

UKSim2022

24th International Conference on Modelling and Simulation

13 – 15 April 2022

Emmanuel College, Cambridge

- **Words of thanks**
- **Conferences coming up**
- **This conference**

Thanks are due to

- Reviewers, track teams and Authors from all countries including (country of 1st author): Norway-4, Ireland-3, Israel-1, Iran-1, Jordan-1, New Zealand-1, GB-4, Germany-1, France-1, China-1
- Total: 18 papers from 10 countries.
- EUROSIM and its national societies for active support and participation
- Asia Modelling and Simulation Section, and universities in Asia: China, and others for active sponsorship and support.
- Keynote speakers: Prof Frank Wang, IEEE UK & RI Computer chapter chairman, Prof Qiang Shen, Dr Sarah Sparrow, Prof Reggie Davidrajuh, Prof Lela Mirtskhulava

UKSim2022 Dr Taha Osman: Conference Chair

- On behalf of our UK Simulation Society, it gives me great pleasure to welcome you all to Emmanuel College, Cambridge University and UKSim2022, the 24h international conference on Mathematical Modelling & Computer Simulation.
- I would like to thank:
- All authors and participants for submitting papers and attending the conference, physically, virtually through live link and by sending their recorded Video presentations.
- the reviewers for their outstanding effort in completing all the reviews on time
- Keynote speakers: Prof Qiang Shen, Prof Frank Wang, the IEEE UK & RI Computer chapter chairman, Prof Reggie Davidrajuh (Norway), Prof Lela Mirtskhulava (Georgia)
- Last but not least committee members:
- Dr Tim Bashford, University of Wales Trinity Saint David, our Chair for Virtual Presentations
- Dr Glenn Jenkins, Cardiff Metropolitan University, our chair for Local Arrangements
- Our UKSim chairman Prof David Al-Dabass and his international team in the UK, Europe, USA, South East Asia and worldwide for their dedication and effort to help us organise UKSim2022 and to bring this event to fruition.
- Cambridge is an attractive and exciting city, and England/UK is a fascinating country to visit and explore. I hope you will enjoy your brief stay with us and if there is anything we can help you with please do not hesitate to ask.

UKSim2022

Pattern for the 3 days:

Refreshments: Robert Gardner Room, Upper Hall

Breakfast, Lunch: Dining Hall.

Single Track Sessions: Room A: 4 Keynote speakers, 2 in day-1, 1 in day-2 and 1 in day-3.

Day-1 Today: full day, 2 Keynote speakers: Prof Qiang Shen, Prof Reggie Davidrajuh, + 13 papers

Day-2 Presentations in morning only, Keynote speaker: Prof Frank Wang + 7 papers

2.30 Cambridge tour (a must!!)

7.00 Conference Dinner, Robert Gardner Room

Day-3 Presentations in morning only, 1 Keynote Speaker: Prof Lela Mirtskhulava + 7 papers

Closing remarks, photo session, lunch, depart

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Published Papers Statistics

- **Papers published: 18**
- **Scheduled for presentation: 4 keynote speakers and 18 papers + 6 papers from UKSim2021**
- **Published papers by track:**

Track 01.A.Neural Networks	2
Track 03.C.Evolutionary Computation	1
Track 09.I.Games, VR and Visualization	1
Track 10.J.Emergent Technologies	1
Track 11.K.Intelligent Systems and Applications	2
Track 18.R.Discrete Event and Real Time Systems	3
Track 19S & S1	2
Track 21.U.Energy, Power, Transport, Logistics, Harbour, ...	3
Track 23W, 24X & 25Y	3
Total	18

UKSim2022 Day-1

2 Keynote Speakers + 13 papers

**9.15 – 10.25am: Keynote Speaker-1, Prof Qiang Shen:
Approximate Knowledge Interpolation and its Applications**

10.25 – 11.25pm, 3 papers: *A1, *A2, 21-10

11.25 – 11.40 Refreshments break

**11.40 – 12.45pm Keynote Speaker-2, Prof Reggie Davidrajuh:
GPenSIM: A New Tool for Modelling and Performance Analysis**

12.45 – 1.45 Lunch

1.45 – 3pm: 3 papers from UKSim2020 : *20-5, *20-35, *20-36

3 – 3.40pm: 2 papers: C1, *I1

3.40 – 4 Refreshments break

4 – 5.40pm, 5 papers: *K1, J1, K2, R1, R2

UKSim2022 Day-2

Keynote Speaker -4 + 7 papers

9.10 – 10.25am: Keynote Speaker: Prof Frank Wang
Quantum, Neuromorphism & Future Minds

