CALL FOR PAPERS

CIMAC CONGRESS 19

VANCOUVER, JUNE 10-14, 2019

Meeting the Future of Combustion Engines

29th 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 **29th 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 **10–14 June 2019 in Vancouver, Canada.** The first four days of the technical programme will take place in the famous Vancouver Convention Centre East located in the heart of Vancouver.

The Congress is devoted to the presentation of papers in the fields of marine, power generation and locomotive engine research & development covering state of-the-art technologies as well as the application of such engines. The latter includes in particular the operators' point of view, dedicated with a separate topic in order to get feedback from the field on both the lessons to be learned as well as ideas for future developments. Additionally, the event provides a unique opportunity to meet colleagues and customers from the industry around the world.

The Technical Programme Committee of CIMAC invites 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 2019 in Vancouver.

Marko Dekena
Vice President
Technical Programme
AVL List, Austria

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Overview Topics 2019

Intelligent Power Systems / Shipping 4.0

- Digitalization and Connectivity – What it means to different applications
- System Integration, Electrification and Hybridization – for Rail, Power, and Marine applications
- Electronic Support – Controls, Automation, Measurement & Monitoring

Towards Zero Emissions

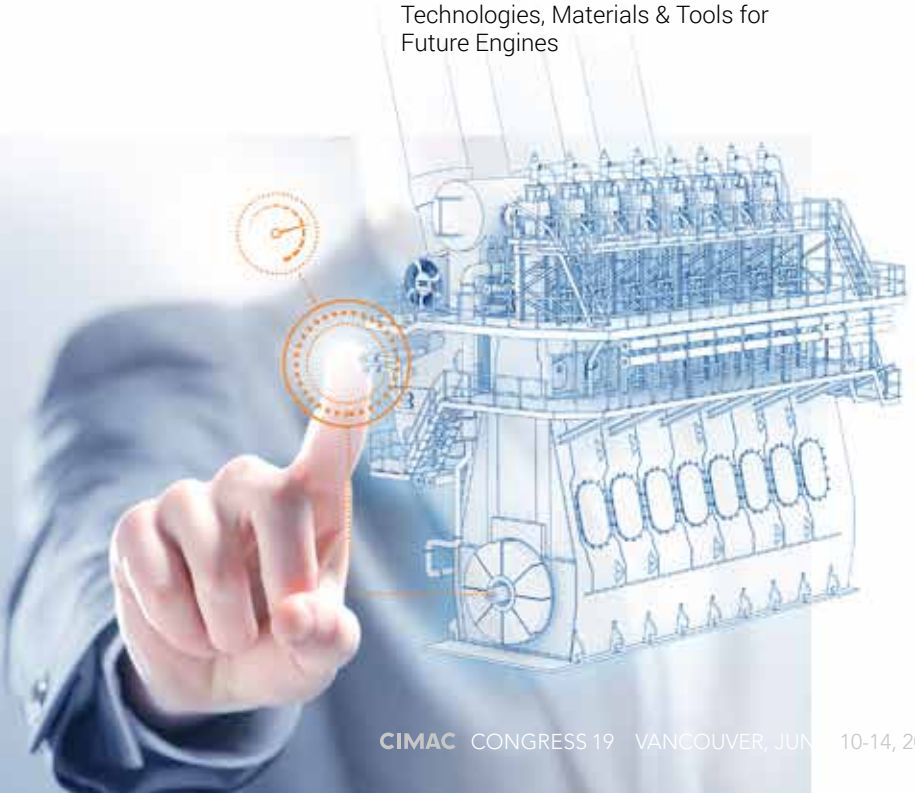
- Emission Reduction Technologies – What's in store for the future
- Low Carbon Combustion – What are the alternative fuels for the future
- Sulphur Cap 2020 – Strategies to deal with regulatory requirements

Operators' Voice

- Case Studies from Operators – Lessons to be learned
- Future Challenges and Ideas for Future Developments – Regulations, Environment, Global Trends

Enhancing Proven Technologies

- New Engine Developments
- Latest Engine Component Developments
- Basic Research & Advanced Engineering – Technologies, Materials & Tools for Future Engines



Submission of Abstracts

We welcome abstracts for the proposed topics until **August 10, 2018**. 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'. 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 23, 2018** at the latest.

As at previous CIMAC Congresses, special poster sessions will be offered. In case authors are interested in a poster session rather than in a regular presentation, this can be indicated during the abstract phase.

Upon acceptance the 'Instructions for Paper phase' will be sent to all authors in charge of a submission. 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 presentations as well as posters shall be submitted via the 'Electronic Paper System' not later than **February 6, 2019.**

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

Intelligent Power Systems / Shipping 4.0

New innovations in digitalization, a growing demand among operators for greater efficiency, speed and transparency, and an urgent need to trim costs using new methods, the industry appears ready for a digital transformation at the heart of many of its processes. The three topics addressed are considered to play a relevant role regarding efforts to create 'intelligent power systems', be it by means of digitalization, using hybridization, or through the use of software and hardware to optimize the system.

