




## 8th Rostock Large Engine Symposium - Timetable

Wednesday, 11.09.2024

09:00	CIMAC Cascades	Institute of Piston Machines and Internal Combustion Engines Rostock University	Opportunity for (young) professionals from the field of large engines to present their research
15:00	LAB-Tour	Institute of Piston Machines and Internal Combustion Engines Rostock University	Guided tour through the machine hall & test benches of the institute
20:00	 RGMT-Stammtisch <i>Sponsored by Gali Group: Druckluft- und Hydraulik Startsysteme</i>	Yachthafenresidenz Hohe Düne Rostock-Warnemünde	Get together with conference participants



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Thursday, 12.09.2024

08:00 Registration

09:00 Prof. Bert Buchholz  
Rostock University, LKV  
Opening words

09:10 MinDir Bernhardt Kluttig  
Federal Ministry for Economic Affairs  
and Climate Protection  
Word of greeting

### Session 1: Requirements for sustainable marine fuels (Chair: Prof. Gunnar Stiesch)

09:15 Timothy Wilson  
Lloyds Register  
The transition to sustainable marine fuels (SMF)  
away from petroleum fuels  
Dr. Muhammad Usman (Lloyds Register)

09:45 Dr. Brian Kaul  
Oak Ridge National Laboratory  
Biofuels as heavy fuel oil substitutes in the maritime sector:  
Findings and potential pathways  
Dr. Michael Kass, Timothy Theiss (Oak Ridge National Laboratory),  
Josh Messner (U. S. Department of Energy), Dr. Eric Tan  
(National Renewable Energy Laboratory), Dr. Karthu Ramasamy  
(Pacific Northwest National Laboratory), Dr. Troy Hawkins  
(Argonne National Laboratory)

10:15 Sönke Diesener  
NABU Naturschutzbund Deutschland e.V.  
NABUs view on decarbonization of shipping with special attention  
on future fuels potentially harmful emissions

10:45 Coffee break

### Session 2: Impacts of future fuels on industrial R&D processes (Chair: Prof. Sebastian Verhelst)

11:15 Dr. Beat von Rotz  
WinGD  
Experimental investigations and simulation validation  
regarding future fuel combustion systems of low-speed  
two-stroke engines using WinGD's spray and combustion chamber  
Pascal Süess, Martin Bohnenblust, Dr. Christophe Barro,  
Dr. Omar Seddik, Dr. Andrea Schirru, Juan Reina Martinez,  
Dr. Andreas Schmid, Dr. German Weisser (WinGD)

11:45 Dr. Manickam Bhuvaneshwaran  
MAN Energy Solutions SE  
Development of dual fuel methanol engines using CFD techniques for  
PFI and HPDI injection strategies  
Dr. Cornelius Wagner, Dominik Krnac, Dr. Eric Lauer, Peter Holand,  
Dr. Matthias Auer (MAN Energy Solutions SE)

12:15 Lunch



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## Session 3: Engine sub-systems for future fuels (Chair: Dominik Schneider)

13:30	Dr. Qiyang Zhou Accelleron c/o Turbo Systems Switzerland Ltd	Turbocharging strategies to enable fuel-flexibility over a full operating map in a 4-stroke marine engine	Dr. Dirk Bergmann, Elmar Strittmatter, Herve Martin (Accelleron c/o Turbo Systems Switzerland Ltd), Prof. Gianluca D'Errico, Alberto Ballerini (Politecnico di Milano)
14:00	Prof. Grigorios Koltsakis Laboratory of Applied Thermodynamics, Aristotle University of Thessaloniki	Emission control concepts for large two-stroke ammonia engines	Georgia Voniati, Dr. Athanasios Dimaratos, Prof. Leonidas Ntziachristos (Laboratory of Applied Thermodynamics, Aristotle University of Thessaloniki)
14:30	Pitches	CFD investigation of explosion pressure and pressure relief from methane-hydrogen-air mixtures in confined spaces  Development of a modular hydrogen and methane monitoring system for the crankcase of large marine and stationary engines  Methanol PFI-injector platform for medium speed engines  The InnoFuels project	Elomatic Consulting & Engineering Oy  Schaller Automation Industrielle Automationstechnik GmbH & Co. KG  Heinzmann GmbH & Co. KG  Rostock University, LKV

