

13TH EUROPEAN FLUID MACHINERY CONGRESS LEVERAGING THE LATEST TECHNOLOGY TO TACKLE ENGINEERING CHALLENGES

Institution of
**MECHANICAL
ENGINEERS**

3-4 October 2016
Bilderberg Europa Hotel
Scheveningen, The Hague

Conference

Conference dinner – 3rd October
Meet and Network at the end of Day 1



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13TH FLUID MACHINERY CONGRESS

3-4 October 2016, Bilderberg Europa Hotel Scheveningen, The Hague



THE RENOWNED 13TH EUROPEAN FLUID MACHINERY CONGRESS RETURNS TO THE HAGUE TO HIGHLIGHT THE LATEST DEVELOPMENTS IN FLUID MACHINERY FROM EUROPE AND ACROSS THE GLOBE.

You will learn about the latest technology, including CFD, to take cost-efficient strategies to your business to tackle core engineering challenges.

This event is a unique opportunity to share your insight and learn from other fluid machinery projects in various stages of implementation. Learn from key experiences in design, operation and maintenance with leaders from across sectors including oil and gas, nuclear and water.

Committee:

- Arie Aartsen, Technical Representative, **ArtsenCrafts BV**
- Robert Brown, Head of Engineering, **Sulzer**
- Harald Carrick, Consultant, **Process Industry Machinery Expertise (PRIME)**
- Frits de Jongh, Operations Manager, **EthosEnergy**
- Ahmed Kovacevic, Professor, **City University London**
- John Middleton, **Rotating Machinery Engineer**
- Ivor Rhodes, Consultant, **ACE Cranfield**
- Stephen Shaw, Group Engineering Director, **AESSEAL plc**
- Jans Smeulers, **TNO Science and Industry**
- Pharic Smith, **Sulzer**
- Andrew Walker, Machines Engineer, **SABIC**
- Simon Whatley, Director, **Mech2o Engineering Ltd**

Day 1 Highlights:

- **SABIC UK Petrochemicals** share lessons learned when investigating the catastrophic failure of a barrel type centrifugal compressor
- Get perspectives from **Technip** on technical evaluations of centrifugal compressor bids for oil and gas projects
- Insights on gas compressor re-rate and process solutions through engineering and collaborations, presented by **Weir Group**
- Hear successful and effective uses of AP682 Plan 53B Barrier fluid systems from **AESSEAL plc**, with particular focus on operating climates with large ambient temperature changes

Day 2 Highlights:

- **James Fisher Defence** detail the latest regulatory compliance requirements for engineers and fluid machinery manufacturers
- An Aero-Acoustic analysis of a low-pressure centrifugal compressor stage, presented by **TNO**
- **Safran Labinal Power Systems** detail their estimations of instability critical velocities of fluid-conveying pipes
- Hear the results of combining CFD, FEA and scripting for efficient oil vane pump integrity assessment from **Code Product Solutions**

Why Attend?

- Hear over 20 presentations led by representatives from over 7 countries, including The Netherlands, Germany, Singapore and Algeria
- Gain valuable insights from academia, multinational companies, legal professionals and more
- Join the dedicated conference dinner and network with fluid machinery specialists at an international level
- Meet and share experience with senior industry professionals covering the design, operation and maintenance of fluid machinery

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WWW.IMECHE.ORG/FLUIDMACHINERYCONGRESS

