

CALL FOR PAPERS



CIMAC CONGRESS

HELSINKI | JUNE 6-10, 2016

Meeting the Future of Combustion Engines 28th CIMAC WORLD CONGRESS

Combustion Engine Technology for
Ship Propulsion | Power Generation | Rail Traction



CALL FOR PAPERS

Share Combustion Engine Technology Insights and Innovations

The organizers of the **28th CIMAC World Congress on Combustion Engines** sincerely invite you to present your latest developments and technologies focusing on all aspects of the energy conversion process as well as your experience with engines and plants in operation.

The CIMAC Congress is scheduled for **6–10 June 2016 in Helsinki, Finland**. The first four days technical programme will take place in the famous Finlandia Hall congress and event venue located in the heart of Helsinki.

The Congress is devoted to the presentation of papers in the fields of marine, power generation and locomotive engine research and development covering state-of-the-art technologies as well as the application of such engines. Moreover, the event provides the unique opportunity to meet colleagues and customers from the industry around the world.

The Technical Programme Committee of CIMAC invite offers of papers for publication and presentation at the Congress, on subjects related to topics chosen for the event and described on the following pages.

We are looking forward to receiving your contribution and seeing you at the CIMAC Congress 2016 in Helsinki.



A handwritten signature in black ink that reads "Dekena".

Marko Dekena

CIMAC Vice-President
Technical Programme

AVL List,
Austria



A handwritten signature in black ink that reads "Paolo Tonon".

Paolo Tonon

CIMAC Vice-President
Technical Programme

Maersk Maritime Technology,
Denmark



Overview Topics 2016

- 1** Product Development – Diesel Engines
- 2** Product Development – Gas & Dual Fuel Engines
- 3** Fuel Injection & Gas Admission
- 4** Turbochargers & Air-/Exhaust Management
- 5** Components & Tribology
- 6** Controls & Automation
- 7** Exhaust Gas Aftertreatment
- 8** Basic Research & Advanced Engineering
- 9** System Integration & Optimization
- 10** Fuels, Lubricants & Fluid Technologies
- 11** Users' Aspects, Maintenance & Monitoring – Marine Applications
- 12** Users' Aspects, Maintenance & Monitoring – Land-based Applications

Submission of Abstracts

We welcome abstracts for the proposed topics until **June 26th, 2015**. The abstracts (300 to 750 words) shall outline the major content of the final paper and incorporate new information not previously published. The session organizers will review all abstracts to assess their suitability for presentation.

The abstracts are to be submitted electronically via the 'Electronic Paper System'. In order to avoid technical problems, please do not use any special characters or formulas. Please register here and follow the instructions given:

www.cimaccongress.com/call_for_papers

The acceptance notification will be sent to the authors by **October 23rd, 2015** at the latest.

As for previous CIMAC Congresses special Poster Sessions will be offered. In case authors are interested more in a poster than in regular presentations, this can be chosen already during the abstract phase.

Upon acceptance the author in charge will receive the 'Instructions for Authors'. These instructions describe in detail the procedure of communication with the reviewers, the layout and presentation of the papers as well as rules regarding publication.

Full-length papers for posters as well as presentations shall be submitted via the 'Electronic Paper System' not later than **January 6th, 2016**.

Detailed information on submission of papers will be announced at the CIMAC Congress website.

TOPICS

TOPIC 1

Product Development – Diesel Engines

- New design & development of slow speed, medium speed & high speed engines
- Improvement of existing products (two stroke / four stroke)
- Design features for performance and operating cost improvement
- Emission abatement via combustion system improvements

TOPIC 3

Fuel Injection & Gas Admission

- Diesel injection systems
- Gas injectors and mixing devices
- Liquid fuel systems and components
- Gas systems and components
- Mixture formation and its impact on engine performance

TOPIC 5

Components & Tribology

- Pistons, rings & liners
- Bearings, gears and other components
- Crankshafts
- Vibration damper, elastic coupling & suspension
- Tribology of engine components, friction & wear reduction
- Lubrication systems for combustion engines

TOPIC 2

Product Development – Gas & Dual Fuel Engines

- Development of new 2- and 4-stroke engines and new applications
- Design features for performance and operating cost improvement
- Thermodynamics, combustion and control schemes
- Emission abatement via combustion system improvements

TOPIC 4

Turbochargers & Air-/Exhaust Management

- Fundamental development (thermodynamics, aerodynamics/CFD, mechanics, advanced design, components and materials)
- Charging system (single- and two-stage, sequential, intercooling, hybrid, flexibility and variability)
- Operating & service experience

TOPIC 6

Controls & Automation

- Diesel and gas engine control
- Monitoring and diagnostics
- Control of hybrid systems
- Model based control
- 'Smart' components/sub systems



TOPIC 7

Exhaust Gas Aftertreatment

- Secondary exhaust emission reduction technologies
- New developments in catalytic converters & filter technologies
- Regenerative thermal oxidation, scrubber technologies

TOPIC 9

System Integration & Optimization

- New Systems development (incl. Engines, Transmission, Propulsion, Waste Heat Recovery, Power take-off)
- Innovative energy transmission systems (incl. hybrid designs and fuel cells)
- Total Systems Optimization
- Machinery room architectures
- Integration of engine with electrical control systems and heat recovery technologies
- Cogeneration and Combined cycles incl. power turbines

TOPIC 11

Users' Aspects, Maintenance & Monitoring – Marine Applications

- Impact of the regulatory environment seen from a user's perspective (e.g. emissions, new fuels, abatement technologies)
- Traditional vs. new technology for monitoring operation (e.g. cylinder condition monitoring, fuel management systems)
- Engine aspects in terms of operation on different fuels

TOPIC 8

Basic Research & Advanced Engineering

- General areas of research applying advanced analysis tools
- New concepts for the entire engine system
- Thermodynamics & heat transfer
- Fluid dynamics & spray dynamics
- Engine dynamics, mechanical & thermal stress
- Noise & vibration

TOPIC 10

Fuels, Lubricants & Fluid Technologies

- Lubrication (formulation, changes & additives, internal friction like hydrodynamics)
- Fuels & Fuel Alternatives and interaction with the engine
- Fluid technologies to facilitate the use of oils, fuels and cooling water

TOPIC 12

Users' Aspects, Maintenance & Monitoring – Land-based Applications (Power Generation, CHP, Oil & Gas, Rail etc.)

- Users' viewpoints
- Service & maintenance experience
- Engine operation (dual-fuel, renewable fuels, special gases, biomass, etc.)

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