



# CIMAC CONGRESS 25

ZURICH, MAY 19 – 23, 2025

## Preliminary Congress program

Please note that this is a preliminary Congress program. The times and dates on which presentations or other program items take place are subject to change. We also reserve the right to make changes to the content of the program.

# How to navigate this program

	Weichai	Lubrizol	Duap	R4
09:00 – 10:40	<a href="#">Ammonia applications</a> (Session 8: New & alternative fuels)	<a href="#">New &amp; basic research I</a> (Session 16: Basic research & advanced engineering)	<a href="#">Turbochargers I</a> (Session 15: Turbochargers)	<a href="#">Hybrid system integration or integratio at ship level</a> (Session 2: System integration & hybrid)
11:20 – 13:00	<a href="#">Methanol applications</a> (Session 8: New and alternative Fuels)	<a href="#">Lubricants for low carbon fuels</a> (Session 9: Lubricants)	<a href="#">Mechanics, materials, coatings</a> (Session 18: Mechanics, materials, coatings)	<a href="#">Pecha kucha I</a> (Pecha kucha session)
14:00 – 15:40	Colin Trust Keynote			
16:40 – 18:20	<a href="#">Engine platform and industry perspective</a> (Session 10: Dual fuel)	<a href="#">Fuel system development for futre fuels I</a> (Session 13: Fuel injection)	<a href="#">Ring liner interaction</a> (Session 17: Tribology)	<a href="#">Combustion development for alternative fuels</a> (Session 6: Emission reduction engine measures)

## 1. In the daily overview: (Slide 3-6)

Press the link in the session name to see the presentations of the session

(Does not work on this explanatory slide)

## 2. In the session overview: (Slide 7 following)

Press the link on the day to quickly and conveniently return to the daily overview

(Does not work on this explanatory slide)

## 3. Browse by topic:

Or browse the sessions from slide 7 on sorted by topic

ID	Abstract Title	Name	Company
25	Multi-scale digital twins & AI analytics for lifecycle insights and accelerated energy solutions	Robert Whittaker	Innio Jenbacher GmbH
131	MAN-ES: Navigating Connectivity, Cyber Security and AI at Sea	Casper Olesen	MAN Energy Solutions
195	Securing legacy automation components in UR-E27 Systems	Christopher Sundberg	Woodward, Inc.
200	A Study on Engine Fault Diagnosis and Maintenance Solutions Based on the BERT Pre-trained Model	Jin Guan	FAWDE
338	DIEM - A Digital Engine Management Platform for Performance Assessment and CBM for LNG Fleets	Panos Kyrtatos	Propulsion Analytics

Day: **Monday**  
Time: **13:40 – 15:20**

Day 1:

Monday, 19.05.2025

	Weichai	Lubrizol	Duap	Peter Fuchs Technology
10:00 – 12:40	Opening Ceremony Keynote Speech: Prof. Lynn Loo (Global Centre for Maritime Decarbonisation)			
13:40 – 15:20	<a href="#">Future fuels properties / impacts</a> (Session 8: New & alternative fuels)	<a href="#">Management and cybersecurity of connected vessels</a> (Session 1: Digitalization)	<a href="#">Automation</a> (Session 4: Controls, measurement, automation)	<a href="#">Power-Gen</a> (Session 20: Operators' perspective)
16:20 – 18:00	<a href="#">Dual fuel low carbon fuels</a> (Session 10: Dual fuel)	<a href="#">Combustions development I</a> (Session 17: Simulation technologies)	<a href="#">Visualization: hydrogen</a> (Session 19: Visualization)	<a href="#">Electrification and fuel cells I</a> (Session 3: Electrification and fuel cells)

**Day 2:**

**Tuesday, 20.05.2025**

	<b>Weichai</b>	<b>Lubrizol</b>	<b>Duap</b>	<b>Peter Fuchs Technology</b>
09:00 – 10:40	<a href="#"><u>Ammonia applications</u></a> (Session 8: New & alternative fuels)	<a href="#"><u>New &amp; basic research I</u></a> (Session 16: Basic research & advanced engineering)	<a href="#"><u>Turbochargers I</u></a> (Session 15: Turbochargers)	<a href="#"><u>Hybrid system integration or integratio at ship level</u></a> (Session 2: System integration & hybrid)
11:20 – 13:00	<a href="#"><u>Methanol applications</u></a> (Session 8: New and alternative fuels)	<a href="#"><u>Lubricants for low carbon fuels</u></a> (Session 9: Lubricants)	<a href="#"><u>Mechanics, materials, coatings</u></a> (Session 18: Mechanics, materials, coatings)	<a href="#"><u>Pecha Kucha I</u></a> (Pecha Kucha session)
14:00 – 15:20	Colin Trust keynote Panel discussion			
16:20 – 18:00	<a href="#"><u>Engine platform and industry perspective</u></a> (Session 10: Dual fuel)	<a href="#"><u>Fuel system development for future fuels I</u></a> (Session 13: Fuel injection)	<a href="#"><u>Ring-liner interaction</u></a> (Session 14: Tribology)	<a href="#"><u>Combustion development for alternative fuels</u></a> (Session 6: Emission reduction engine measures)

Day 3:

Wednesday, 21.05.2025

	Weichai	Lubrizol	Duap	Peter Fuchs Technology
09:00 – 10:40	<a href="#">Biofuels / alternative liquid fuels I</a> (Session 8: New and alternative fuels)	<a href="#">Engine measures and emission measurements</a> (Session 6: Emission reduction technologies engine measures)	<a href="#">Retrofits</a> (Session 12: Retrofit solutions)	<a href="#">Hybrid technologies</a> (Session 2: System integration & hybridization)
11:20 – 13:00	<a href="#">Future fuel concepts</a> (Session 8: New and alternative fuels)	<a href="#">Exhaust aftertreatment</a> (Session 5: Exhaust Gas Aftertreatment Solutions & CCS)	<a href="#">New &amp; basic research II</a> (Session 16: Basic research and advanced engineering)	<a href="#">Electrification and fuel cells development II</a> (Session 3: Electrification and fuel cells)
14:00 – 15:20	Impulse presentation Panel discussion			
16:20 – 18:00	<a href="#">Condition monitoring of vessel components</a> (Session 1: Digitalization)	<a href="#">Combustion development II</a> (Session 17: Simulation technologies)	<a href="#">New engine concepts and systems - ammonia</a> (Session 11: New engine concepts & systems)	<a href="#">Controls</a> (Session 4: Controls, measurement, automation)

Day 4:

