Registration

Reasons to attend:

• Discover the latest technological advances
• Meet manufacturers and suppliers
• Learn about real applications
• Benefit from the experience of others
• Understand the lessons learned
• Gain an insight into future directions

Find out more at:

Organised by:
BHR Group
Ausenco
Aker Solutions
GEHO

Sponsored by:

Exhibitors:
The series of International Conferences on Hydrotransport are unique in their long-standing history of bringing together operators, designers and researchers to discuss themes in this important subject area. In addition, the Conference has been the showcase for many innovations in the application of hydrotransport technology. BHR Group’s 19th International Conference on Hydrotransport will show a renewed emphasis on the very best parts of this technology while focusing heavily on the applications that are the most important:

- Water usage and environmental implications of; mining, mineral processing, oil and gas production and pipeline integrity.
- Using alternative sources of energy to supplant, or at least complement, the use of hydrocarbon resources.
- Developing and testing of new materials that provide improved resistance to wear and corrosion.
- Advancing and deploying powerful computational models.

Warnings of climate change and the need for environmentally responsible, cost-effective and efficient methods of product transportation have placed great demands on industry. Many businesses have met the challenge by utilising more hydrotransport handling of solid/liquid mixtures in pipelines, open channels, long distance pipelines and in-plant transference. This most basic of techniques combines a number of handling advantages with minimum maintenance and low environmental impact. But there is still potential for cost savings, innovative application and transfer of technology and knowledge between different sectors. Industry professionals need to know how to optimise handling techniques, develop and deploy new engineering solutions and see how different sectors have solved complex problems so that new installations can provide an effective return on investment.

Event Introduction

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- Developing and testing of new materials that provide improved resistance to wear and corrosion.
- Advancing and deploying powerful computational models.

Who Should Attend

The conference will benefit engineers from a wide range of industries, research establishments, universities and public authorities, who are seeking novel solutions to materials and transportation problems, and whose responsibilities include slurry handling and transportation.

Pre-Conference Workshop

It is our intention to run a one-day workshop on Tuesday 23rd September 2014. This course will primarily look to give an overview of the technical aspects of the presentations which will be given during the event. If you are interested in attending this course please register your interest with Joyce Raymond: confx3@bhrgroup.co.uk.
Location & Venue

Location

Golden Colorado is a classic American town, with small town charm, world-class recreation, and a major dose of the Old West. Nestled in the foothills of the Rocky Mountains, Golden is about 15 miles west of downtown Denver, but separated from the rest of the metro area by two mesas, North and South Table mountains.

Its historic downtown forms the heart of the community and it offers a wide array of restaurants and shops in Victorian-era buildings, surrounded by beautiful mountain scenery. The mountains surrounding Golden provide endless opportunities for hiking, mountain biking, rock climbing, horseback riding, and scenic drives. Clear Creek runs through Golden and offers kayaking, tubing, fly-fishing, and gold-panning. Pedestrian/bike paths run along both sides of the creek.

Venue

Colorado School of Mines

Colorado School of Mines is a public research university devoted to engineering and applied science. It has distinguished itself by developing a curriculum and research program geared towards responsible stewardship of the earth and its resources. Colorado School of Mines is one of a very few institutions in the world having broad expertise in resource exploration, extraction, production and utilisation.
Join us for some shinin’ times and step back to the Early West at The Fort! Nestled amongst the red rocks in the foothills overlooking Denver, The Fort is a unique adobe replica of Colorado’s first fur-trading post. An award-winning, fine dining restaurant which sells more buffalo steaks than any other independently owned restaurant in the country, The Fort’s menu offers a tantalizing selection of old and new foods from the Early West. Transport to and back from The Fort will be included, pre-dinner drinks will be from 18:30 followed by a 3 course meal and tea and coffee.

