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International Conference on SCREW MACHINES 2024

3-5 September DORTMUND, GERMANY

PROGRAMME

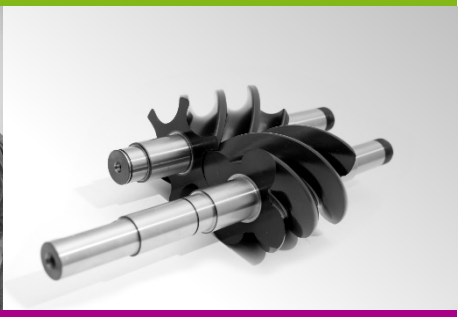
The International Conference on Screw Machines 2024 features presentations of research and technical papers on all kind of screw machines. This year's event will cover:

- » Design
- » Operation
- » Vacuum pumps
- » Contact & loss mechanisms
- » Heat pumps
- » Refrigerant oil mixtures
- » Simulation
- » Liquid injection

Learn about the latest developments and connect with scientists, manufacturers, service providers, and users from the screw machine community.

For registration, further information on the event, and past conference papers please visit:

WWW.ICSM.TU-DORTMUND.DE



CONFERENCE VENUE

TU Dortmund University
Seminar Building I
Friedrich-Wöhler-Weg 6
44227 Dortmund, Germany

GENERAL CHAIR

Andreas Brümmer
TU Dortmund University
Chair of Fluidics
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ICSM2024

TUESDAY 3 September 2024

18:00	SOCIAL EVENT & LABORATORY TOURS Emil-Figge-Straße 71b, 44227 Dortmund	

WEDNESDAY 4 September 2024

09:00	CONFERENCE REGISTRATION	
10:00	WELCOME ADDRESS & PLENARY SESSION Room H.001	
12:00	LUNCH BREAK	
13:30	SESSION 1 Room 1.001	SESSION 2 Room 2.008
15:30	COFFEE BREAK	
15:30	SESSION 3 Room 1.001	SESSION 4 Room 2.008
18:00	CONFERENCE DINNER – sponsored by Aerzener Maschinenfabrik GmbH Storckshof, Ostenbergstr. 111, 44227 Dortmund	

THURSDAY 5 September 2024

08:30	SESSION 5 Room 1.001	SESSION 6 Room 2.008
10:00	COFFEE BREAK	
10:30	SESSION 7 Room 1.001	SESSION 8 Room 2.008
12:00	LUNCH BREAK	
13:30	SESSION 9 Room 1.001	SESSION 10 Room 2.008
15:00	CLOSING SESSION Room H.001	