Thursday, 22.05.2025

	Weichai	Lubrizol	Duap	Peter Fuchs Technology
09:00 – 10:40	<a href="#">Hydrogen applications</a> (Session 8: New and alternative fuels)	<a href="#">New engine concepts &amp; systems – methanol and hydrogen</a> (Session 11: New engine concepts & systems)	<a href="#">Fuel system development analysis</a> (Session 13: Fuel injection)	<a href="#">NH3 aftertreatment</a> (Session 5: Exhaust gas aftertreatment solutions & CCS)
11:20 – 13:00	<a href="#">Ammonia and methanol</a> (Session 19: Visualization)	<a href="#">Safety aspects of new and alternative fuels</a> (Session 20: Operators' perspective)	<a href="#">Monitoring</a> (Session 4: Controls, measurement, automation)	<a href="#">Fuel system development for future fuels II</a> (Session 13: Fuel Injection)
14:00 – 15:20	<a href="#">Monitoring and operation</a> (Session 14: Tribology)	<a href="#">Conventional lubricants and low carbon lubricants</a> (Session 9: Lubricants)	<a href="#">Turbochargers II</a> (Session 15: Turbochargers)	<a href="#">Pecha Kucha II</a> (Pecha Kucha session)
16:20 – 18:00	<a href="#">Biofuels / liquied alternative fuels II</a> (Session 8: New and alternative fuels)	<a href="#">Conventional fuels</a> (Session 10: Dual fuel)	<a href="#">CCS and new technology</a> (Session 5: exhaust gas aftertreatment solutions & CCS)	<a href="#">Components optimization</a> (Session 17: Simulation technologies)

**Topic 1:** Digitalization, connectivity, artificial intelligence & cyber security  
**Session Name:** Management and cybersecurity of connected vessels

Session Organizer:  
Marco Coppo (OMT)  
Konstantin Kiesling (LEC)

ID	Abstract Title	Name	Company
25	Multi-scale digital twins & AI analytics for lifecycle insights and accelerated energy solutions	Robert Whittaker	Innio Jenbacher
131	MAN ES: Navigating connectivity, cyber security and AI at sea	Casper Olesen	MAN Energy Solutions
195	Securing legacy automation components in UR-E27 systems	Christopher Sundberg	Woodward
200	A study on engine fault diagnosis and maintenance solutions based on the BERT pre-trained model	Jin Guan	FAWDE
338	DIEM - A digital engine management platform for performance assessment and CBM for LNG fleets	Panos Kyrtatos	Propulsion Analytics

**Day:** Monday  
**Time:** 13:40 – 15:20

**Topic 1: Digitalization, connectivity, artificial intelligence & cyber security**  
**Session Name: Condition monitoring of vessel components**

Session Organizer:  
Marco Coppo (OMT)  
Konstantin Kiesling (LEC)

ID	Abstract Title	Name	Company
58	Advanced digital methods for condition monitoring of bearing systems for large bore ICEs	Gunther Hager	Miba Gleitlager Austria
122	AI-supported surface topography characterization of cylinder liners in large ICEs	Constantin Kiesling	LEC
266	Virtual model for continuous turbocharger optimization and monitoring	Andreas Hablitzel	AVAT Automation
297	Digitalization in filtration – how data-driven maintenance can help to protect your assets	Andreas Schilbert	Boll & Kirch Filterbau
334	HiMSEN digital transformation on sites: Optimizing emission evaluation and enabling advanced analysis	Seohyun Jang	Hyundai Heavy Industries

**Day: Wednesday**  
**Time: 16:20 – 18:00**



## Topic 2: System Integration & hybridization

### Session Name: Hybrid system integration or integration at ship level

Session Organizer:  
Elias Boletis (Enarate Marine)  
Hinrich Mohr (Gaskraft Engineering)

ID	Abstract Title	Name	Company
140	Design and optimized control of hybrid propulsion systems based on a modular simulation kit	Christina Warmann	ITK-Engineering
272	CO <sub>2</sub> reduction benefits through engine room hybridization by applying ECMS algorithm	Nikolaos Aletras	Aristotle University of Thessaloniki
333	DG optimization for CO <sub>2</sub> reduction in microgrids with increased RES penetration: a simulation study	Xavier Tauzia	Centrale Nantes
348	Development and real ship application of intelligent multi-mode switching control device	Chen Defu	Shanghai Marine Diesel Engine Research Institute
502	Preliminary implementation of a FC-ICE system for power and propulsion of a 14000 TEU containership	Peter de Vos	Delft University of Technology

**Day:** Tuesday  
**Time:** **09:00 – 10:40**

## Topic 2: System integration & hybridization

### Session Name: Hybrid technologies

Session Organizer:

Elias Boletis (Enarate Marine)

Hinrich Mohr (Gaskraft Engineering)

ID	Abstract Title	Name	Company
77	Superior application solutions and key technical points for ship shaft generator system	Zhangchao Liu	Tongji University
130	Dynamic performance of a high-pressure direct injection methanol-fuelled engine	Benny Mestemaker	Royal IHC
211	Application of Kawasaki green gas engine L30KG for hybrid propulsion system	Nobuhiko Kii	Kawasaki Heavy Industries
284	Use case: Estimation and optimization of a hybrid ship power system in early design stage	Oliver Klein	Hamburg University of Technology
347	Real ship application of composite energy storage DC energy management control technology for hybrid	Chen Defu	Shanghai Marine Diesel Engine Research Institute

**Day:** Wednesday

**Time:** **09:00 – 10:40**

## Topic 3: Electrification and fuel cells development

### Session Name: Electrification and fuel cells development I

Session Organizer:  
Mathias Moser (MAN ES)  
Günter Figer (AVL List)

ID	Abstract Title	Name	Company
64	A holistic approach to Solid Oxide technology through optimization of its supporting components.	Joseph McCarney	Johnson Matthey
83	Integration of a hybrid hydrogen fuel cell - battery propulsion system into a modular rail vehicle	Stefan Bernsdorf	Stadler Bussnang
109	Advanced balance of plant solutions for high-power, high-efficiency and reliable fuel cell systems	Peter Fledersbacher	Woodward
158	Battery-electric propulsion for ocean-going cargo ships – design, operations and techno-economics	Jan Seidl-Zelenka	Nordem
179	Hydrogen retrofit of a RoRo-ferry – the holistic approach	Jorim Rosenberg	H2 Energy

**Day: Monday**

**Time: 16:20 – 18:00**

## Topic 3: Electrification and fuel cells development

### Session Name: Electrification and fuel cells development II

Session Organizer:  
Mathias Moser (MAN ES)  
Günter Figer (AVL List)

ID	Abstract Title	Name	Company
233	Development of the 200kW marine PEMFC system for SMVs	Youngtak Cho	Hyundai Heavy Industries
264	PEM fuel cell systems for marine propulsion	Frank Mair	AVL List
417	A predictive energy management for hybrid ship propulsion system considering battery capacity decay	Chen Chen	Harbin Engineering University
474	Holistic Integration of battery hybrid systems in merchant vessels: Evaluation of real-life data	Stefan Goranov	Winterthur Gas & Diesel
480	Fuel cell retrofits - safety and practical challenges	Thomas Bayer	Lloyd's Register