*Tickets available at £70.00*
Programme

The following papers have been offered for the conference (subject to peer review / evaluation)

Application of an In-line Flow Visualisation Technique Based on Ultrasonics for Paste and Thickened Tailings
R Kotzé, R Haldenwang, Cape Peninsula University of Technology Cape Town, South Africa; J Wiklund, SIK- The Swedish Institute for Food and Biotechnology, Sweden

Characterization and Delivery of Hanford High Level Radioactive Waste Slurry
M Thien, Washington River Protection Solutions, USA

Slurries of Most Interest to the Mining Industry Flow Homogeneously and the Deposit Velocity is the Key Parameter
A Thomas, Slurry Systems Pty Limited, Australia

Prediction of Erosion Wear Rate in a Copper Slurry Pipeline
E Lakzian, M Ghanizadeh, Hakim Sabzevari University, Iran

The Effect of Large Particles on Slurry Pump Performance
D Wolfe, Syncrude Canada Ltd, Canada

Characterization of Hydroabrasive Wear in Slurry Pipelines Using White Light Interferometer
E Chemmalasseri, A Talmon, Delft University of Technology, The Netherlands

Laminar Non-Newtonian Flow in Open Channels of Different Cross-Sectional Shapes: An Alternative Approach
N Alderman, BHR Group Ltd, UK

Effect of Throatbush Adjustment on Slurry Pump Operating Costs
C Walker, Weir Minerals Ltd, Australia

Nkomati Nickel Tailings Line: A Case Study
H Nel, DRA Mineral Projects (Pty) Ltd; G Johnson, Paterson & Cooke Consulting Engineers (Pty) Ltd, South Africa

Holdup Datasets Predict Critical Deposition Velocities Using a Modification of the Two-Layer Model
T Jones, TFJ Consulting, UK
Distribution of Concentration of Coarse Particle–Water Mixture in Horizontal Circular Pipe  
P Vlasak, Z Chara, J Konfrst, J Krupicka, Institute of Hydrodynamics ASCR, Czech Republic

Options for Fixed Mechanical Sand Bypassing at River Entrances  
N Cowper Snr, L Nankervis, Allan Thomas, Australia

A Model to Determine the Pumping Characteristics of High Concentration Fly Ash Slurries  
T Bunn, M Jones, C Wheeler, Newcastle Institute of Energy Resources, Australia

Does Pseudo-Rheology Have a Role in Hydrotransport?  
L Pullum, Olinda, Australia

Flow of Non-Newtonian Fluids in Pipes with Large Roughness  
L Graham, J Wu, CSIRO Minerals Downunder Flagship; L. Pullum, Private Consultant, Australia

Characterisation of Thickened Tailings Suspensions Using a 100NB and 150NB Pilot Test Facility  
M Coghill, N Jarvie, Rio Tinto, Technology and Innovation; L Pullum, Consulting Engineer, Australia

Design of Agitators for Storage and Surge Tanks with High Yield Stress Fluids  
J Jung, W Keller, N Rohn, EKATO Rühr- und Mischtechnik GmbH, Germany

Simulation of Particles Transport in Multiphase Pipe Flow for Cleanup of Oil & Gas Wells  
P Spesivtsev, A Osiptsov, K Sinkov, Schlumberger Moscow Research Center; Moscow Institute of Physics and Technology, Russia

Method for Measuring Rheology at Low Shear Rates  
J Stowe, I Farrell, M Treinen, R Cooke, Paterson & Cooke, Denver, USA

Understanding Wear in Slurry Pipeline Systems  
A Fuhr, B Fotty, Alberta Innovates – Technology Futures (AITF), Canada

Slurry Pipeline Construction  
M Turney, Paterson & Cooke USA Ltd, USA

Density and Velocity Profiles of Non-Dilute Polydisperse Sediment Water Mixtures using the Drift Flux Model  
J Goeree, E Munts, H Bugdayci, C van Rhee, Delft University of Technology, The Netherlands

Testing of Interfacial Friction and Transport in Steep Flume  
V Matoušek, V Bareš, J Krupička, T Picek, Š Zrostlík, Czech Technical University in Prague, Czech Republic

Field Experience with New Pump Synchronization Concept for Large PD Pump Stations  
J Kuenen, Product Manager GEHO, Weir Minerals, The Netherlands
Solids Velocity Fluctuations in Concentrated Slurries
S Hashemi, R Spelay, K Adane, Saskatchewan Research Council, Pipe Flow Technology Centre; R Sanders, University of Alberta, Canada

Pump and Pipeline Performance when Pumping Slurries with Different Particle Gradings
A Sellgren, Lulea University of Technology, Sweden; R Visintainer, J Furlan, GIW Industries, U.S.A.; V Matousek, Czech Technical University, Prague

Field Experience from Online Ultrasound Corrosion/Erosion Monitoring of an Oil Sand Slurry Pipeline
I Nerbø, Ø Baltzersen, H Sleire, Sensorlink AS, Norway