Digitalization and Connectivity

What it means to different applications

Inviting papers describing case studies, novel projects as well as new research, both technological and regulatory, in areas involving digitalization in shipping, power generation and rail traction. This includes big data, IoT (Internet of Things), autonomous and unmanned engine applications such as locomotives, mining vehicles, power plants and ships, as well as condition-based maintenance and related topics.

System Integration, Electrification and Hybridization

For Rail, Power, and Marine applications

Papers are solicited from system integration and optimization topics including, but not limited to, the physical and functional integration of systems and equipment, hybridization and electrification and similar related areas of work for an optimum total efficiency.

Electronic Support

Controls, Automation, Measurement & Monitoring

Current trends of combining control systems theory with software/communication technologies, as well as new developments in mechatronics, robotics, autonomous systems, unmanned systems, cyber physical systems, and network-controlled systems. This includes conventional methods of measuring and monitoring in order to make data available for system optimization.

Towards Zero Emissions

The Zero Emissions vision will be a game-changer for global maritime transport allowing it to meet the IMO sustainability goals, as well as for power generation and rail traction to meet the Paris Agreement's aim. This includes not only the topic of decarbonization, but also the classic topics of emission reduction.

Emission Reduction Technologies

What's in store for the future

Identifying the drivers that need to be in place to make them a competitive solution for lowering emissions, papers are invited from research and project areas that deal with the reduction of engine emissions. This includes but is not limited to engine control methods such as EGR and combustion optimization, after-treatment technologies such as SCR and NOx absorbers, Lean NOx Trap (LNT), Diesel Oxidation Catalysts (DOC), new and improved substrate technology, and diesel and gasoline particulate filters.

Low Carbon Combustion

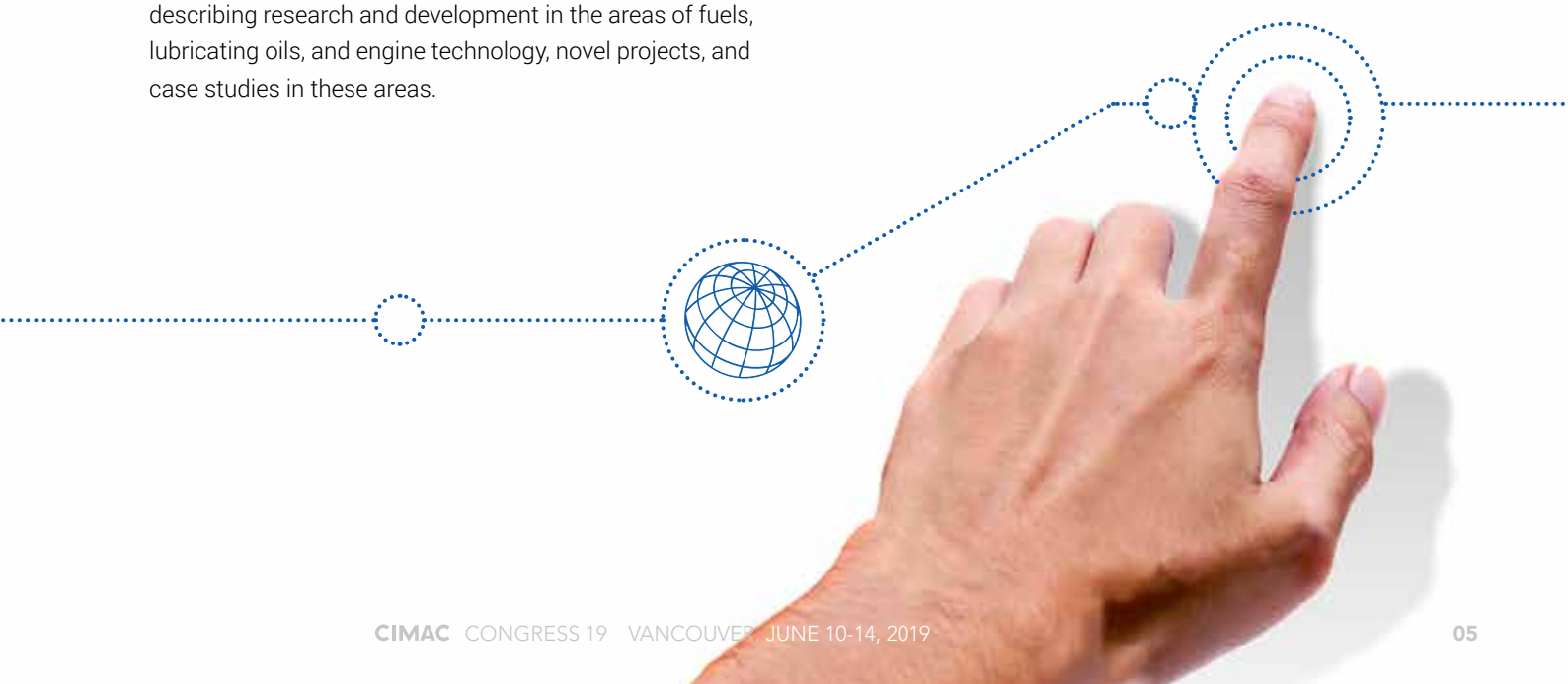
What are the alternative fuels for the future