**Day:** Wednesday

**Time:** 11:20 – 13:00

**Topic 4: Controls, automation, measurement, monitoring & predictive maintenance**  
**Session Name: Controls**

Session Organizer:  
Sai Venkataramanan (Woodward)  
Rom Rabe (University of Wismar)

ID	Abstract Title	Name	Company
27	MBD based development platform for large bore midium speed engines	Masashi Kuwata	Daihatsu Diesel
88	Research on engine cylinder pressure identification method based on multi-signal fusion	Renqi Zhang	Wuhan University of Technology
110	Assessment and status of gaseous fuel rating using the methane number	Robin Bremmer	Colorado State University
471	Change point detection method for estimating the remaining useful lifetime of engine filters	Jean-Pierre NOOT	Liebherr Components Colmar
476	A device for accurate dynamic air flow control in a hydrogen internal combustion engine	Georgios Bikas	University of Nürnberg

**Day: Wednesday**  
**Time: 16:20 – 18:00**

**Topic 4: Controls, automation, measurement, monitoring & predictive maintenance**  
**Session Name: Automation**

Session Organizer:  
Sai Venkataramanan (Woodward)  
Rom Rabe (University of Wismar)

ID	Abstract Title	Name	Company
17	Exploring digital ecosystems: Field insights from a powertrain monitoring perspective	Andreas Thalhammer	Geislinger
194	AFR3 fuel system by INNIO's Waukesha Engine	Bryan Hermsen	INNIO Waukesha Engine
201	Advanced actuation technology for cyber secure P2X engines	John Karspeck	Woodward Inc.
230	Maneuvering control technology for a ship with twin azimuth thrusters	Hidetaka Sato	IHI Power Systems
287	A methodology for data-driven diagnosis of marine two-stroke dual-fuel engines	Ioannis Sklias	Winterthur Gas & Diesel

**Day: Monday**  
**Time: 13:40 – 15:20**

**Topic 4: Controls, automation, measurement, monitoring & predictive maintenance**  
**Session Name: Monitoring**

Session Organizer:  
Sai Venkataramanan (Woodward)  
Rom Rabe (University of Wismar)

ID	Abstract Title	Name	Company
98	Challenges of measuring raw exhaust of ammonia engines	Philipp Jakubec	IAG Test Cell Technology
176	On the development of novel telemetry systems for online monitoring of highly stressed components an	Bernhard Rossegger	LEC
224	Alarm management in the maritime industry. A field investigation into the watchkeepers' experiences	Asger Schliemann-Haug	Lloyd's Register
411	Integrating physics-based models and ML for condition monitoring of large bore medium speed engines	Rik De Graeve	Anglo Belgian Corporation
440	Fuel slip monitoring in high-humidity flue gases from co-firing of ammonia with methane	Liuhaio Ma	Wuhan University of Technology

**Day: Thursday**  
**Time: 11:20 – 13:00**

## Topic 5: Exhaust gas aftertreatment solutions & CCS

### Session Name: NH<sub>3</sub> engine aftertreatment

Session Organizer:

Daniel Peitz (Hug Engineering)

Kati Lehtoranta (VTT Technical Research Center of Finland)

ID	Abstract Title	Name	Company
30	Practical application study of exhaust gas aftertreatment system for ammonia diesel dual fuel engine	Yuki Shimizu	Daihatsu Diesel
172	Exhaust gas treatment concept with coordinated combustion process management for NH <sub>3</sub> -diesel engines	Felix Wenig	University of Rostock
235	Emmissions countermeasures for low-speed 2-stroke marine ammonia engines	Takaaki MAKINO	Mitsui E&S
255	Development of after-treatment system for ammonia fueled engine	Taehwan Kim	Hyundai Heavy Industries
465	Exhaust after-treatment concepts for 2-stroke NH <sub>3</sub> engines	Georgia Voniati	Aristotle University of Thessaloniki

**Day:** Thursday

**Time:** **09:00 – 10:40**



## Topic 5: Exhaust gas aftertreatment solutions & CCS

### Session Name: Exhaust aftertreatment

Session Organizer:

Daniel Peitz (Hug Engineering)

Kati Lehtoranta (VTT Technical Research Center of Finland)

ID	Abstract Title	Name	Company
34	Operational insights into marine selective catalytic reactors (SCRs)	Fabian Kock	DNV
74	From lab to machinery space: Advances in methane slip catalyst technology & engine internal measures	Hans-Philipp Walther	MAN Energy Solutions
138	Ash generation options for accelerated testing of marine diesel particulate filters	Päivi Aakko-Saksa	VTT Technical Research Centre of Finland
505	Ultra-low emission vessel field experience	Koen Christianen	Anglo Belgian Corporation
508	Methanol combustion engine exhaust gas aftertreatment	Daniel Peitz	Hug Engineering

**Day:** Wednesday

**Time:** 11:20 – 13:00

## Topic 5: Exhaust gas aftertreatment and CCS

### Session Name: CCS and new technology

Session Organizer:

Daniel Peitz (Hug Engineering)

Kati Lehtoranta (VTT Technical Research Center of Finland)

ID	Abstract Title	Name	Company
33	Disruptive innovation for carbon capture	Klaus Meyer	Bosch Group
78	Microwave catalyst heating system for reducing GHG emissions from ships using decarbonized fuels	Jin-Su Kwak	HD Korea Shipbuilding & Offshore Engineering
183	A techno-economic evaluation of decarbonization concepts for the shipping sector	Christoph Redtenbacher	LEC
251	Application of MHI CO <sub>2</sub> capture technology for exhaust gas from internal combustion engine	Takashi Kamijo	Mitsubishi Heavy Industries
283	Energy penalty analysis for post-combustion carbon capture in a gas engine power generation plant	Dilan Karakurt-Celebi	Messer

**Day:** Thursday

**Time:** **16:20 – 18:00**

**Topic 6:** Emission reduction technologies - engine measures and combustion development  
**Session Name:** Engine measures and emission measurements

Session Organizer:  
Christer Wik (Wärtsilä)  
Koji Takasaki (Kyushu University)

ID	Abstract Title	Name	Company
171	Wärtsilä active NOx control development for lean burn engine	Kaj Portin	Wärtsilä
219	Fuel slip reduction technology for marine 4-stroke engines	Hojun Lee	HD KSOE
276	WtW methane emissions control: Regulatory and technology approaches across the value chain	Georgios Siasios	Maersk McKinney Moller Centre for Zero Carbon Shipping
330	Advancing sustainable shipping: Strategies for methane slip reduction in Wärtsilä 4-stroke engines	Diego Delneri	Wärtsilä
225	Methane Slip Reduction Technology from LNG Fueled Engine by Catalyst and Engine Modification	Kazuaki Orino	Yanmar Power Technology