PROGRAMME

DAY 1 03 OCTOBER 2016

- 08:30 REGISTRATION AND REFRESHMENTS**
- 09:00 CHAIR'S OPENING REMARKS**
- 09:10 PERSPECTIVES ON TECHNICAL EVALUATION OF CENTRIFUGAL COMPRESSOR BIDS FOR OIL AND GAS PROJECTS**
Mounir Mossolly, Technip, France
- 09:35 GAS COMPRESSOR RE-RATE AND PROCESS SOLUTIONS THROUGH ENGINEERING AND COLLABORATIONS**
Barry Hall, Weir Group
- 10:00 LASER-POWER-CLADDING AS RECONDITIONING TECHNOLOGY FOR HIGH VALUE PARTS**
Dr. Florian Wagner, Gall & Seitz Systems GmbH, Germany
- 10:25 INVESTIGATION AND REPAIR OF A CATASTROPHIC FAILURE OF A BARREL TYPE CENTRIFUGAL COMPRESSOR**
Andrew Walker, SABIC UK Petrochemicals, UK
- 10:50 QUESTION AND ANSWER SESSION**
- 11:05 NETWORKING REFRESHMENT BREAK**
- 11:35 COMPUTATIONAL ANALYSIS OF THE EFFECTS OF MANUFACTURING TOLERANCES ON THE PERFORMANCE OF A REGENERATIVE LIQUID RING PUMP**
Nilla-Helene Karlsen-Davies, Lancaster University, UK
- 12:00 CFD ANALYSES AND CHARACTERIZATION OF A SMALL MODEL OF WATER BULB TURBINE**
Dr. Adel Ghenaiet, University of Sciences and Technology, Algeria
- 12:25 SIMULATIONS OF FLOWS IN A CONTRA-ROTATING AXIAL FAN**
Dr. Adel Ghenaiet, University of Sciences and Technology, Algeria
- 12:50 QUESTION AND ANSWER SESSION**
- 13:05 NETWORKING LUNCH**
- 14:05 TRUE INNOVATION IN AIR COMPRESSION**
Jenny Rohde, Lontra Ltd, UK
- 14:30 DESIGN, ANALYSIS AND PERFORMANCE OF TWIN-SCREW STEAM EXPANDERS IN INDUSTRIAL APPLICATIONS**
Marco Iezzi, City University London, UK
- 14:55 DEVELOPMENTS IN PTFE FACED THRUST BEARINGS FOR USE IN VERTICAL PUMP APPLICATIONS**
Steve Dixon, Michell Bearings Ltd, UK
- 15:20 QUESTION AND ANSWER SESSION**
- 15:35 NETWORKING REFRESHMENT BREAK**
- 16:05 REVOLVING VANE: A NOVEL POSITIVE DISPLACEMENT COMPRESSING MECHANISM FOR COMPRESSORS AND PUMPS**
Dr. Kim Tiow Ooi, Nanyang Technological University, Singapore
- 16:30 A COMPACT WATER-INJECTED SCREW COMPRESSOR WITH HIGH VOLUMETRIC EFFICIENCY**
Oleg Dmitriev, Vert Rotors UK Ltd, UK
- 16:55 QUESTION AND ANSWER SESSION**
- 17:05 CHAIR'S CLOSING REMARKS**
- 17:15 END OF DAY ONE**
- 19:00 CONGRESS NETWORKING DINNER**

For the most up-to-date and detailed programme for the event, please visit www.imeche.org/fluidmachinerycongress

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

PROGRAMME

DAY 2 04 OCTOBER 2016

08:30	REGISTRATION AND REFRESHMENTS
09:00	CHAIR'S OPENING REMARKS
09:10	THE EFFECTIVE USE OF API 682 PLAN 53B BARRIER FLUID SYSTEMS FOR IMPROVED PUMP SEAL RELIABILITY IN CLIMATES WITH LARGE AMBIENT TEMPERATURE CHANGES Richard Jonathan Smith, AESSEAL plc, UK
09:35	NUMERICAL MODELLING OF LIQUID SCREW PUMPS USING COMPUTATIONAL FLUID DYNAMICS Prof. Ahmed Kovacevic, City University London, UK
10:00	ANALYSIS OF AERODYNAMIC PERFORMANCE OF AN HP AXIAL TURBINE Dr. Adel Ghenaïet, University of Sciences and Technology, Algeria
10:25	QUESTION AND ANSWER SESSION
10:40	NETWORKING REFRESHMENT BREAK
11:10	EXPERIMENTAL AND NUMERICAL ESTIMATION OF INSTABILITY CRITICAL VELOCITIES OF PIPES CONVEYING FLUID Dr. Hayder Yousif Ahmad, Safran Labinal Power Systems, UK
11:35	AERO-ACOUSTIC ANALYSIS OF A LOW-PRESSURE CENTRIFUGAL COMPRESSOR STAGE Nestor Gonzalez Diez, TNO, The Netherlands
12:00	COMBINING CFD, FEA AND SCRIPTING FOR EFFICIENT OIL VANE PUMP INTEGRITY ASSESSMENT Christopher Lynch, Code Product Solutions, The Netherlands
12:25	QUESTION AND ANSWER SESSION
12:40	NETWORKING LUNCH
13:40	REVERSE ROTATION OF COMPRESSORS AND PUMPS Harald Carrick, Process Industry Machine Expertise Ltd, UK
14:05	COMPACT INLINE GAS COMPRESSOR/BOOSTER Dr. Alexander Fedotov, TPG Design & Technology, UK
14:30	NUMERICAL ANALYSIS OF THE INFLUENCE OF DESIGN TOLERANCE ON OIL JET SIZE FOR ROTOR SHAFTS IN AN AEROSPACE ELECTRIC GENERATOR Dr. Hayder Yousif Ahmad, Safran Labinal Power Systems, UK
14:55	QUESTION AND ANSWER SESSION
15:10	NETWORKING REFRESHMENT BREAK
15:40	SYSTEM DYNAMIC SIMULATIONS TO PREVENT FAILURE IN CENTRIFUGAL COMPRESSORS DUE TO SURGE AND ROTATING STALL Jan Smeulers, TNO, The Netherlands
16:05	ASSESSMENT OF AN ELECTRO-MECHANICAL DIFFERENTIAL SYSTEM PROVIDING VARIABLE SPEED TO INDUSTRIAL APPLICATIONS Maximilian Hehenberger, SET GmbH, Austria
16:30	REGULATORY COMPLIANCE - A WORKING GUIDE FOR ENGINEERS AND FLUID MACHINERY MANUFACTURERS Nick Andrew Ahens, James Fisher Defence, UK
16:45	CHAIR'S CLOSING REMARKS
17:00	END OF CONFERENCE