15:00 Coffee break

## Session 4: Pathways to green marine fuels (Chair: Dr. Dirk Bergmann)

15:30	Dr. Fabian Pinkert FVTR GmbH	Cashew nutshell liquid compatibility testing – Methodology and case reports	Dr. Robert Bank, Martin Drescher, Dr. Martin Theile (FVTR GmbH), Dr. Fanny Langschwager, Dr. Ulrike Schümann (Rostock University, LKV), Antje Hoppe (FVTR GmbH)
16:00	Prof. Koji Takasaki Kyushu Univ. & National Maritime Research Institute, Japan	Progress and prospect of combustion technologies developed in Japan for zero-carbon fuels	Dr. Satoshi Kawauchi (National Institute of Maritime, Port and Aviation Technology, National Maritime Research Institute), Dr. Chiharu Kawakita (New Energy and Industrial Technology Development Organization (NEDO)), Dr. Yoichi Niki, Dr. Yasuhisa Ichikawa (National Institute of Maritime, Port and Aviation Technology, National Maritime Research Institute), Akihiro Miyanagi, Koji Edo (Japan Engine Corporation)
16:30	Prof. Nicole Wermuth Large Engines Competence Center	High-pressure ammonia-diesel dual fuel combustion in medium-speed engines	Markus Roßmann (Graz University of Technology - Institute of Thermodynamics and Sustainable Propulsion Systems), Dr. Maximilian Malin (Large Engines Competence Center), Prof. Andreas Wimmer (Graz University of Technology - Institute of Thermodynamics and Sustainable Propulsion Systems), Dr. Marco Coppo (OMT SpA)

18:00  Boat tour  
Sponsored by Schaller Automation Industrielle Automationstechnik GmbH & Co. KG

18:30 Visit of the hydrogen application centre

19:30 Social evening event



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### Session 5: Ammonia combustion (Chair: Prof. Nicole Wermuth)

08:30	Bruno Griffaton <i>TotalEnergies OneTech</i>	Impact of ammonia combustion on lubricant performance and engine durability	Alix Noca (Liebherr Machine Bulle), Maria Rappo, Nicolas Obrecht, Oscar Lacroix Andrivet (TotalEnergies OneTech)
09:00	Annalena Braun <i>Karlsruher Institut für Technologie – Institut für Kolbenmaschinen</i>	Combustion concept for ammonia-fuelled cracker-engine-unit as propulsion system for inland waterway vessels	Dr. Heiko Kubach, Dr. Sören Bernhardt (Karlsruher Institut für Technologie - Institut für Kolbenmaschinen), Torsten Baufeld (Liebherr Machines Bulle SA), Dr. Sascha Prehn (Rostock University, LKV), Prof. Hinrich Mohr (GasKraft Engineering)
09:30	Phillip Thorau <i>WTZ Roßlau gGmbH</i>	Fundamental investigation of an ammonia HPDF combustion process on high-speed engines	Karsten Stenzel, Dr. Christian Reiser (WTZ Roßlau gGmbH)
10:00	Dr. Shinsuke Murakami <i>AVL List GmbH</i>	A spark ignited combustion concept for ammonia powered high-speed large engines – Test bed and 3D CFD simulation results	Dr. Martin Kirsten, Thomas Kammerdiener, Andrej Poredos, Dr. Günter Figer, Maria Segura, Simon Bezenšek (AVL List GmbH), Maximilian Malin (LEC GmbH)
10:30	Coffee break		

### Session 6: Methanol combustion (Chair: Prof. Kai Herrmann)

11:00	GwangHyeon Yu <i>Hyundai Heavy Industries</i>	HD Hyundai Heavy Industries organizing lineup of medium-speed methanol engine	Yongseok Lee, Kyungrock Lee, Wookhyeon Yoon, Sungchan An (Hyundai Heavy Industries)
11:30	Prof. Sebastian Verhelst <i>Ghent University, Lund University</i>	Simulation of large bore methanol-fuelled spark ignition engines	Ward Suijs, Yi-Hao Pu (Ghent University)
12:00	Dr. Ludovico Viglione <i>Wärtsilä Services Switzerland</i>	Methanol retrofit technologies, from concept to engine operation – Performance and emissions evaluations on a large bore engine	Dr. Marios Ioannou, Alejandro Calvo Oliveira (Wärtsilä Services Switzerland), Dr. Lauge Thorsen (Wärtsilä Danmark A/S), Gennaro Caputo, Michele Placanica (Wärtsilä Italia S.p.A.)
12:30	Lunch		



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### Session 7: Optical injection and combustion analysis (Chair: Dr. Christian Reiser)

13:45	Silas Wüthrich <i>FHNW - University of Applied Sciences and Arts Northwestern Switzerland</i>	The GHG reduction potential of high-IMEP pure ammonia combustion	Patrick Albrecht, Patrick Cartier, Dr. Bruno Schneider, Prof. Kai Herrmann (FHNW - University of Applied Sciences and Arts Northwestern Switzerland)
14:15	Dr. Marco Ferro <i>OMT SpA</i>	Design and characterisation of a port fuel injector for high power medium speed engines	Dr. Marco Coppo, Claudio Negri (OMT SpA), Dr. Fabian Pinkert (FVTR GmbH), Mathias Niendorf (Rostock University, LKV)
14:45	Jules Christopher Dinwoodie <i>Rostock University, LKV</i>	3D – CFD simulation and experimental characterisation of direct gaseous injection for a medium speed dual-fuel engine	Sebastian Cepelak, Manuel Glauner, Pascal Seipel, Dr. Karsten Schleef, Prof. Bert Buchholz (Rostock University, LKV)
15:15	Coffee break		

### Wildcard

15:45	WILDCARD	CIMAC Cascades	
16:15	Prof. Bert Buchholz <i>Rostock University, LKV</i>	Closing words	