**Day:** Wednesday  
**Time:** 09:00 – 10:40

**Topic 6: Emission reduction technologies - engine measures & combustion development**  
**Session Name: Combustion development for alternative fuels**

Session Organizer:  
Christer Wik (Wärtsilä)  
Koji Takasaki (Kyushu University)

ID	Abstract Title	Name	Company
85	GHG and methane slip reduction: The role of hydrogen blending into natural gas.	Stefania Ischia	Wärtsilä
102	Investigation of port fuel injected methanol and its aftertreatment concepts	Martin Axelsson	Wärtsilä
125	A large-scale development of GHG reduction technology by ammonia fueled and hydrogen fueled engines	Takahiro Nagashima	Japan Engine Corporation
292	Design and demonstration of a NH <sub>3</sub> -fueled two-stroke uniflow engine for greenhouse gas reduction	Joshua Marion	MAHLE Powertrain
7	Combustion development of an ammonia diesel dual-fuel medium speed marine engine	Hongmei Li	Shanghai Jiao Tong University

**Day: Tuesday**  
**Time: 16:20 – 18:00**

**Topic 7: Pecha kucha**

**Session Name: Pecha kucha I**

ID	Abstract Title	Name	Company
26	The solubility of ammonia in various fluids at different temperatures	Pourya Parsaeian	British Petroleum
29	New engine development - 16V180 from Isotta Fraschini Motori	Francesco Iannone	Isotta Fraschini Motori
163	A general-purpose digital twin for modern LNG carrier propulsion arrangements	George Dimopoulos	National Technical University of Athens
184	A value chain approach to decarbonizing the marine Industry	Matthew Bentley	Lubrizol
187	Hydraulically actuated hydrogen DI-injector	Alexandre Hild	Ganser CRS
249	Servo green edge - A high-performance stationary gas engine oil from IndianOil	Yogesh Kumar Sharma	IndianOil Corporation
361	Accelerating GHG reductions by changing your fuel, not your engine	Philip Hill	Quadrise
507	Hydrogen combustion engine exhaust gas aftertreatment	Daniel Peitz	Hug Engineering

**Day: Tuesday**

**Time: 11:20 – 13:00**

## Topic 7: Pecha kucha

### Session Name: Pecha kucha II

ID	Abstract Title	Name	Company
20	Is GHG emissions direct measurement a dilemma?	MAX WU	Lloyd's Register
48	Optimizing crankcase ventilation for alternative fuels: Addressing blow-by dilution and filtration	Niclas Nowak	UT99
155	Advanced hybrid propulsion control system: Development, validation, and future	Seungwan Nam	HD Hyundai Heavy Industries
173	Measuring methane emissions from LNG engine utilizing different devices	Kati Lehtoranta	VTT Technical Research Centre of Finland
192	Modular automation (software and hardware) platform for P2X engine architectures	Chris Ohlsen	Woodward
277	An analysis of the methods to measure and report actual methane slip from combustion engines onboard	Remco De Witte	Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping
467	Innovative oil mist separation for crankcase ventilation of ICE as a revised state of the art	Ulrich Luger	Heinzmann IFT
268	Multimodal analysis of biodiesel blended VLSFO for marine application: Techno-economic perspectives	Deva Dinesh	Hindustan Petroleum Corporation

**Day:** Thursday

**Time:** **14:00 – 15:20**

## Topic 8: New and alternative fuels

### Session Name: Future fuel properties / impacts

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
14	Digital Fuel Twin - a simple and consistent solution to foster drop-In and alternative fuels	Jens Olaf Stein	Robert Bosch
89	Overcoming the technical barriers of methanol fuel using additives	Frank Simpson	Infineum
238	Stability assessment of bio-residual marine fuels (RF grades) through extended TSP and spin testing	Muhammad Usman	Lloyd's Register
308	Exploration of novel combustion strategy for alternative fuel using computational fluid dynamics	James Wood	Woodward
353	Fossil fuels to green energy - Pathways toward zero carbon shipping	Quaim Choudhury	American Bureau of Shipping
424	Evaluation of corrosion properties and oxidation stability of biodiesel blends	Sara Rezaee	Viswa Group

**Day: Monday**

**Time: 13:40 – 15:20**

## Topic 8: New and alternative fuels

### Session Name: Biofuels / alternative liquid fuels I

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
21	Qualification of pyrolysis oil from cashew nut shell press cake as marine biofuel	Jan Seidl-Zelenka	Norden
150	A study on applicability and emission compliance of biofuels to marine diesel engines	Hyunwoo Song	HD Korea Shipbuilding & Offshore Engineering
167	Cashew nutshell liquid as a biofuel: Use of additives to improve engine operability	Amy Bates	Infineum
489	Study on the performance, emission and combustion characteristics of low-speed engine	Wu Gang	Shanghai Maritime University
513	Biodiesel blends with VLSFO - Brazil's field tests in vessels	Antonio Fernandez Prada	Petrobras - Petróleo Brasileiro

**Day:** Wednesday

**Time:** **09:00 – 10:40**



## Topic 8: New and alternative fuels

### Session Name: Biofuels / liquid alternative fuels II

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
70	The investigation on the application of dimethyl-ether based green synthetic fuel to Marine power	Teng Liu	China Shipbuilding Power Engineering Institute Co., Ltd.
80	Ethanol: A viable alternative fuel option	Kaj Portin	Wärtsilä
227	Exhaust emissions on a 4-stroke engine from bio residual fuel containing tire pyrolysis oil and FAME	Barbara Heyberger	TotalEnergies
416	Stability of bio-blended residual marine fuel oil	Floris Lauwers	Bureau Veritas
499	Blending behaviour of pure, esterified and hydrotreated pyrolysis oils	Fanny Langschwager	University of Rostock

**Day:** Thursday  
**Time:** 16:20 – 18:00

## Topic 8: New and alternative fuels

### Session Name: Hydrogen applications

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
97	Hydrogen based ship propulsion, first ever large two-stroke engine tests with hydrogen.	Johan Sjöholm	MAN Energy Solutions
144	Effects of hydrogen co-firing on the performance of Mitsubishi KU30GSI gas engine	Junnosuke Ando	Mitsubishi Heavy Industries
151	Analysis on combustion and emission of hydrogen-LNG blends in a medium-speed LNG dual-fuel engine	Hyunwoo Song	HD Korea Shipbuilding & Offshore Engineering
208	Kawasaki's gas engines powered by hydrogen for stationary generation	Akihito Aota	Kawasaki Heavy Industries
305	Preliminary investigation of the Wabtec NextFuel engine for hydrogen/diesel dual fuel operation	Adam Klingbeil	Wabtec Corporation

