

# INTERNATIONAL **FLOWDAY 2003**

**Bretby Conference Centre  
16th October 2003**

*A networking opportunity for flow meter  
suppliers and industrial users.*

***Evening of the 15th October -  
Dinner for delegates***

This unique event offers users and suppliers the chance to meet in a relaxed and friendly environment, to learn what is new in the field of flow measurement, to exhibit products and services and to network

# INTERNATIONAL FLOWDAY 2003

The format is an opening keynote address where all will be present. After that there will be 3 sessions of 3 simultaneous presentations followed by a final keynote address, giving a choice of topics for the delegates.

After each session there will be time to network & visit the exhibition

## Programme of Events

### INTRODUCTION

**Opening Remarks** 10.15am  
*David Gerrard*

**Chairman's Opening Address** 10.20am  
*Mike Scott*

**Keynote 1 Address** 10.30am for all delegates Note 1  
*Dr. Dick Furness* **If it flows we can measure it - or can we?**  
JDF & Associates Ltd

### SESSION 1 11.00 - 11.30am

**Presentation 1.1** *Main Lecture Theatre* Note 2  
*Andy Godley* **Application of Computational fluid dynamics (CFD)**  
Wrc **to open channel flow measurement structures**

OR

**Presentation 1.2** *Dining area adjacent to main lecture theatre* Note 3  
*Eddie Bridges* **Addaptive Sensor Technology used in SST**  
Krohne Ltd Ltd **(Single Straight Tube) Coriolis Meters**

OR

**Presentation 1.3** *Lecture Room 5* Note 4  
*Nick Denbow* **How to get the most out of the media**  
PR Consultant

11.30 - 12.10 COFFEE / NETWORKING / EXHIBITION  
in the exhibition area/marquee above the exhibition

### SESSION 2 12.15 - 12.45pm

**Presentation 2.1** *Main Lecture Theatre* Note 5  
*Paul Wiggins - EA* **MCERTS Self Monitoring of Effluent Flow**

OR

**Presentation 2.2** *Dining area adjacent to main lecture theatre* Note 6  
*Prof Mike L Sanderson* **Applying EM Flowmeters to the measurement of**  
Cranfield University **Dielectric Liquids (non-conductives)**

OR

**Presentation 2.3** *Lecture Room 5* Note 7  
*Richard Justice* **Energy Heat Metering &**  
Kamstrup Energy **Chilled Water Energy Metering**

1.00pm LUNCH - in the marquee above the exhibition hall

### SESSION 3 2.00 - 2.30pm

**Presentation 3.1** *Lecture Room 5* Note 8  
*Richard Paton - NEL* **Calibration of flowmeters based on the NMSD guide**

OR

**Presentation 3.2** *Main Lecture Theatre* Note 9  
*Don Griffiths BA* **Process & Fuel Gas Metering Techniques**  
Emerson Process plc.

OR

**Presentation 3.3** *Dining area adjacent to main lecture theatre* Note 10  
*Tony Stickland* **Ultrasonic meters for gas - New frontiers**  
Gill Instrumentation. Ltd.

2.30 - 3.00pm TEA / NETWORKING / EXHIBITION  
in the exhibition area/marquee above the exhibition

### SESSION 4 3.00 - 3.30pm for all delegates

**Keynote 2 Address** *Main Lecture Theatre* Note 11  
*Dr. Dick Furness* **Recent Installation effect studies**  
JDF & Associates Ltd **in large diameter pipes**

**CLOSING SESSION** **PANEL DISCUSSION** 3.30pm  
**NETWORKING / EXHIBITION** 4.00 - 5.00pm (close)

# INTERNATIONAL FLOWDAY 2003 PROGRAMME OF SPEAKERS

## OPENING REMARKS

**David Gerrard** B.Sc, M.Inst.M&C

## CHAIRMAN'S ADDRESS

**Mr. Mike Scott** C.Eng, F.Inst.Mech E, F.Inst.M&C

## KEYNOTE ADDRESS

(for all delegates)

Note 1

### If it flows we can measure it - or can we?

It is more than a decade since BS7405 7405 (Selection of Flowmeter Guide) was published. In that time technology has moved on apace and so have the applications. However does the technology match the claimed successes? The keynote looks at the problematical applications and asks the question – can we measure it within acceptable limits?

