

21st International Conference on **Fluid Sealing**

Milton Keynes, UK
30 Nov – 1 Dec 2011

Registration

Top reasons to attend:

- ✓ Discover the latest technological advances
- ✓ Meet the developers
- ✓ Hear about real field applications
- ✓ Benefit from the experience of others
- ✓ Understand the lessons learned
- ✓ Gain an insight into future directions

Co-sponsored by:



Celebrating the
Conference's
50th
anniversary

Conference at a glance

This, the 21st conference in the series will be celebrating the 50th anniversary of the very first International Conference on Fluid Sealing. At the time this was a groundbreaking event and quite unique and this series still occupies a key position in the calendar acting as a focus for the presentation of papers on all aspects of the very diverse world of fluid sealing.

The range of other events that have been organised on fluid sealing since that time are testament to the foresight of the original organisers.

For this anniversary event we are hosting the Conference in the UK. The pace of technical developments appears to continually accelerate with the arrival of new materials, progress in design and analysis techniques and new methods of manufacture. Many of these materials and techniques were unheard of in 1961. The wide variety of delegates attending this conference from many different disciplines encourage wide ranging discussion that in turn helps to accelerate the generation of further knowledge on the subject.

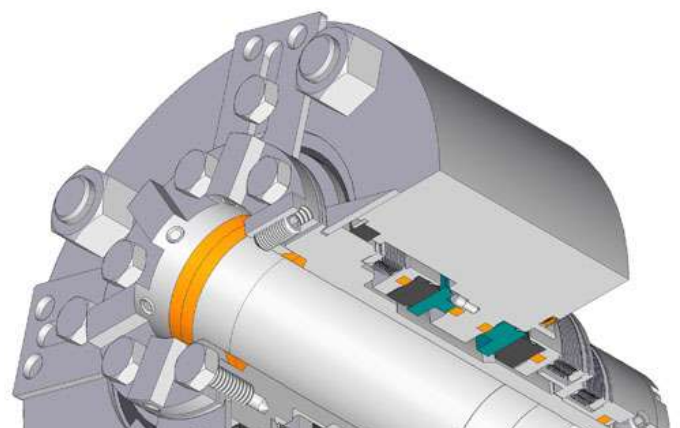
Who should attend?

The Conference will benefit anyone involved in:

- Petrochemical, oil and gas
- Power generation
- Defence & aerospace
- Automotive / Transport
- Paper & pulp
- Pharmaceutical & food
- Metal, mining & mineral extraction industries
- Research & development
- Health and Safety

Language

The language of both the Conference and the published proceedings will be in English.



Venue

The 21st International Conference will be held at Kents Hill Park, located in Buckinghamshire in the UK. Kents Hill Park is a dedicated training and conference centre set in a peaceful location on the outskirts of Milton Keynes, yet within easy access to key road, rail and airport networks. Ideally suited to training courses and conferencing, the quiet, suburban location provides delegates with an environment conducive to learning. Its Recreational facilities include an indoor swimming pool and a fitness room. There is ample free parking for delegates. The site is situated about four miles from the main shopping centre a short taxi-ride away. For more information visit www.kenthillpark.com. Central Milton Keynes train station is 10 minutes away and runs frequent direct trains to London Euston.



BHR Group's activities in Sealing

BHR Group has been a leading centre of expertise in sealing and materials technology since the early 50's. It is at the forefront of modelling and simulation of sealing systems including predictive software for seal life and tribological performance and its engineers regularly contribute to conferences and seminars across a wide range of industrial fields including, aerospace, nuclear, transport and oil and gas.

The company offers a range of services and associated test facilities including design consultancy, failure analysis, components testing, new product development and training courses. In addition it specialises in creating and implementing R&D projects for industry which includes helping companies to raise development funding from both national and EU sources.

Current developments include the use of Nanocoatings to enhance performance of reciprocating seals, Nanoadditives for lubricants, design, development of water based hydraulic systems and combining advanced FEA and molecular modelling of diffusion in elastomers to aid in prediction of rapid gas decompression damage and seal life prediction in harsh environments.