**Day: Thursday**

**Time: 09:00 – 10:40**

## Topic 8: New and alternative fuels

### Session Name: Ammonia applications

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
82	High efficiency ammonia combustion in the MAN B&W LGI-A marine two-stroke engine	Johan Hult	MAN Energy Solutions
191	Efficiency and emissions of ammonia-diesel dual-fuel combustion in a high-speed 4-stroke engine	Brian Kaul	Oak Ridge National Laboratory
214	Development of ammonia fueled engine (28ADF) for future marine industries	Yutaka Masuda	IHI Power Systems
421	Power generation using ammonia as a single fuel in internal combustion engines	Matthias Veltman	Innio Jenbacher
455	The steady-state and transient performance of an ammonia-diesel dual fuel multi-cylinder engine	Longfei Deng	Tianjin University

**Day:** Tuesday  
**Time:** 09:00 – 10:40

## Topic 8: New and alternative fuels

### Session Name: Methanol applications

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
16	Experimental study on improvement of ignitability of methanol fuel	Shiro Asai	Daihatsu Diesel
37	Effects of biodiesel pilot ignition in dual-fuel methanol combustion	James Szybist	Oak Ridge National Laboratory
152	Methanol engine concepts from Rolls-Royce Power Systems for future shipping	Johannes Kech	Rolls-Royce Power Systems
170	E-methanol for shipping: Quality considerations for reduced environmental impact	Päivi Aakko-Saksa	VTT Technical Research Centre of Finland
410	ABC's methanol future	Luc Mattheeuws	Anglo Belgian Corporation

**Day:** Tuesday  
**Time:** 11:20 – 13:00

## Topic 8: New and alternative fuels

### Session Name: Future fuel concepts

Session Organizer:  
German Weisser (WinGD)  
Christoph Kendlbacher (Robert Bosch)

ID	Abstract Title	Name	Company
115	The new direct injection hydrogen ICE development for heavy-duty commercial vehicles	Lei Liu	CUMMINS
234	High reactivity fuel ignition pre-chamber: Stable and rapid combustion for ammonia marine engine	Zhuohang Li	Shanghai Jiao Tong University
341	Ammonia-based powertrain with onboard generation of hydrogen for small ICEs	Benjamin Stengel	FVTR
396	Gane fuel and Infineum additives – a single fuel methanol solution	Greg Morris	Gane Energy & Resource Pty
446	Ammonia: Energy carrier only or well-suited sustainable fuel for large engine applications?	Nicole Wermuth	Graz University of Technology

**Day:** Wednesday  
**Time:** 11:20 – 13:00

## Topic 9: Lubricants

### Session Name: Lubricants for low carbon fuels

Session Organizer:  
Sadao Nakayama (IHI Power Systems)

ID	Abstract Title	Name	Company
1	Lubricants enabling alternative fuels for maritime decarbonization	Edward Ng	Gulf Marine
49	Enhancing hydrogen-compatible lubricant technologies for GEO engines	Louise Renouf	Infineum
189	Lubricant impacts from ammonia dual-fuel combustion	Brian Kaul	Oak Ridge National Laboratory
510	Field experience with Shell Alexia 40 XC in dual fuel 2-stroke engines combusting alternative fuels.	Luis Garcia	Shell Global Solutions (Deutschland)
301	Role of NGENO lubricants in improving the combustion process in H <sub>2</sub> -fueled internal combustion engines	Timothy Theriot	Chevron Oronite Company

**Day:** Tuesday

**Time:** 11:20 – 13:00

## Topic 9: Lubricants

### Session Name: Conventional lubricants and low carbon lubricants

Session Organizer:  
Sadao Nakayama (IHI Power Systems)

ID	Abstract Title	Name	Company
23	Measurement of fuel efficiency improvements when operating with lower viscosity cylinder oils	Mark Embleton	Maersk
293	Emerging fuel impact on engine lubrication and lubricating oil condition in marine low speed and med	Luc Verbeeke	Chevron Belgium
514	Medium speed engine oils optimized for ultra low emission profiles	Daniel Peitz	Hug Engineering
280	Reducing CO <sub>2</sub> impact through fuel economy: Developing a 2-stroke FE system oil – results, next steps	Catherine AMBLARD	TotalEnergies

**Day:** Thursday  
**Time:** 14:00 – 15:20

## Topic 10: Dual fuel

### Session Name: Dual fuel 1: Low-carbon fuels

Session Organizer:  
Sebastian Hensel (WinGD)  
Adam Klingbeil (Wabtec Corporation)

ID	Abstract Title	Name	Company
113	Analysis and optimization of energy conversion for an on-board methanol reforming engine	Yizi Zhu	Jiangsu University
127	The optimization of the structure of piston for ammonia-diesel dual-fuel engine under heavy load	Yanling He	Tianjin University
203	Methanol port fuel injection technology study on CPGC M320 engine	Yuehua Qian	China Shipbuilding Power Engineering Institute
367	Innovative HiMSEN methanol engine development with virtual product development(VPD) technology	Gwanghyeon Yu	Hyundai Heavy Industries
418	Genetic algorithm-assisted performance prediction of an MW-scale ammonia-diesel dual-fuel engine	Yan Zhang	University of Birmingham

**Day: Monday**  
**Time: 16:20 – 18:00**



## Topic 10: Dual fuel

### Session Name: Dual fuel 2: Engine platform and industry perspective

Session Organizer:  
Sebastian Hensel (WinGD)  
Adam Klingbeil (Wabtec Corporation)

ID	Abstract Title	Name	Company
68	Direct comparison of hydrogen-diesel and methanol-diesel dual direct injection engine combustion	Shawn Kook	The University of New South Wales
120	The latest technologies of J-ENG UE engine	Jun Yanagi	Japan Engine Corporation
381	Development of 4-stroke medium speed methanol/diesel-fueled engine for marine application in YANMAR	Daisuke Morimitsu	Yanmar Power Technology
448	Control-oriented experimental study on injection parameters of ammonia-diesel dual-fuel engine	Zhe Wang	Shanghai Jiao Tong University
470	X-DF-M - WinGD's new methanol engine	Andrea Pastore	Winterthur Gas & Diesel

**Day: Tuesday**  
**Time: 16:20 – 18:00**

## Topic 10: Dual fuel

### Session Name: Dual-fuel 3: Conventional fuels

Session Organizer:  
Sebastian Hensel (WinGD)  
Adam Klingbeil (Wabtec Corporation)