10.25 – 10.40: Refreshments break

10.40 – 1: 7 papers *S1-1, *W1, *X1, *Y1, *21-4, 21-11, 21-12

1pm: Close of day-2, photo opportunity & Lunch

2.30: Cambridge Tour

7pm: Conference Dinner

UKSim2022 Day-3

Keynote Speaker- 4 & 7 papers

9.10 – 10am: Keynote Speaker, Prof Lela Mirtskhulava:

**Diagnosing Brain Disorders using Deep Learning
Tools based on Brainwaves Monitoring**

10 – 11: 3 Papers: R3, *S1?, *21-1

11 – 11.15: Coffee break

11.15 – 12.35: 4 papers U1, *U2, U3, *21-3

**12.35: Close of conference, photo opportunity, Lunch and
Depart**

Keynote Speaker-1: Professor Qiang Shen

Approximate Knowledge Interpolation and its Applications

- PhD in Knowledge-Based Systems, DSc in Computational Intelligence.
- Director of the Institute of Mathematics, Physics and Computer Science at Aberystwyth University, a Fellow of the Learned Society of Wales, a REF 2014 panel member for Computer Science and Informatics, and a long-serving Associate Editor of two IEEE flagship Journals (IEEE Transactions on Cybernetics and on Fuzzy Systems).
- Professor Shen has chaired and given keynotes at numerous international conferences. His current research interests include: computational intelligence, reasoning under uncertainty, pattern recognition, data mining, and their applications for intelligent decision support (e.g., crime detection, consumer profiling, systems monitoring, and medical diagnosis).
- Authored 2 research monographs and over 400 peer-reviewed papers, including an award-winning IEEE Outstanding Transactions paper.
- Director of studies: > 60 PDRAs/PhDs, one UK Distinguished Dissertation Award winner.
- Pro Vice-Chancellor at Aberystwyth University. London 2012 Olympic Torch Relay torchbearer, nominated to carry the Olympic torch in celebration of the centenary of Alan Turing.

Keynote Speaker-3: Professor Frank Wang

Quantum, Neuromorphism & Future Minds

- FBCS, Chair in e-Science and Grid Computing, Professor in Future Computing
- Head 2010-2016 School of Computing, ex. Computing Laboratory, University of Kent, ranked 12th from 150+ computing departments in the UK.
- Director: Centre for Grid Computing, Cambridge-Cranfield High Performance Computing Facility (CCHPCF), collaborative research facility Universities of Cambridge and Cranfield, ~ £40 million.
- Research interests: Future Computing, Green Computing (via memristor), Grid/Cloud Computing, Biologically-inspired Computing, Quantum Computing/Communication, Data Storage & Data Communication, and Data Mining and Data Warehousing
- Publication: book "Encyclopaedia of Grid Computing", 67+ journal papers
- Co-Editor-in-Chief of Encyclopaedia of Grid Computing
- Co-Editor-in-Chief of International Journal of Grid and High Performance Computing.
- on the Editorial Board of 4 other international journals.

Keynote Seaker-2: Prof Dr Reggie Davidrajuh
GPenSIM: A New Tool for Modelling and Performance
Analysis of Large Industrial Discrete-Event Systems

- Masters Degree in Control Systems Engineering and PhD in Industrial Engineering, Norwegian University of Science and Technology (NTNU).
- DSc (Habilitation degree), the AGH University of Science and Technology, Poland.
- Now Professor of Informatics, department of Electrical Engineering and Computer Science, the University of Stavanger, Norway.
- His current research interests include: discrete-event dynamic systems, modelling, simulation and performance analysis, algorithms, and graph theory.
- Senior member of IEEE, Fellow of British Computer Society, member of the Norwegian Academy of Technological Sciences (NTVA).

Keynote Speaker 4: Assoc Prof Dr Lela Mirtskhulava

Diagnosing Brain Disorders using Deep Learning Tools based on Brainwaves Monitoring

- Associate professor, Dept of Computer Science, Ivane Javakhishvili Tbilisi State University & San Diego State University Georgia.
- Ph.D. in Computer Science.
- 2018 Fulbright Research Scholar, San Jose State University, SJSU, CA
- 15 years work experience as an ICT Senior Engineer at Ericsson Ltd and Geocell LLC, Georgia.
- Research interests include: neural cryptography, deep learning applications, blockchains in cybersecurity, brainwaves monitoring, ANN modelling for medical diagnosis, mobile app development, IoT security issues, 5G, simulation and modelling in wireless technologies.
- published over 50 scientific papers.



EUROSIM – Federation of European Simulation Societies
Access Details for Individual Members of UKSim Society

Username: uksim-member Password:

- Access to enhanced publication versions of *Proceedings* and *Abstract Volumes* of EUROSIM Congresses and Conferences.
- **SNE WEB:** www.sne-journal.org
- **EUROSIM WEB:** www.eurosim.info
- Access to high resolution colour SNE (Simulation News Europe) and additional information.

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**Thank you and have a
good conference!!**