A decarbonized world still needs power from combustion engines – but the option of burning fossil fuels is unsustainable, i.e. we have to look for fuels which serve as a substitute for fossil oil sources in the energy supply chain, and to offer bridge technologies on our way towards mission 2050. Those alternative fuels will enable us to strongly reduce greenhouse gases as well as emissions of SOx, NOx, and PM. Papers are invited from research and project areas that deal with Liquefied Natural Gas (LNG), Liquefied Petroleum Gas (LPG), Methanol and Ethanol, Di-Methyl Ether (DME), Synthetic fuels, Biodiesel and renewable Diesel, Biogas, Hydrogen and/or other novel alternatives such as Power-to-X-technologies.

Sulphur Cap 2020

Strategies to deal with regulatory requirements

IMO regulations now call for a global fuel sulphur limit of 0.5%, which will enter into force in 2020. This would mean a landscape change in shipping, as technological measures and fuel supply chains explore how to provide best strategies and solutions to meet the new regulations. Session organizers are inviting papers describing research and development in the areas of fuels, lubricating oils, and engine technology, novel projects, and case studies in these areas.



Operators' Voice

Experience from the field is what completes the feedback loop to manufacturers and systems integrators. Feedback from ship, rail, and power plant operators on engine and system developments and trends, service experience, aspects of machinery management and maintenance, emissions requirements compliance, etc.

Case Studies from Operators

Lessons to be learned

This topic addresses experiences from current technologies on land and at sea, including but not limited to optimization of total cost of ownership/operation and system reliability in both design and operation. Share this with a broad audience, e.g. of R&D people from all major engine manufacturers.

Future Challenges and Ideas for Future Developments

Regulations, Environment, Global Trends

Besides your current or past experiences, you may be aware of challenges to your business from upcoming or planned regulations, environmental requirements, global trends, fleet modernization, or engine upgrades. Share with us your wishes for future developments – what do you need from the industry to enable you to meet the challenges.

Enhancing Proven Technologies

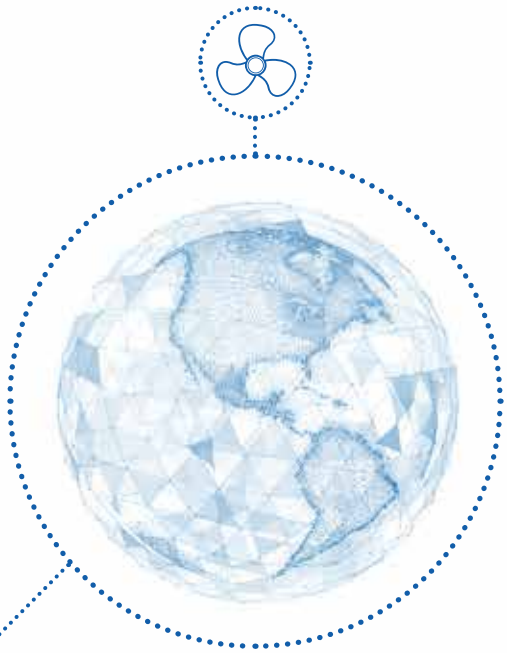
Engine research and development remains at the heart of our focus, and Congress 2019 will keep up the tradition. Inviting technical papers on new engine as well as component developments and trends, service experience, important aspects of engine management and maintenance, and other related topics including basic research & advanced engineering.

New Engine Developments

We welcome technical papers on new engine developments for conventional and alternative (gaseous and liquid) fuels. Recent trends show growing market opportunities for gas and dual fuel engines, but also new technologies for decreasing emissions on traditional diesel engines, which are not yet at the end of their lifecycle, are still developed. The CIMAC Congress offers a platform for presenting latest technology steps in this area.

Latest Engine Component Developments

An efficient engine is based on high-quality components including (but not limited to) topics such as tribology, lubricants, fuel filtration, fuel injection & gas admission, turbochargers & air-/exhaust management, etc.



Basic Research & Advanced Engineering

Technologies, Materials & Tools for Future Engines

basic research & advanced engineering in relation to engine development is the foundation for all the above-mentioned topics. Technical papers are invited from but not limited to fundamental research fields such as technical combustion, new simulations / simulation models, development of new concepts, new fuel & emission systems including aftertreatment technologies and materials, new measurement techniques, and basic studies.

Contact us

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