Accommodation

The traditional bedrooms at Kents Hill each have a large work desk and a TV. All rooms have a private bathroom and tea/coffee facilities are also provided. Kents Hill Park Leisure Centre features an indoor swimming pool, sauna, jacuzzi and steam room. There is also a beauty centre, and a fully equipped fitness suite with 2 squash courts.

In room facilities include:

- 300 ensuite bedrooms
- TV, hospitality tray, hairdryer and telephone
- Specifically modified rooms for delegates with special needs
- Secure medical refrigeration facility
- Dry cleaning and laundry facilities
- Self service laundry facility and ironing room
- Free parking (800 spaces)
- BT Openzone

Delegates also have access to:

- Spacious lounge with large screen TV
- Cyber café
- Pool, darts and football table
- 17m swimming pool, steam and sauna
- Gymnasium and squash courts
- Sports hall offering: five-a-side football, volleyball, badminton and a selection of exercise classes
- Oasis beauty room

Delegates are responsible for booking their own accommodation at Kents Hill. However, an allocation of rooms has been reserved. Delegates should also make their reservations directly to the hotel, quoting reference 'BHR Group Fluid Sealing'.

Gala dinner

Admission to the gala dinner is included in the delegate fee. Additional tickets for delegates' partners/guests for the conference dinner are available to purchase from the conference organisers.

Supporting and sponsoring organisations

We are grateful to have the support of the following technical associations and sponsorship from the Elsevier Group through the Sealing Technology Newsletter.



Do you have a product or service to promote and would like to enhance your brand awareness? For details of how BHR Group can tailor a sponsor package to suit your needs, please contact the organisers. There will also be a tabletop exhibition alongside the Conference. Exhibition stands will be limited and prospective exhibitors are strongly advised to register their interest with the organisers at the earliest opportunity.

Acknowledgements

We would like to thank the Technical Advisory Committee, the panel of referees, the sponsors and co-sponsoring organisations for their help and support.

Technical advisory committee

Mr A Bickley
Dr B Ellis
Mr R K Flitney (Chairman)
Mr R Hill
Mr J Middleton
Mr K Monaghan
Dr N Peppiatt
Mr R Currie

James Walker & Co Ltd
European Sealing Association
Sealing Technology
Flowserve
Consulting Engineer
BHR Group Limited
Hallite Seals International Ltd
Flexitallic Ltd

Overseas corresponding members

Professor E F Baur
Mr C Latty
Professor A O Lebeck
Dr K Nakamura
Professor R F Salant
Professor B Tournier
Mr M Werner

President & CEO (Retired) Burgmann Industries, Germany
Latty International SA, France
Mechanical Seal Technology Inc, USA
NOK Corporation, Japan
Georgia Institute of Technology, USA
Université de Poitiers, France
Teadit International GmbH, Germany

Provisional Conference programme

For guidance only and may be subject to change

Wednesday 30 November 2011

Registration
Introduction
Opening Key Note

Session 1: Packing

Chairman: Bob Flitney, Sealing Technology

Mechanical Packing Emissions Test Standards- Which One To Use?

Phil Mahoney - A.W. Chesterton Company, Henri Azibert - A.W. Chesterton Company

The Development of a Standard Test Procedure for Packings in Rotary Applications

David Edwin-Scott - European Sealing Association (ESA) Didier Fribourg - Centre Technique des Industries Mécanique (CETIM)

First analysis of results from tests according to ISO 15848-1

E. Sauger, Y. Birembaut, L. Cougnon, A. Audrain. CETIM

Session 2: Mechanical Seals 1

Chairman: John Middleton, Consulting Engineer

Improving Reactor Coolant Pump Seal Reliability at Dominion Surry Nuclear Power Station

James R. Olliver, Arthur J. Olson, Gerard van Loenhout - Flowserve Corporation

Special split seal design for hydropower turbine

Michel Lefrancois, Stephane Guignard, Jean-Jacques Darque, Laurent Guimet - Garlock France

Design of Mechanical Seals for Hygienic and Aseptic Applications

Göran Anderberg, Huhnseal AB

Session 3: Static Seals

Chairman: Russ Currie, Flexitallic

Formed-in-place gaskets – When reliability in operation meets economic advantage.