ID	Abstract Title	Name	Company
105	Lowest GHG emissions on medium speed engines by higher epsilon and H <sub>2</sub> -admission to the fuel gas	Manuel Glauner	University of Rostock, Chair of Piston Machinery and Internal Combustion Engines
129	Combustion and emission characteristics of biogas/diesel RCCI in a large bore marine engine	Jeyoung Kim	University of Vaasa
311	Using multi-stage Wiebe to characterize the combustion of a converted marine NG SI engine	Konstantinos Kiouranakis	Delft University of Technology
384	Investigation on the effects of water blending on spray and combustion characteristics of methanol	Tianlong Lu	Tianjin University
487	Methane slip measurement and mitigation: A multi-vessel case study and lessons learned	Patrick Kirchen	University of British Columbia

**Day:** Thursday  
**Time:** **16:20 – 18:00**

## Topic 11: New engine concepts & systems

### Session Name: New engine concepts & systems I

Session Organizer:  
Matthias Auer (MAN ES)  
Keitaro Hironaka (IHI Power Systems)

ID	Abstract Title	Name	Company
81	Ammonia-powered future: Introducing Wärtsilä 25	Kaj Portin	Wärtsilä
90	Ammonia combustion technology for single fueled spark ignition engine	Kenta Miyauchi	IHI Corporation
135	Auxiliary systems and safety concepts for two-stroke ammonia burning engines	Johan Kaltoft	MAN Energy Solutions
329	WinGD's ammonia engine technology for the new X-DF-A family	Barbara Graziano	Winterthur Gas & Diesel
450	Ammonia cracking: enabler for ammonia engines in power generation applications	Nicole Wermuth	Graz University of Technology

**Day:** Wednesday

**Time:** 16:20 – 18:00

## Topic 11: New engine concepts & systems

### Session Name: New engine concepts & systems II

Session Organizer:  
Matthias Auer (MAN ES)  
Keitaro Hironaka (IHI Power Systems)

ID	Abstract Title	Name	Company
190	Next-generation ship development in Japan	Chiharu Kawakita	New Energy and Industrial Technology Development Organization
217	Development of marine hydrogen fuel system (MHFS)	Takashi Izumi	Kawasaki Heavy Industries
232	Deduction of a customer-oriented methanol four-stroke engine portfolio	Maximilian Bartholy	MAN Energy Solutions
254	Adaptability and efficiency analysis of hybrid electric propulsion systems for ocean going vessels	Diego Pauluzzi	Wärtsilä
517	SCE920 - Key enabler for the roll-out of validated new technologies to largest engine sizes	Marc Spahni	WinGD

**Day:** Thursday

**Time:** 09:00 – 10:40

## Topic 12: Retrofit solutions

### Session Name: Retrofits

Session Organizer:

Stephan Laiminger (Innio Jenbacher)

Patrick Frigge (Makeen Saudi Engines Manufacturing)

ID	Abstract Title	Name	Company
181	New retrofit solutions for MAN B&W marine two-stroke engines	Dorthe Marie Sveistrup Jacobsen	MAN Energy Solutions
261	Methanol upgrade solution for the existing M 32 & M 43 platforms	Michael Sturm	Caterpillar Motoren
279	Assessment of methanol and hydrogen combustion in large engines	Shinsuke Murakami	AVL List
288	Innovating maritime sustainability: Designing a fuel-flexible vessel and engine	Sangram Nanda	Wärtsilä
362	A pathway to develop a methanol combustion concept for retrofit propulsion applications	Maximilian Malin	LEC

**Day:** Wednesday

**Time:** **09:00 – 10:40**

## Topic 13: Fuel injection & gas admission and engine components

### Session Name: Fuel system development for future fuels I

Session Organizer:  
Daniel Bosshard (Woodward)  
Masayoshi Kawakami (JICEF)

ID	Abstract Title	Name	Company
15	Premixed combustion of alternative fuels as a fast and economic path to decarbonize	Jens Olaf Stein	Robert Bosch
236	Application & experience of a pilot-controlled DI gas & hydrogen injector on marine engine	Erich Vogt	DUAP
253	Further development of a methanol port fuel injection platform for medium-speed engines	Alexander Levchenko	Heinzmann
258	Design, modelling and performance of an OMT methanol port fuel injector for large marine engines	Marco Coppo	OMT - Officine Meccaniche Torino
307	Advancements in single-point gaseous fuel metering for high-speed gas and P2X engines	Brandon Gleeson	Woodward

**Day:** Tuesday  
**Time:** 16:20 – 18:00

## Topic 13: Fuel injection & gas admission and engine components

### Session Name: Fuel system development for future fuels II

Session Organizer:  
Daniel Bosshard (Woodward)  
Masayoshi Kawakami (JICEF)

ID	Abstract Title	Name	Company
165	Development of the twin-circuit-injector for liquid and gaseous alternative fuels	Tomohiro ASAI	NICO Precision
188	An integrated CFD-FEM analysis on heat load of LGI-M fuel injectors	Kar Mun Pang	MAN Energy Solutions
257	Tailormade solutions for high pressure direct injection of methanol and ammonia	Marco Coppo	OMT - Officine Meccaniche Torino SpA
325	A new future fuel injection system for CPGC 4-stroke engine family in the 32 to 45 cm bore segment	Li Yang	Shanghai Jiao Tong University & China Shipbuilding Power Engineering Institute
354	System architectures for HPDF injection of PTX-fuels on large marine engines	Michael Willmann	Woodward L'Orange

**Day:** Thursday  
**Time:** **11:20 – 13:00**

## Topic 13: Fuel injection & gas admission and engine components

### Session Name: Fuel system development analysis

Session Organizer:  
Daniel Bosshard (Woodward)  
Masayoshi Kawakami (JICEF)

ID	Abstract Title	Name	Company
139	Development and prospect of 'Stratified injection system'	Koji Takasaki	Kyushu Univ. National Maritime Research Institute, Japan
174	Experimental characterization of MPDI & HPDI gas injectors for 4-stroke applications	Sebastian Cepelak	University of Rostock
346	Exploration of in-nozzle flow in the liquid ammonia injection based on direct numerical simulations	Zhuoying Jin	Shanghai Jiao Tong University
422	Study on fast flame burning of direct cross methanol-diesel dual sprays with high injection pressure	Guoliang Chu	Tianjin University
449	Machine learning-assisted spray pattern identification and prediction for liquid ammonia fuel	Dawei Wu	University of Birmingham

**Day:** Thursday  
**Time:** **09:00 – 10:40**



## Topic 14: Tribology

### Session Name: Ring-liner interaction

Session Organizer:  
Franz Koch (FEV)  
Jörgen Marken (MAN ES)