LIST OF PRESENTATIONS	
1D and Quasi-3D Simulation-Based Optimization of Discharge Noise Attenuation in Twin-Screw Machines Using GT-SUITE	Luzzi, Matteo; Framke, Nils and Ramchandran, Gautham
A Bayesian-inference approach to quantify degradation parameters in a water-cooled variable speed screw compressor chiller	Hoess, Andreas Josef; et al.
A Novel Approach for Measuring and Comparing Vacuum Pump Efficiency: Pumping Efficiency (PE)	Dreifert, Thomas; Nadler, Kai and Mueller, Roland
Astigmatism Quantification for Depth Localization of Bubbles and Tracers across Curved Surfaces	Sax, Christian; Brümmer, Andreas and Kriegseis, Jochen
CFD Analysis and Optimization of Oil Ports in Twin-Screw Compressors using Taguchi Method	Buyukbayraktar, Alp; et al.
CFD simulation of rotary positive displacement vacuum pumps: Possibilities and Challenges	Spille, Andreas and Hesse, Jan
Design and Improvement of Curved Envelope Meshing Pair Profile of Single Screw Compressor	Wenwen, Lei; et al.
Performance Analysis of a Water-Injected Twin-Screw Compressor in a High-Temperature R718 Heat Pump	Höckenkamp, Simon; et al.
Design of toothed belt driven screw vacuum pumps	Müller, Roland; Hellmig, Adrian and Dreifert, Thomas
Designing novel rotor profiles of twin screw compressors using generative deep learning	Nakka, Rajesh; Kovacevic, Ahmed and A Ponnusami, Sathiskumar
Economic Assessment of Multi-Stage Screw Compressors: A Comprehensive Lifecycle Cost Analysis	Kumar, Abhishek; Kovacevic, Ahmed and Stosic, Nikola
Experimental investigation and modelling of the noise and vibration in screw compressors	Willie, James Fayiah and Ganatra, Rumit Bhadrasen
Experimental investigation of the operating behavior and efficiency of twin-screw compressors with water injection and complete evaporation	Kraschewski, Thomas
Exploratory Study of an Internally-Cooled Screw Compressor for a High Temperature Heat Pump (HTHP)	Hoess, Andreas J.; et al.
High-resolution simulations of two-phase sealing gap flows in twin-screw machines	Vorspohl, Julian; et al.
Influence of Screw Parameters and Fluid Injection on the Performance of Screw Compressors	Kumar, Abhishek; Kovacevic, Ahmed and Stosic, Nikola
Internally Geared Screw Machine Rotor Profile Generation Based On The Rack Method	Lacevic, Halil; et al.
Investigation of Sound and Vibrations for an Internally Geared Screw Compressor	Zhu, Jin; et al.
Investigations to reduce rarefied gap flows within positive displacement vacuum pumps by utilising surface structures	Brock, Sven; et al.
MoS2 Coatings in unsynchronized, dry-running Screw Compressors: Experimental Insights on Operational Efficiency and Durability	Geissendorf, Meik; et al.
Numerical Validation of 1-D Bearing Modeling for Twin-Screw Expanders	Zhu, Jin and Sishtla, Vishnu
OilMixProp 1.0: Package for thermophysical properties of oils, common fluids, and their mixtures	Yang, Xiaoxian and Richter, Markus
One-dimensional investigations of the periodic liquid-injection in twin-screw compressors	Heselmann, Matthias; Monden, Tristan and Brümmer, Andreas
Optimization of Specific Power Consumption in Single-Stage Oil-Injected Screw Air Compressors: Experimental and Computational Approaches	Soylu, Deniz Arda; et al.
Performance analyzes of dry twin screw vacuum pump with various pitch combinations.	Xu, PengYe; Lu, Yang and Kovacevic, Ahmed
Rack Generation for Twin Screw Vacuum Pump Rotor Profile Design	Lu, Yang and Kovacevic, Ahmed
Screw Compressors for High Temperature Heat Pump Duty	Sundström, Mats and Muñoz-Muñoz, Yonny M
Sensitivity analysis of fluid properties and model parameters with regard to simulated two-phase gap mass flow rates	Burchardt, Lasse; et al.
Simulation analysis of the internal flow field in single screw compressor using local re-meshing method	Wu, Weifeng; et al.
Stability and Convergence for Preconditioned Successive Over Relaxation and Incomplete LU Decomposition Iterative Linear Solvers used in an Oil-Injected Screw Compressor	Saravana, Abhignan; et al.
Test rig setup for particle wear analysis in screw pumps	Moor, Pascal; Kuhr, Maximilian and Pelz, Peter
Thermodynamic simulation of a water-injected twin-screw steam compressor	Grieb, Manuel and Brümmer, Andreas
Yet another structured mesh generator for screw machines simulation	Ji, Ye and Möller, Matthias

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PROGRAMME COMMITEE

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REGISTRATION & FEES

Visit the conference web page **www.icsm.tu-dortmund.de** and register via **ConfTool** for the International Conference on Screw Machines 2024 in Dortmund. If you have any questions regarding the registration process, please do not hesitate to contact us.

The conference fee including all events is **675 €** (VAT not included, discounts available).

CONTACT

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