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Institution of  
**MECHANICAL  
ENGINEERS**

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REFRIGERATION AIR CONDITIONING HEAT PUMPS



# 12<sup>th</sup> International Conference on **Compressors and their Systems**

6<sup>th</sup> – 8<sup>th</sup> September 2021  
City, University of London



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This conference provides a forum to discuss developments in air, gas and refrigeration compressors, vacuum pumps, expanders, related systems and components. The programme will be more cohesive this year by the inclusion of industry sessions on high-importance topics in addition to the traditional keynote addresses, research and technical papers, podium papers and discussions. This will provide a platform to identify current challenges and provide the essential content and direction to shape future research. Since many nations are now working towards the 2050 net zero GHG emissions target, sustainability will be given a high profile at this event.

### Conference scope

Papers are invited on a wide range of topics on compressors, expanders, pumps and their systems including, but not limited to:

- Technology developments
- Energy efficiency and carbon footprint
- Safety, sustainability and environmental impact
- Numerical and experimental modelling, analysis and testing
- Design for 'end of life' and sustainable manufacture
- Novel applications
- Operation, use of sustainable operating fluids, maintenance and reliability
- System integration and behaviour
- Upgrades and refurbishment
- Education and professional development.

### Who should attend

Manufacturers and designers of compressors and expanders with their systems and control systems, suppliers, end users, research organisations and educational institutions.

### Call for papers

All papers will be written and presented in English and will not have been presented or published at previous events. Authors are required to attend the conference to present their work.

**29<sup>th</sup> November 2020** – Abstract submission deadline of not more than 250 words.

**14<sup>th</sup> February 2021** – Selected authors to submit draft paper of up to 4,000 words.

**16<sup>th</sup> May 2021** – Draft paper refereed and final paper submitted.

Authors are invited to submit their abstracts and papers using CONFTOOL via the Conference website **[www.city.ac.uk/compressorsconference](http://www.city.ac.uk/compressorsconference)**

Selected authors will be invited to submit extended conference papers for a special issue of the *Proceedings of the IMechE, Part E: Journal of Process Mechanical Engineering*.

**Conference chairman:** Professor Ahmed Kovacevic

### 5<sup>th</sup> forum/short course:

## Computational Fluid Dynamics in Rotary Positive Displacement Machines

4<sup>th</sup> – 5<sup>th</sup> September 2021

Since 2013, the Centre for Compressor Technology at City, University of London has organised very successful forums/short courses on CFD in Positive Displacement Machines (PDM). Our fifth event in the series is dedicated to new methods and advanced topics in the application of chamber models, 3D CFD and experimental techniques in PDM.

Participants from industry and academia are invited to present results of their research. To aid the research further, the forum will provide test results of dry air and oil injected twin screw compressors, a roots-blower, a dry air single screw expander and an ORC vane expander data for benchmark studies.

Selected topics include:

- Advances in grid generation, CFD tools, open source CFD solvers
- Applicability of new CFD methods such as Lattice Boltzmann methods, smoothed particle hydrodynamics and mesh free algorithms
- Modelling leakage flows, conjugate heat transfer and stability and accuracy of multiphase flow calculations
- Prediction of operational clearance gap sizes and application of modern FSI computations
- Advances in chamber modelling and hybrid 1D – 3D CFD coupled approaches
- Experimental techniques for analysis of PDM.



#### Find out more

[www.city.ac.uk/compressorsconference](http://www.city.ac.uk/compressorsconference)



#### Email for conference and short course

[compressors@city.ac.uk](mailto:compressors@city.ac.uk)



#### Email for registration and payment

[events@city.ac.uk](mailto:events@city.ac.uk)



#### Telephone enquiries

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