#### Speaker

**Dr. Richard Furness PhD.**

*"Dick" has been active in flow measurement for 30 years in user, supplier and academic roles. He has lived and worked on both sides of the Atlantic and currently is the only person from the UK to hold Fellowships in Instrumentation from both top institutions, the IMC (UK) and the ISA (USA). He has worldwide field experience and currently runs his own consultancy firm (JDF + Associates Ltd) and is working presently in India and Russia. He is former UKAS Laboratory Head and author of three books on flow measurement and well over one hundred technical papers, including Lead Author and Project Manager for BS 7405 (Selection of Flowmeter Guide)*

## SESSION 1 - Presentation 1.1

Note 2

### Application of Computational fluid dynamics to open channel flow measurement structures

The performance of traditional open channel flow structures has been put under the spotlight recently thanks to the new Environment Agency requirements for discharge monitoring. However, there is very little data on the performance of such structures which do not fully comply with the BS3680 stipulations – the majority! WRc have pioneered the use of numerical modelling (CFD) to examine this problem and identify the parameters which have a major influence on a structure's performance and those where additional tolerance may be permitted.

#### Speaker

**Andy Godley** – Principal Flow Measurement Specialist, WRc plc

*Andy has over 15 years experience in flow measurement. He has carried out research on the performance and use of flowmeters in almost every application in the water industry as well as testing and evaluating numerous types of flowmeters and associated equipment. Recently he has completed a number of projects on open channel flow measurement to help the UK water industry meet its obligations under the UWWTD as it is being implemented by the Environment Agency. Andy has served on various BS committees and authored technical papers and articles.*

## SESSION 1 - Presentation 1.2

Note 3

### Adaptive Sensor Technology used in SST Coriolis Meters

A new development of a single straight tube Coriolis meter to overcome the limitations traditionally associated with these meters.

Topics will include new mechanical designs for the

meter incorporating ASTTM, new digital processing techniques to improve the measurability of the small signals, and the use of strain measurement to improve density performance in the meter – particularly under fluctuating process temperatures.

#### Speaker

**Eddie Bridges** – International Product Group Manager, Coriolis Mass Flow

*Eddie has worked for various Krohne companies for 16 years in South Africa, Germany and now the UK. He has been responsible for Vortex meter manufacture world wide. He has a wealth of knowledge of flow measurement and is an expert on no-moving parts meters.*

## SESSION 1 - Presentation 1.3

Note 4

### How to get the most out of the Media

Responses rates from journals have fallen – the journals are getting thinner, exhibitions are patchy. Where do you promote products? Where does web publication fit in? And where do customers turn for new information? Times have changed. We need to change with them

#### Speaker

**Nick Denbow** – Independent Media Consultant

*Nick has specialised in industrial instrumentation, particularly flowmeters for over 25years, An ex-marketing manager, he is now a PR writer and technical author, both on an employed and a freelance basis. He has a new hobby this year – as editor of a website publishing process industry PR.*

## SESSION 2 - Presentation 2.1

Note 5

### MCERTS : The Self Monitoring of Effluent Flow

This Environment Agency Monitoring Certification (MCERTS) scheme sets: - the minimum requirements for the self-certification of effluent flow, & the competency standard required of MCERTS inspectors carrying out inspections of effluent flow monitoring arrangements. The scheme was launched in April 2003. How much progress has been made? What is the latest position?

#### Speaker

**Paul Wiggins : Environment Agency (EA)**

*Paul is managing the project on behalf of the EA. He also manages the Agency's Operator Monitoring Assessment (OMA) scheme and has been involved in the development of other MCERTS schemes. Paul has worked for the EA and its predecessor organisations.*

## SESSION 2 - Presentation 2.2

Note 6

### Applying EM Flowmeters to the Measurement of Dielectric Liquids (Non-Conductive Fluids)

It is usually thought that Electromagnetic flowmeters will only operate with conducting fluids. This is not the case but with dielectric fluids (non-conducting fluids) there are signal problems caused by static charge and wall charge modulation by turbulence. This paper will examine these noise sources and will demonstrate the design of a universal Electromagnetic flowmeter i.e. one which can be used on conducting or non-conducting fluids.