Numerical Investigation of Sand-Water Mixture Behavior in a Centrifugal Dredge Pump
E Munts, S Dasselaar, H Bugdayci, J Goeree, IHC Merwede B.V.; C van Rhee, Delft University of Technology, The Netherlands

The Rheological Parameters of High Concentrated Mixtures
A Teppel-Szadorska, M Gruszczyński, B Malczewska, J Sobota, S Czaban, Wrocław University of Environmental and Life Sciences, Poland

Effect of Pipe Inclination on the Deposition Velocity of Settling Slurries
R Spelay, R Gillies, S Hashemi, Saskatchewan Research Council, Pipe Flow Technology Centre; R Sanders, University of Alberta, Canada

Copper Concentrate Couette Rheometry: Looking for a Sweet Spot
C Ihle, M Álvarez, A Tamburrino; University of Chile, Chile

An Experimental Study on Pipeline Hydrotransport of Agricultural Waste Biomass
M Vaezi, A Kumar, University of Alberta, Canada

Tailings Beach Flow and Particle Transport Mechanisms
J Treinen, Paterson & Cooke & University of Colorado, R Cooke, Paterson & Cooke, USA

Novel Instrumentation to Detect Sliding and Erratic Bed Load Motion
H Ilgner, CSIR, South Africa

Assessment of Excess Pressure Gradient Associated with Pipeline Re-Start with Settled Bed
P Goosen, Paterson & Cooke, South Africa
Programme Continued...

Trends in Stationary Deposition Velocity with Varying Slurry Concentration Covering the Turbulent and Laminar Flow Regimes
A Paterson, Paterson & Cooke, South Africa

Rheological Measurements of Industrial Slurries
R Sumner, Cameco Corporation, Canada

Particle Terminal Settling Velocities in Non-Newtonian, Viscoplastic Fluids
A Arabi, R S Sanders, University of Alberta, Canada

Optimization of Tailings Dissipation Boxes Using Computational Fluid Dynamics and Physical Modelling
J Facusse, M Zegpi, D Manzo, Ausenco, Chile

Fluid Structure Interaction in Piston Diaphragm Pumps
R van Rijswick, WEIR Minerals Netherlands b.v., Delft University of Technology, The Netherlands

Advanced Simulation of Subsea Hydrates Formation and Associated Risks and Impact on Flow Assurance
M Labois, D Lakehal, C Narayanan, ASCOMP GmbH Zurich, Switzerland; S Thomas, ASCOMP USA INC, USA

Predicting One-Way to Four-Way Coupling of Particle Transport and Bed-Formation in Hydrocarbon Pipelines
D Lakehal, C Narayanan, ASCOMP GmbH Zurich, Switzerland; S Thomas, ASCOMP USA INC, USA

Troubleshooting a 0.5 km Sand/Clay Slurry Pipeline
N Heywood, N J Alderman, BHR Group, UK; P Harris, Sibelco Ltd, UK

The conference content is provisional and subject to changes.
For regular updates visit the conference website.
Accommodation

Option 1

Table Mountain Inn

The Table Mountain Inn is a unique adobe-style boutique hotel situated within walking distance of the School of Mines. To book, please call the hotel directly and ask for the Hydrotransport Conference Room Allocation.

Tel: (001) 303 277 9898
Website: www.TableMountainInn.com

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Option 2

The Golden Hotel

The Golden Hotel boasts beautiful views and is situated within a short walk of Colorado School of Mines, just 12 miles from Denver city centre. To Book, please call the hotel directly quoting “Hydrotransport Conference”.

Tel: (001) 303 279 0100
Website: http://www.thegoldenhotel.com/our-hotel

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Accommodation

Option 3

Residence Inn by Marriott Golden

The Residence Inn Denver West Golden features apartment-style suites just west of Downtown Denver near I-70 and Highway 6. It is situated approximately 10 minutes in a taxi from the School of Mines. To book, please visit the conference webpage where there is a link to the online booking portal.

Venue Website: www.marriott.com/hotels/travel/den-go-residence-inn-denver-west-golden/

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Option 4

Courtyard by Marriott Denver West/ Golden

The Courtyard by Marriott Denver West/ Golden is located along Highway 6 between Golden and Downtown Denver, approximately 10 minutes in a taxi from Colorado School of Mines. To book, please visit the conference webpage where there is a link to the online booking portal.

Venue Website: www.marriott.com/hotels/travel/dengl-courtyard-den-ver-west-golden/

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There are a range of sponsorship packages available that will enable you to gain prominent recognition amongst potential clients and peers and initiate new business through promotion to a highly relevant audience.