ID	Abstract Title	Name	Company
10	Superior reliability piston rings made of alloy steel with PVD coating	Minoru Kawanishi	RIKEN Corporation
22	Ammonia fuel engines: The change of tribological behavior for the cylinder liner – piston ring	Xing Xu	Harbin Engineering University
71	A multi-scale fourier feature network for efficient lubrication analysis of engine rough surfaces	Yihu Tang	SMDERI
134	Evaluating plain bearing performance in alternative fuel engine applications	Sebastian Kirchhamer	Miba Gleitlager Austria
464	Progressive evolving of a high-performance PCU design: From natural gas to hydrogen applications	Frank Berbig	Rolls-Royce Power Systems

**Day:** Tuesday  
**Time:** 16:20 – 18:00

## Topic 14: Tribology

### Session Name: Monitoring and operation

Session Organizer:  
Franz Koch (FEV)  
Jörgen Marken (MAN ES)

ID	Abstract Title	Name	Company
157	Effectiveness of oil particle counters in monitoring lubrication conditions between metal components	Tokura Takuya	Nippon Jaiji Kyokai (ClassNK)
274	Cost-efficient piston ring design for WinGD engines achieved with advanced development methods	Markus Weber	Winterthur Gas & Diesel
431	Follow-up report on a new real-time condition monitoring method for engine bearings	Motohiko Koshima	Daido Metal
2	New monitoring system for direct operating surveillance of con-rod bearings	Leander Marquardt	University of Stralsund

**Day:** Thursday  
**Time:** 14:00 – 15:20

## Topic 15: Turbochargers & air / exhaust management

### Session Name: Turbochargers I

Session Organizer:  
Silvio Risse (KBB Turbo)  
Dino Imhof (Accelleron)

ID	Abstract Title	Name	Company
3	Development of e-compressor system to improve high-speed engine transient load acceptance	Keith Douglas	Bowman eTurbo Systems
63	The impact of alternative fuels on the requirements for future turbocharger generations	Thomas Pitschel	Kompressorenbau Bannewitz
444	Optimized design of centrifugal compressor splitter blades in marine turbocharger	Yao Song	Harbin Engineering University
503	Sequential turbocharging as performance enabler for demanding marine propulsion engines	Michael Gisiger	Accelleron Industries

**Day:** Tuesday

**Time:** 09:00 – 10:40

## Topic 15: Turbochargers & air / exhaust management

### Session Name: Turbochargers II

Session Organizer:  
Silvio Risse (KBB Turbo)  
Dino Imhof (Accelleron)

ID	Abstract Title	Name	Company
91	New technology of MET turbocharger for strengthening environmental regulations	Taiyo Shirakawa	Mitsubishi Heavy Industries Marine Machinery & Equipment
259	Actuator platform for driving various functions in air/exhaust path of internal combustion engines	Sören Wiskandt	Heinzmann
363	New ACCX300-L turbocharger generation ready for future fuel applications	Simon Ma	Accelleron Industries
493	Upgrading the MAN 32/40 engine with the new TCF20 turbocharger	Martin Kern	MAN Energy Solutions

**Day:** Thursday  
**Time:** 14:00 – 15:20

**Topic 16:** Basic research & advanced engineering - new concepts  
**Session Name:** New & basic research I

Session Organizer:  
Bert Buchholz (University of Rostock)  
Michael Engelmayer (LEC)

ID	Abstract Title	Name	Company
57	Sensitivity of in-cylinder pressure measurement and analysis to ammonia and hydrogen fuel blends	David Rogers	Kistler Instrumente
114	Towards conceptual understanding of pre-ignition mechanisms in hydrogen-fueled engines	Ales Srna	Sandia National Laboratories
205	Partial cracking ammonia for marine engine applications: From mechanism to numerical investigation	Yuan Fang	Dalian University of Technology
244	Ammonia as carbon-free fuel for maritime applications – combustion investigations and safety aspects	Matthias Auer	MAN Energy Solutions
509	Ammonia combustion engine exhaust gas aftertreatment	Enno Esser	Hug Engineering

**Day:** Tuesday  
**Time:** 09:00 – 10:40

**Topic 16: Basic research & advanced engineering - new concepts**  
**Session Name: New & basic research II**

Session Organizer:  
Bert Buchholz (University of Rostock)  
Michael Engelmayer (LEC)

ID	Abstract Title	Name	Company
282	Compression without compromise: Dynamic optimization of combustion in dual-fuel engines with VCR	Marcel Ott	Winterthur Gas & Diesel
291	Assessment of ammonia combustion in large engines	Thomas Kammerdiener	AVL List
456	Effects of methanol reforming gas addition on the combustion characteristics of methanol engines	Wenju Ma	Harbin Engineering University
457	Evaporation and combustion characteristics study of diesel oil droplets in premixed ammonia/air	Meijia Song	Dalian University of Technology
161	Development of an ammonia-fueled cracker-engine unit as propulsion system for inland waterway vessel	Annalena Braun	Karlsruhe Institute of Technology

**Day: Wednesday**  
**Time: 11:20 – 13:00**

**Topic 17: Simulation technologies, digital twins and complex system simulation**  
**Session Name: Components optimization**

Session Organizer:  
Ioannis Vlaskos (WinGD)  
Mingfa Yao (Tianjin University)

ID	Abstract Title	Name	Company
62	Modelling of a methanol fuel supply system of marine engines for transient performance simulation	Huan Tu	Wuhan Rules and Research Institute, China Classification Society
72	Research on erosion wear and cavitation of heavy oil electronic controlled injector	Du Huang	Chongqing Hongjiang Machinery
100	Virtualization of fuel injection system development for methanol-fueled large-bore marine engines	Ugo Olivaud	GammaTech Engineering
132	The effect of the engine's thermal environment on the injection performance of future fuel injectors	Gangao Lu	Harbin Engineering University
248	Design of eco-friendly fuel HiMSEN engine using VPD technique	Hyang Lee	Hyundai Heavy Industries

**Day: Thursday**  
**Time: 16:20 – 18:00**

**Topic 17: Simulation technologies, digital twins and complex system simulation**

**Session Name: Combustion development I (gas, methanol, hydrogen, ammonia)**

Session Organizer:  
Ioannis Vlaskos (WinGD)  
Mingfa Yao (Tianjin University)

ID	Abstract Title	Name	Company
41	Verification of a CFD model on hydrogen combustion in a large marine two-stroke engine	Yudai Abe	Mitsui E&S
156	Numerical and experimental analysis of gas DI operation on a medium speed dual fuel marine engine	Jules Christopher Dinwoodie	University of Rostock
197	CFD simulations of prechamber gas engines with temporal adjustment of turbulent flame speed	Azusa Fuse	Mitsubishi Heavy Industries
281	CFD simulation of hydrogen combustion in an optical engine, focus on thermodynamical differences	Evelyn Flesch	Technical University of Munich
386	Numerical simulation of heavy-duty hydrogen direct injection (H <sub>2</sub> DI) engine combustion using a hybrid	Youngchul Ra	Michigan Technological University