#### Speaker

**Professor Mike L. Sanderson** – Cranfield University

*Mike Sanderson has been involved in flowmeter R&D for over 30 years. He is currently Head of the Department of Process and Systems Engineering at Cranfield University where he has been for the past 15 years. He is the founding editor of Flow Measurement and Instrumentation and a member of the BSI Committees on EM and Ultrasonic flow metering.*

**SESSION 2 - Presentation 2.3**

Note 7

**Heat Metering & Chilled Water Energy Metering**

The Kyoto protocol requires Europe to reduce emissions of carbon dioxide by 2010. As a result, new legislations to improve energy efficiency in all buildings, domestic and non-domestic, have been brought into effect with a view to a cost-effective savings potential of around 22% of present consumption by 2010. With this in mind, Kamstrup A/S, founded in Denmark in 1946, are able to offer a full range of ultrasonic heat and chilled metering for a wide range of applications.

**Speaker**

**Richard Justice** – Technical Sales Director, Robstat Ltd, official UK distributor for Kamstrup Energy.

*Since 1990 Richard worked in HVAC and Gas Detection before getting involved in utility metering with the introduction to the UK of Kamstrup in 1995. Recognising energy metering as a future growth area, Richard now specialises in Kamstrup product, specifying, supplying and commissioning a wide range of projects.*

**SESSION 3 - Presentation 3.1**

Note 8

**Techniques for calibrating flowmeters (Based on the Dti best practice guide)**

DTI through the National Measurement System Directorate operates a variety of programmes to promote metrology in the UK. These programmes cover all measurement topics from length and mass through to ionising radiation, optics and software. The programme of most interest to this group is the Flow programme, managed by NEL. The projects covered are varied and examples will be shown. One concept for the programme is the production of 'Best practice guides', the first being 'The calibration of flowmeters'. The various techniques and methods outlined in this guide will be discussed and feedback requested on the usefulness of such guides and topics for the future.

**Speaker**

**Richard Paton** – NEL

*Richard has worked at NEL for over 25 years specialising in the calibration, research and development of flowmeters, particularly oil flow meters. He is currently responsible for the technical aspects of the NEL flow facilities and calibration work. Richard is chairman of the BSI PT112 and the IP PMC oil flow measurement committees as well as ISO TC28 SC3 covering static oil measurement.*

**SESSION 3 - Presentation 3.2**

Note 9

**Process & Fuel Gas Metering Techniques**

The theory and operation of various types of industrial gas flow meters – Turbine; Rotary Displacement; Vortex; Multi-variable. The talk examines the different techniques applied in order to achieve accurate and reliable standard volume, mass and energy metering of combustion gas.

**Speaker**

**Don Griffiths BA** : Product Sales Manger - Emerson Process Management

*A practical metering engineer with a degree in maths and physics. Don has over twenty five years experience in the metering and fluid dynamics business and has vast knowledge of Volumetric, Mass and Multivariable metering techniques.*

**SESSION 3 - Presentation 3.3**

Note 10

**Ultrasonic Meters for gas – New frontiers**

Ultrasonic Flow measurement has made massive technical strides in the last decade, in particular gas metering which has now adopted ultrasound as the basis for the new domestic gas meter. This paper is about pushing the boundaries of the technology to much greater and much lower flow rates, in each case keeping a 100:1 range at high resolution and accuracy. The high end (10,000l/min) has been successfully used for engine inlet mass air flows and the low end (1 l/min) for testing filter media – i.e. leak rates. The speaker would like delegate participation in finding new applications for this exciting technology.

**Speaker**

**Tony Stickland** – Gill Instruments Ltd.

*As director of Gill Instruments Ltd, Tony was responsible for developing the new and novel ultrasonic domestic gas meter project for British Gas. He is also responsible for anemometry and anaesthetic breathing monitoring products. Gill Instruments are a pioneering Company developing new technologies and setting new trends for measurement in the 21st Century.*

**SESSION 4 - KEYNOTE ADDRESS 2**

(for all delegates)

Note 11

**Recent Installation effect studies in large diameter pipes**

We hear a lot from suppliers about how little upstream and downstream lengths are required in today's modern world to effect a good measurement of flow. Recent work in India on 3,000mm pipes casts serious doubt on our ability to measure large volumes of water precisely based on suppliers' installation guidelines. The question is asked – should recommended installation lengths increase as pipe diameter also increases? Are our current installation standards correct? Doesn't this question all manufacturers specifications. 10x upstream straight lengths may no longer apply?