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WHO SHOULD ATTEND THE 13TH FLUID MACHINERY CONGRESS?

ALL PROFESSIONALS WHO ARE INVOLVED IN THE DESIGN, OPERATION, MAINTENANCE AND MANAGEMENT OF FLUID MACHINERY WILL BENEFIT FROM THE 2016 CONGRESS.

In particular, all Heads, Directors, Managers and Engineers with the following specialisms are strongly recommended to join the Fluid Machinery Congress:

- Design and Development
- Research and Development
- Inspections
- Health and Safety
- Maintenance and Repair
- Modelling, Simulation and Testing
- Prototyping
- Analysis
- Risk

Over 94% of previous attendees would recommend a colleague or industry peer to attend Fluid Machinery Congress, book your pass today

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Attendee feedback from the 12th European Fluid Machinery Congress in Edinburgh

“““

The event provided a valuable insight into industrial experience and current research into the improvement & understanding of fluid machinery

Lancaster University

“““

Excellent event, with good papers

Aramco Overseas

“““

Very well organised event with very interesting presentations given by excellent presenters

Torishima Europe Limited

“““

...first-hand experience on real problems & solutions that worked

Vert Rotors

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HOW TO BOOK YOUR PLACE

FEES AND CHARGES

Registration fees include entry to the sessions, refreshments, and a copy of selected presentations.

Delegate Type	Early Bird Rate Available until 12 August 2016	Standard Rate
Member, IMechE/ Supporting Organisation. Conference and Dinner	£649 + VAT	£719 + VAT
Member, IMechE/ Supporting Organisation. Conference only	£599 + VAT	£669 + VAT
Non-member. Conference and Dinner	£749 + VAT	£829 + VAT
Non-member. Conference only	£699 + VAT	£779 + VAT
Student/Retired. Conference and Dinner	£349 + VAT	£349 + VAT
Student/Retired. Conference only	£299 + VAT	£299 + VAT
Presenting author. Conference and Dinner	£449 + VAT	£449 + VAT
Presenting author. Conference only	£399 + VAT	£399 + VAT

Group discounts are available - contact us for more details

THREE WAYS TO BOOK

- 1 Online:
www.imeche.org/fluidmachinerycongress
- 2 Email:
eventenquiries@imeche.org
- 3 Phone:
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Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

CONDITIONS OF BOOKING

Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

SPECIAL REQUIREMENTS

Please inform us of any special requirements, ie dietary or access, on the relevant section of this form.

CANCELLATION

For a refund (minus £25+VAT admin charge), cancellations must be received at least 30 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full refund of the fee paid. The Institution is not responsible for any

loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. The Institution shall assume no liability whatsoever if this event is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable, illegal or impossible. For the purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labour strike, extreme weather or other emergency. Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organisers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. The Institution reserves the right to alter or modify the advertised speakers and/or topics if necessary without any liability to you whatsoever. Any substitutions or alterations will be updated on the event's webpage as soon as possible.

LIABILITY

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

CONFERENCE VENUE

Bilderberg Europa Hotel Scheveningen
Zwolsestraat 2, 2587 VJ Scheveningen,
The Netherlands

ACCOMMODATION

<http://bit.ly/FMCaccommodation>

SPONSORSHIP & EXHIBITION OPPORTUNITIES

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Attending this event as either an exhibitor or sponsor will give you the opportunity to display your solutions, services and products to the right people at the right time.

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OTHER EVENTS TO LOOK FOR



THE INSTITUTION OF MECHANICAL ENGINEERS' ANNUAL DINNER

17 November 2016

The Dorchester, London

The Institution's Annual Dinner will be returning to The Dorchester Thursday 17 November 2016, to celebrate the engineering profession with keynote address from The Rt Hon Patrick McLoughlin.

www.imeche.org/annualdinner2016

The Institution of Mechanical Engineers organise over 120 events a year, including free to attend lectures as well as conferences, seminars, annual luncheons and dinners. Please visit www.imeche.org/events for the complete list of events.

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