Dipl.-Ing. C. Simader, Dipl.-Ing. J.-P. Reibert, Prof. Dr.-Ing. habil. W. Haas, (IMA), Universität Stuttgart

Leaktightness of elastomeric O-rings for the transportation of radioactive material

S.MOMON, R.MARLIER*, D.FRIBOURG**, J.PIOGER**, B.OMNES**, Y.BIREMBAUT*** TN International (AREVA Group), France** CETIM, Technologie de l'Étanchéité*

Long-term Elastomer Seal Tests and their use in Optimising Maintenance Intervals

AF George, EDF Energy

Session 4: Reciprocating Seals

Chairman: Kevin Monaghan, BHR Group

Sealing Water-Based Fluids

N.A. Peppiatt BSc, PhD, CEng, MIMechE - Hallite Seals International Ltd.

FE-Analysis and Optimisation of an oil scraper seal to take up the misalignment of the sliding rod

B. OMNES and Y. GOERGER, CETIM, Centre Technique des Industries Mécaniques, Nantes, France

Effects of metal counter surfaces on friction and wear of polymeric seal materials in hydrogen

Takehiro Morita, Fuminori Sato, Yoshinori Sawae and Joichi Sugimura, Kyushu University (Presenting and corresponding author: J. Sugimura)

Analysis of the lubricant film thickness on rod seals by application of the fluorescence method

Authors: Dipl.-Ing. Bengt Wennehorst, Dipl.-Ing. Tobias Engelke, Prof. Dr.-Ing. Gerhard Poll - Leibniz Universität Hannover, Germany

Thursday 1 December 2011

Session 5: Mechanical Seals 2

Chairman: Bernard Tournier, Poitiers University

Ultra high pressure mechanical seals for CO₂ injection pumps

Mr. Nikolaus Necker / Mrs. Marlene Wieland - EagleBurgmann, Germany

The Effect of Real Gas on the Performance of the Spiral Groove Dry Gas Seal

Song Pengyun - Kunming University of Science and Technology

Session 6: Rotary Shaft Lip Seals

Chairman: Richard Salant, Georgia Institute of Technology

Experimental and theoretical studies on the effect of lip surface roughness on lubrication of radial lip seals

Hirota Mizuta¹) and Joichi Sugimura²)¹)Engineering Research Dept.,NOK CORPORATION, Japan ²)Dept. of Mechanical Engineering, Faculty of Engineering, Kyushu

Modelling Radial Lip Seal Friction – A multi-scale mixed lubrication approach

Authors: Dipl.-Ing. Bengt Wennehorst, Dipl.-Ing. Tobias Engelke, Prof. Dr.-Ing. Gerhard Poll

Experimental study of PTFE-lip seals with spiral grooves

M. CHIAD, A. FATU, M. HAJJAM University of Poitiers

Numerical study of PTFE-lip seals with spiral grooves

Aurelian FATU, Mohamed HAJJAM

Session 7: Mechanical Seals 3

Chairman: Roger Hill, Flowserve

A HYBRID approach to improving mechanical seal face capability

Author & Affiliation: Joseph P. Boylan, Chief Engineer, Morgan Advanced Materials and Technology, Inc. (Morgan AM&T)

Improvement in Sealing Performance and Friction Reduction with Laser Surface Texturing for Mechanical Seal

Y Tokunaga, H Inoue, K Okada, Eagle Industry Co., Ltd., Japan, Y Yamamoto, Kyushu University, Japan

On the roughness induced hydrodynamic pressure in mechanical face seals

Noël Brunetière, Bernard Tournier, Christophe Minet,

Refreshment break

Session 8: Polymer Seals

Chairman: Brian Ellis, European Sealing Association

Strength in Numbers - Why multi-Component Seals may be an Engineer's best defence in hotter, faster applications

Hugh Cook - Bal Seal Engineering

Nano/Micro-scale structural properties of dynamic polymeric seals

Azam Thatte, Zehra Parlak, F. Levent Degertekin and Richard F. Salant , Georgia Institute of Technology