**Speaker**

**Dr. Richard Furness PhD.**

*(See Keynote address No 1 for biographical details)*

**We are indeed fortunate to have Dick Furness give two keynote address' at our Flowday. Dick has rarely been able to attend through pressure of work and location. He is a powerful force in the world of Flow Measurement. He has headed the R&D & marketing divisions of most of the UK's and USA's large Corporations (Cranfield, SGS Redwood, ABB, E&H... and more). Both Dick's addresses will be new, fascinating and thought provoking.**

**PANEL DISCUSSION**

An opportunity for all delegates to question speakers on any presentation or workshop - even if they were not present!

For questions on the event please contact **David R Gerrard** directly on

- Tel: 020 8953 0991
- Fax: 020 8207 5072 (fax)
- Mobile: 07971 877758
- e-mail: davidgerrard@btinternet.com

*Note: Flowday is an independent event and not associated with any Company.*

# INTERNATIONAL FLOWDAY 2003

16th October 2003

Bretby Conference Centre Nr. Burton On Trent

Tel 01283 553440 • e-mail enquiries@bretbyconference.co.uk • www.bretbycc.co.uk

**FLOWDAY** is a comprehensive programme of presentations and workshops for everyone and anyone who has an interest in flow measurement – manufacturers, distributors, consultants and end users alike.

It is a unique opportunity for everyone in the industry to meet in a relaxed and businesslike environment – and to take the opportunity to meet users and suppliers.

Each delegate will come away with a binder of every Company present with full details of their products and contact details .. as well as having had an interesting day out!

## THE EXHIBITION

Bretby Conference Centre was once the Coal Board Training Centre. It has an enormous 850 sq.mtr hall for exhibition and other purposes. We have the whole hall for the exhibition. This means that you may bring as large a free standing stand as you wish (within reason). Every delegate will be encouraged to take stand space to fill the hall. There is plenty of room. Empty space will be screened off on the day. There are power points in the floors and extension leads will be provided.

The exhibition will be **free of charge** to everyone. In other words the cost of hiring the hall is part of your delegate fee.

## COSTS

The cost of the first delegate from each Company will be £156. To encourage further delegates from the same Company to attend we are giving a 20% discount. i.e. 2nd and subsequent delegates at £125 each.

## ACCOMMODATION AND DINNER

We assume everyone staying for dinner will require accommodation as well.

The rate for dinner bed and breakfast will be £70. There are 40 rooms at Bretby all very modern with double or twin beds. It is a modern "hotel" on a par with the Hiltons the Jarvis and the like. TV, en-suite etc... All 40 rooms have been reserved. If more are required, then there are local hotels nearby. Reserve early if you know you are staying.

## BOOKINGS

Please book directly with Conference Co-ordination:  
Tel 01423 720 900 or on e-mail flowday@conf-co.com

### OR

Please complete the booking form which is part of the brochure and fax it back to Conference Co-ordination  
01423 720 909

### OR

submit it via our web site [www.flowday.com](http://www.flowday.com)

Payment must be made at the time of booking by credit card or cheque

Any cancellations must be notified at least 7 days prior to the event in which case a full refund will be given. Less than 7 days before the event, no refund can be given, but a substitute delegate can be named at any time before the day. This also applies to the Hotel, dinner bed & breakfast reservation.\* "Conference Co-ordination" reserve the right to cancel the event due to circumstances beyond their control. The programme may be subject to change at any time. "Conference Co-ordination" will not be liable for any expenses incurred by the delegate.

\* depending on circumstances and timing

## WEB SITE [www.flowday.com](http://www.flowday.com)

We are looking for Companies to take space on the site with a banner and company profile ..the cost will be £100. Please contact David Gerrard.

