal's 16th Anniversary and it will be taking place at The Mezzanine Suite, Leonardo Royal Southampton Grand Harbour hotel. The reception will allow potential authors to discuss with the Editors the fit of their research to JOS, gather information on special issues and review opportunities. For practitioners and academics with experience, the Editors will be pleased to discuss available Associate Editor roles. Most importantly, the reception is an opportunity to socialise and celebrate the journal's success!

JOS Associate Editor Meeting

The Journal of Simulation will hold an Editorial Board Meeting (EAB) for the Associate Editors and Advisory Board Members. The last two EAB meetings took place in the US (2021) and Singapore (2022) on the sidelines of the Winter Simulation Conference. Although they were organised as hybrid meetings, having an in-person meeting has a different level of excitement about it! The Editors of JOS would therefore like the opportunity to meet and greet the EAB members.





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OR65:

12-14 SEPTEMBER 2023

University of Bath

**The OR Society's Annual
Conference is coming to Bath!**

- Join us for three days of knowledge sharing, debate and discussion on the latest OR developments
- Catch up with colleagues and network with new contacts in the OR community
- Join industry leaders for talks, workshops, socials, plenaries and streams

**Call for papers and posters open now,
deadline 30th May 2023!**

SAVE THE DATE

Further information and
early-bird registration:
www.theorsociety.com/OR65

10% discount code
for OR65 for attendees of SW23:
SW23CONFORS