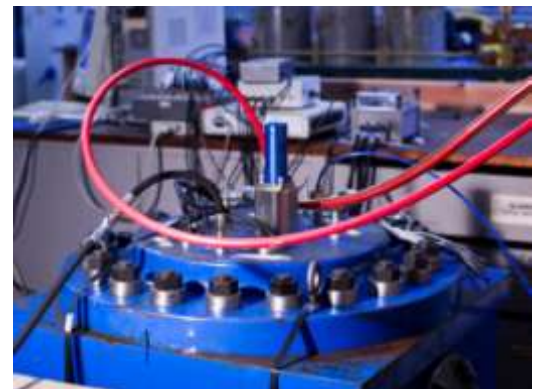
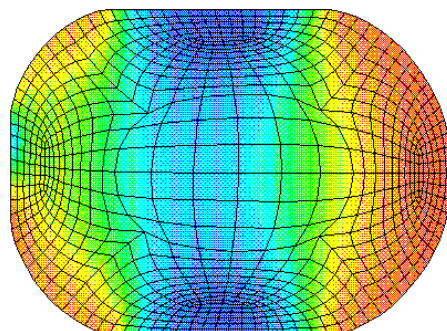
When the customer has a problem. A year in the life of a consultant

R.K. Flitney, Sealing Technology Consultant

Elastomer Compatibility to Intermediate Levels of Ethanol-Gasoline Blended Fuels

Michael D. Kass, Tim Theiss, Chris Janke and Steve Pawel Oak Ridge National Laboratory, J. Tom Chapin, Tom Fabian, H. Yang, and Ken Boyce Underwriters Laboratories

Close of Conference



Conference proceedings

The Conference papers will be professionally published as a soft bound volume, and will include a CD. They will be on sale from BHR Group upon the close of the conference. To purchase additional copies, please contact Joyce Raymond at the BHR Group address, or by email at confx4@bhrgroup.co.uk

Promotional literature service

There is an opportunity for companies to insert promotional literature in the delegate information packs at a cost of £300 + VAT. Material for insertion must be sent directly to BHR Group on or before 28th October 2011. A sample of literature must be sent when making your booking for this service.

Proceedings publicity

Companies may purchase a full page of advertising in the book and CD version of the proceedings. The cost of each page is £300 + VAT. The book is a soft bound volume, produced in Royal Octavo size. As well as being distributed to all attendees of the conference, the proceedings and CD are sold worldwide after the event. Copy must reach the conference organiser by 27th October 2011 to meet the publishing deadline.

Exhibition service

A tabletop exhibition is planned alongside the Conference and the cost of each space is £1500.00 + VAT and includes the following items:

- One exhibition space with one table (5 x 2.5ft) and two chairs (all additional equipment must be provided by the exhibitor)
- Contact details of delegates attending the Conference

And for one person:

- Attendance to all technical sessions
- A copy of the proceedings and CD
- 10 minute presentation slot during the Conference
- Lunch and refreshments daily
- Attendance at the Conference dinner

Organisations wishing to participate as an exhibitor are advised to contact the Conference Organiser.

Registration

The registration fee includes entrance to all technical sessions from 30 Nov – 1 December 2011, a bound book and CD of the conference proceedings, lunch and refreshments daily, and entrance to both the welcome reception and gala dinner. Click in the button below to start your registration now!



Early bird rate (before 30th October 2011)

| | |
|-------------------|----------------|
| Presenting author | £ 742.50 + VAT |
| Delegate | £ 990.00 + VAT |
| Rising star | £ 495.00 + VAT |
| Student..... | £ 495.00 + VAT |

Full registration rate (after 30th October 2011)

| | |
|-------------------|-----------------|
| Presenting author | £ 825.00 + VAT |
| Delegate | £ 1100.00 + VAT |
| Rising star | £ 550.00 + VAT |
| Student..... | £ 550.00 + VAT |

Early bird rate

Applicable to all bookings received with payment on or before 30th October 2011.

Presenting authors

Each presenting author (maximum of 2) is entitled to a 25% discount off the conference fee.

Rising stars

In keeping with its audience, BHR Group wishes to foster recent graduates (within the last 5 years), engineers and managers and encourage their development and interaction with experienced technical managers.

Students

A limited number of places are available for bona fide students at 50% of the full conference fee. Please contact the conference organiser directly to register as a student.

Cancellations

A full refund (minus a £50 administration fee) will be made for cancellations received on or before 1st November 2011. No refunds will be made for cancellations after 1st November 2011; however, substitutions can be made at any time.

Enquiries

If you have any questions or if you need more information about the event, please contact:

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About BHR Group

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