Our sponsorship packages will enable you to:

- Initiate new business by networking with the most influential people in Hydrotransport.
- Boost your company profile.
- Gain prominent recognition amongst potential clients and peers.
- Establish remunerative and sustainable relationships.
- Promote your products and services to a highly relevant audience.
- Source potential employees from the attending graduates and rising stars.

Our sponsorship packages can be tailored to suit your company’s requirements.

Sponsor at this event, and we will offer you first refusal for repeat sponsorship at the next conference in the series!

Please request our Sponsorship & Exhibition brochure from the conference organiser.

The packages available include (but are not limited to):

- Exhibition
- Delegate information pack inserts
- Gala Dinner
- Mobile App
- Welcome Reception
- Flash Drive and Lanyards
- Proceedings
- Lunch
- Refreshment Breaks
- Delegate Bags
The registration fee includes; attendance to all technical sessions, lunch and refreshments.

**Early Bird Rate £694.80**
Applicable to all bookings paid for before 27th August 2014

**Delegates £ 772.00**
Applicable to all bookings from 27th August 2014

**Students £177.00**
Please contact Joyce Raymond (confx3@bhrgroup.co.uk) to register. Please note that this registration does not include any of the social functions or hard copy proceedings. Student pack will be supplied with electronic version only. Lunch and refreshment breaks are included.

**Recent Graduates £386.00**
BHR Group wishes to encourage recent graduates to continue their development and interact with experienced technical managers. Each full paying delegate may register a second place with a 50% discount for graduates who have qualified within the last 5 years. Please contact Joyce Raymond (confx3@bhrgroup.co.uk) to take advantage of this offer.

**Authors £579.00**
Authors are entitled to a 25% discount (a maximum of three per presentation).

**Additional Dinner Tickets £70.00**
The Fort; 3 course dinner, drinks and transport all included.

**Conference Proceedings**
The conference papers are professionally published as a soft bound volume and include a USB Flash Drive. The proceedings are included in the registration fee and additional copies will be available for sale after the conference.

**Exhibition Place £1373.00**
The exhibition package includes one full delegate registration. Please see the sponsorship brochure, or contact Debbie Carrington (confx4@bhrgroup.co.uk) for more information and to choose your space.

**Sponsorship**
There are various sponsorship opportunities available, please contact Debbie Carrington (confx4@bhrgroup.co.uk) for more information.

*All rates are excluding VAT.*
How to Register

Book online at:

Payments by credit card can be made on the online booking tool.
You will receive an automatic email confirmation of your booking within 24 hours.

Other payment options:
- Cheque made payable to VirtualPiE Limited and mailed to the course organiser at the address below.
- Bank transfer paid to our account at:

Barclays Bank
Account number: 33034771
Sort code: 20-23-55
IBAN: GB30 BARC 2023 5533 0347 71
SWIFT BIC: BARCGB22

For online booking queries please contact customer services:

By e-mail: jraymond@bhrgroup.co.uk
By phone: +44 (0) 7785621692
By post: BHR Group, The Fluid Engineering Centre, Cranfield, Bedfordshire, MK43 0AJ

Customer service can be contacted from Monday to Friday excluding UK Bank Holidays between the hours of 09:00 and 16:00 (UK time)
The Technical Advisory Committee

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Mr Ron Derammelaere, Ausenco PSI, USA
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Professor Cees Van Rhee, Delft University of Technology, The Netherlands

Senior Consultants

Professor Geoff Duffy, University of Auckland, New Zealand
Dr Trevor Jones, TFJ Consulting Ltd, UK
Professor Ken Wilson, Retired – Queen’s University, Canada
Professor Thomas Marrero, University of Missouri, USA

With thanks to the Technical Advisory Committee, the panel of referees, sponsors and supporters.
BHR Group

BHR Group is an independent industrial research and technology organisation specialising in the application of fluid engineering to industrial processes. We are a multi-disciplinary company that grew out of BHRA (The British Hydromechanics Research Association), one of the founding Research Associations established by the UK government in the late 1940's.

BHR Group helps international companies maintain their competitive edge by providing independent and impartial expert advice, specialising in fluid engineering technical services and knowledge transfer.

BHR Group is the trading name for VirtualPiE Limited, a UK based independent and privately owned company.

For more information please visit:
www.bhrgroup.com

Enquiries

If you have any queries about the exhibition, please contact:

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