**Day: Monday**  
**Time: 16:20 – 18:00**



**Topic 17:****Simulation technologies, digital twins and complex system simulation****Session Name:****Combustion development II (gas, methanol, hydrogen, ammonia)**

Session Organizer:  
Ioannis Vlaskos (WinGD)  
Mingfa Yao (Tianjin University)

ID	Abstract Title	Name	Company
79	Numerical study on hydrogen-diesel and ammonia-diesel combustion in internal combustion engines	Kenji Hiraoka	Yanmar Holdings
290	Predicting ignition delay in dual-fuel marine engines using methanol or hydrogen	Somayeh Parsa	Ghent University
463	High-fidelity combustion modeling of aqueous ammonia / hydrogen blends in dual-fuel engine experiments	Harsh Darshan Sapra	University of Wisconsin-Madison
475	Parametric investigation of hydrogen-diesel combustion for a marine medium-speed dual fuel engine	Gerasimos Theotokatos	University of Strathclyde
524	A computational study of methanol combustion chemistry at high pressures	Lambros Kaiktsis	University of Doha for Science and Technology

**Day:** **Wednesday**

**Time:** **16:20 – 18:00**

## Topic 18: Mechanics, materials and coatings

### Session Name: Mechanics, materials and coatings

Session Organizer:

Alexander Leitner Audou (Innio Waukesha Gas Engines)

Tero Frondelius (Wärtsilä)

ID	Abstract Title	Name	Company
96	"SOFT" sputter bearing, a new solution balancing performance and robustness	Zhifeng Zhang	Miba Precision Components (China)
207	Optimizations of both reliability and thermal efficiency of medium speed diesel engine	Hao Zou	Dalian CRRC Diesel Engine
300	Mechanical development challenges and solutions for alternative fuels	Martin Rustler	AVL List
390	Enhanced reliability of composite pistons: A study on fretting damage	Yihu Tang	SMDERI
466	1st methanol generation of valve spindles and seat ring for newbuildings and retrofit	Janis Kimm	Märkisches Werk

**Day: Tuesday**

**Time: 11:20 – 13:00**

## Topic 19: Visualizations

### Session Name: Hydrogen

Session Organizer:  
Gerhard Pirker (LEC)  
Long Liu (Harbin University)

ID	Abstract Title	Name	Company
60	Optical visualization of performance-limiting combustion phenomena in marine and stationary hydrogen engines	Sven Ole Deist	Technical University of Munich
269	Ignition and combustion behaviour of H <sub>2</sub> / CH <sub>4</sub> blends at conditions relevant for large engines	Silas Wüthrich	University of Applied Sciences and Arts Northwestern Switzerland
438	Effect of turbulence intensity on the spray statistical variation under marine engine-like condition	An Chen	Harbin Engineering University
451	Hydrogen engines for power generation: How to overcome the limitation posed by combustion anomalies?	Nicole Wermuth	Graz University of Technology
490	Fundamental study for development of diesel-cycle type hydrogen engine	Satoshi Kawauchi	National Institute of Maritime, Port and Aviation Technology

**Day: Monday**

**Time: 16:20 – 18:00**

## Topic 19: Visualizations

### Session Name: Ammonia and methanol

Session Organizer:  
Gerhard Pirker (LEC)  
Long Liu (Harbin University)

ID	Abstract Title	Name	Company
106	Visualizing ammonia combustion: From laminar flames to engine application	Marc Klawitter	Graz University of Technology
117	Characterization of ammonia sprays in a constant volume chamber under CI Engine relevant conditions	Fahad Almatrafi	King Abdullah University of Science and Technology (KAUST)
313	Optical study of spray and combustion in dual direct-injection: Methanol-diesel vs. ammonia-diesel	Haoqing Wu	ShangHai JiaoTong University
400	Study on methanol spray impingement and combustion under high temperature and high pressure	Fan Zhang	Tianjin University
501	Ammonia pre-chamber engine combustion with online ammonia cracking	Jiuling Sun	Tianjin University

**Day:** Thursday

**Time:** 11:20 – 13:00

## Topic 20: Operators' perspective

### Session Name: Safety aspects of new & alternative fuels

Session Organizer:  
Dirk Bergmann (Accelleron)  
Christopher Stoos (Southwest Research Institute)

ID	Abstract Title	Name	Company
47	A technical review of state-of-the-art alternative fuel supply system for marine engines	Huan Tu	Wuhan Rules and Research Institute, China Classification Society
56	Development of supply and safety system for hydrogen in two-stroke marine diesel engine	Ryosuke Ishibashi	Mitsui E&S Co.
212	Operation of Diesel and Otto cycle ammonia engine, treatment and safety systems	Seungpil Lee	HD Korea Shipbuilding & Offshore Engineering
415	The path to zero: A safe deployment of ammonia as maritime fuel	Martin Eriksen	Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping
220	Experimental study of dispersion characteristics of ammonia under various humidity conditions	Dongguk IM	Korean Register

**Day:** Thursday  
**Time:** 11:20 – 13:00

## Topic 20: Operators' perspective

### Session Name: Power-gen

Session Organizer:  
Dirk Bergmann (Accelleron)  
Christopher Stoos (Southwest Research Institute)

ID	Abstract Title	Name	Company
73	Flexible operation of gas engines for grid power stability and carbon neutrality	Yohei Tsuji	Kawasaki Heavy Industries
175	ICE's in the future energy landscape with increased renewables	Martial Claudepierre	Wärtsilä
215	Development of an automatic generation scheduling system aimed at efficient operation of power plant	Masahiro Morimoto	IHI Power Systems
95	Successful demonstration of decarbonization through hydrogen blending in power plant engines	Fredrik Östman	Wärtsilä
6	Advancements and pathways for hydrogen and ammonia in maritime applications: A technical simulation	Sadi Tavakoli	SINTEF

**Day:** Monday  
**Time:** 13:40 – 15:20

# CIMAC Congress Technical Tours 2025

## Tour 1 (08:30 – 16:30)

- WinGD / Burkhardt Compressions / Kistler / HUG Engineering /



- [Details on cimaccongress.com](https://www.cimaccongress.com)

## Tour 2 (07:30 – 13:30)

- Accelleron & Libs



- [Details on cimaccongress.com](https://www.cimaccongress.com)

## Tour 3 (09:30 – 15:00)

- Duap



- [Details on cimaccongress.com](https://www.cimaccongress.com)

**Technical Tours have to be booked two weeks in advance of the Congress, to allow all companies to prepare accordingly. The number of tickets is limited.**

**[Register here!](https://www.cimaccongress.com)**

**Day: Friday**  
**Time: 07:30 – 15:30**

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ZURICH, MAY 19 – 23, 2025