# INTERNATIONAL FLOWDAY 2003



Conference Centre

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Staffordshire DE15 0YZ

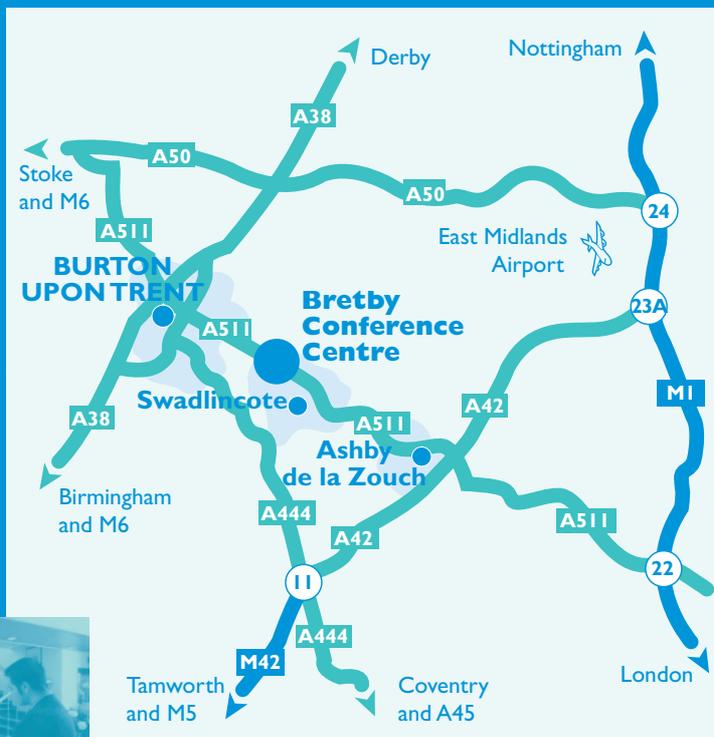
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[www.bretbycc.co.uk](http://www.bretbycc.co.uk)



## HOW TO FIND US

Bretby Conference Centre is situated in landscaped grounds within the Bretby Business Park, approximately three miles east of Burton upon Trent, off the A511. It is a 15 minute drive from the M42 and within easy reach of all motorway networks. East Midlands Airport is a 20 minute drive away and visitors travelling by train can reach the centre via a short taxi ride from the nearby Burton railway station.

# INTERNATIONAL FLOWDAY 2003 - Booking Form

An electronic version of this form may be submitted to

[www.flowday.com](http://www.flowday.com)

Please reply to:-

Mike Lancaster, Conference Co-Ordination, Windsor House, Cornwall Road, Harrogate HG1 2PW  
Tel 01423 720 900 Fax 01423 720 909 email: [flowday@conf-co.com](mailto:flowday@conf-co.com)

Please reserve  place(s) for FLOWDAY 2003 on Thursday 16th October 2003

Delegate Name	Company
email	Tick to reserve Dinner, bed & breakfast on the night of 15th October <input type="checkbox"/>
Delegate Name	Company
email	Tick to reserve Dinner, bed & breakfast on the night of 15th October <input type="checkbox"/>
Delegate Name	Company
email	Tick to reserve Dinner, bed & breakfast on the night of 15th October <input type="checkbox"/>

Please indicate briefly the main areas of your company's activity, which will then be included in an Information Listing Binder to be distributed on the day

.....  
.....  
.....  
.....

## COST £156 INCLUSIVE OF EXHIBITION, LUNCH, TEA/COFFEE.

Additional Delegates from same company less 20% (£125)

To Guarantee your place, the fee must be received before the event date. Under UK Excise Regulations, delegates from all countries are required to pay VAT @17.5%

### Payment Method

Please debit my VISA/MASTERCARD No

Expiry date  /  Name on Card

OR - (Please tick)

I enclose, or will send, a cheque made payable to "Conference Co-Ordination", and understand that a VAT invoice will be sent to my company's address

On receipt of a Pro forma Invoice, I will make a Bank Transfer to the following account:-  
Barclays Bank, Sort Code: 20-37-13, Account Name: Conference Co-ordination, Account No: 90714690,  
Reference: Flowday and delegates name

Signature  Date

## PRESENTATIONS

It is essential that we know at booking stage the numbers expected at each presentation, so that adequate space can be allocated. Please indicate below the expected number of delegates in your party attending the various presentations/workshops. See Programme overleaf for full details. Each delegate can only attend one item in each session.

Keynote No1 10.30am	Session 1 11.00am	Session 2 12.15pm	Session 3 2.00pm	Keynote No2 3.00pm
	Presentation 1.1 <input type="checkbox"/>	Presentation 2.1 <input type="checkbox"/>	Presentation 3.1 <input type="checkbox"/>	
<b>For all delegates</b>	Presentation 1.2 <input type="checkbox"/>	Presentation 2.2 <input type="checkbox"/>	Presentation 3.2 <input type="checkbox"/>	<b>For all delegates</b>
	Presentation 1.3 <input type="checkbox"/>	Presentation 2.3 <input type="checkbox"/>	Presentation 3.3 <input type="checkbox"/>	

## EXHIBITION

There is almost unlimited space, within reason. You may bring any size stand or request one or more tables. Power is available to all positions. Please tick your requirements below

- Please reserve ..... Exhibitors table(s)
- Please reserve space only. I shall be bringing my own Exhibition Stand
- I will require a power supply at my table(s)/Stand