



# Newsletter



Volume 1, Issue 1

January 2010

## President's Message

My first duty as President is to thank the Immediate Past President, Martin Cox for all his hard work during 2008/2009. He has led Council with enthusiasm and humour and I am proud to have served as his deputy. Grateful thanks are also due to the Council who toil behind the scenes to make sure the Institute runs smoothly.

Coming from Aberdeen with a background in farming and fishing may not seem like the usual breeding ground for a professional engineer, but of course North Sea Oil arrived and changed the Aberdeen area for ever. Interestingly, when my trawler owning relatives heard I was to study engineering, they were very enthusiastic, as on the fishing boats, the lives of the crew depend on the engineer to keep the engine working and he (it is always a he) is the only salaried member of the ship's crew. In the fishing industry, the engineer is seen as a respected professional.

Twenty-five years ago, after studying at Strathclyde University I joined the oil industry and have almost equally split my time between working for two major oil companies and working for the Health & Safety Executive. My current job, as the Wells Technical Authority for BP involves ensuring that our wellstock has sufficient integrity and is safe. This fits in well with the original objectives of The Mining Institute of Scotland related to 'the prevention of accidents and the advancement of the science of mining generally'.

I have been a member of this Institute for most of my working life and feel strongly that engineers and scientists have a responsibility to share their knowledge and experience with others. The Institute works hard to facilitate such exchanges of information and as it says at the top left hand corner of the next page 'An Institute event is the place to meet friends and colleagues both old and new'. So whether you are a student, a working member, or long retired member, I look forward to meeting you at one of the Institute events this year.

Margaret Copland  
[margaret.copland@bp.com](mailto:margaret.copland@bp.com)

## Arkwright Scholarships

The Mining Institute of Scotland (MIS) recently made its first appearance at The Arkwright Scholarships Trust annual presentation event held at the Institute of Engineering and Technology, Savoy Place, London.

The first Arkwright Scholar sponsored by MIS, 17 years-old Neil Mitchell, was presented with his Award by Sir Peter Williams, Vice President and Treasurer of the Royal Society, and Linda Scott, Chief Executive of The Arkwright Scholarships Trust. Neil made the long journey from his home in Huntly, Aberdeenshire with his mother and father, and all three expressed their deep appreciation of the support given by MIS. At the ceremony the MIS lead representative was Past President Dr Richard Crockett. In addition, Immediate Past President Martin Cox managed to join the event to increase our presence at what was a large well attended national event with 249 scholarships being awarded this year.

We hope to see quite a bit of Neil over the next few years since he is contemplating applying for an engineering course at The Robert Gordon University. We expect to be able to organise some industrial experience for him and we look forward to his occasional reports during the currency of his scholarship.

One of the things Neil intends to do next summer (2010) is take part in one of the Headstart EDT programmes ([www.headstartcourses.org.uk](http://www.headstartcourses.org.uk)). Headstart courses are designed to give students in year S5 a real taste of what it is like to stay at a university and study for a degree in an engineering or science based course.

Since The Arkwright Scholarships Awards Ceremony Neil has also been successful in receiving The Alexander Watt Bursary for Mathematics at The Gordon Schools, Huntly. This bursary is awarded annually for commitment to mathematics and a keen interest in a career involving mathematics.

We wish Neil every success in the future and look forward to working with him during his scholarship term and beyond.

Richard Crockett

**AN INSTITUTE EVENT IS THE PLACE TO MEET FRIENDS AND COLLEAGUES BOTH OLD AND NEW, WHY NOT JOIN WITH US?**

## **CALENDAR OF EVENTS**

### **TECHNICAL MEETING**

DATE: 13 JANUARY 2010

TIME: 1730 HOURS

VENUE: BP, HERIOT-WATT UNIVERSITY, UNIVERSITY OF WEST OF SCOTLAND

*Field Installation, Reliance MA-D6, Bay of Bengal*

SPEAKER: JON TAYLOR, AKER SOLUTIONS

### **YOUNG PERSONS' LECTURE COMPETITION**

DATE: 10 FEBRUARY 2010

TIME: 1730 HOURS

VENUE: BP, HERIOT-WATT UNIVERSITY, UNIVERSITY OF WEST OF SCOTLAND

### **TECHNICAL MEETING\***

DATE: 10 MARCH 2010

TIME: 1900 HOURS

VENUE: BRITISH GEOLOGICAL SURVEY, EDINBURGH

*Borehole surveying in mining, quarrying and oil exploration*

SPEAKER: JAMES TWEEDIE, GEOMEM LTD

Video-conference links usually enable Technical Meetings to be attended at Heriot-Watt University, Edinburgh; BP, Aberdeen; or University of West of Scotland, Paisley. Anyone wishing to attend at BP must make contact beforehand with Lisa Bayfield (Lisa.Byfield@uk.bp.com).

\* Video-conferencing links may not be available for this event

## **Petroleum and Drilling Engineering (P&DE) Division Update**

The Division has closed out a successful year with three significant events. In September Craig Durham organised a stand at the Aberdeen Techfest family event, which was visited by over three thousand people, with Craig noting a high level of interest in our stand from school teachers. In November, twenty-four representatives, from fifteen different organisations, attended an IOM<sup>3</sup> accreditation seminar in Aberdeen organised by Martin Cox. As a result of this event IOM<sup>3</sup> are now in discussion with Shell UK on accreditation of its development programmes. Over 25% of the Division membership responded to an electronic survey issued by Steve Jewell through IOM<sup>3</sup>. The responses have been used to shape the Division 2010 plan, with the Board priorities for 2010 being: sustaining established successful activities and responding to the member needs identified through the 2009 survey. A summary of the member survey has been submitted for the January edition of *Materials World*.

IOM<sup>3</sup> has issued a call for papers for its Materials Congress 2010 which will be held at the Shangri-la Hotel in Kuala Lumpur on 20-23 September. One of the conference themes is materials for oil and gas with papers due in by 31 March 2010. The MIS Trust has advised that it will consider sponsoring attendees, so please submit your abstracts.

The Division will be running a two-day downhole metallurgy course in Aberdeen in March 2010, for this and all the Division news and events please log onto the Division website via the 'Technical Communities' tab, top right hand corner on the IOM<sup>3</sup> home page ([www.iom3.org](http://www.iom3.org)). The Division Board is looking for a new Board member to take on the lead role for communications, if you are interested in this role please contact Steve Bedford. As always the Board is keen to get your feedback and we wish you all had a very happy Christmas and New Year.

Steve Bedford

## **Your new look Newsletter**

The first issue of a newsletter for members of The Mining Institute of Scotland was published in November 1999. Since then we have published 38 issues of *Branch News*. Within the Institute of Materials, Minerals & Mining there are no branches and so a publication entitled *Branch News* does not seem appropriate. In Issue 35 of *Branch News* we asked for suggestions for a new title and offered a prize for the best suggestion. Unfortunately, there were no suitable replies. Meanwhile, this publication is the first in a new style with this edition (Issue 1) having 4 pages of information about your Institute's affairs. We seek to publish, in future issues, details of individual members, e.g. new members, awards, etc but to enable that to happen we need your input. Members are requested to submit for publication any article about themselves, other members or industry news. There may be something interesting at work or you may want to advertise an event. All items including comments on the new style of this newsletter should be submitted to the Secretary.

## **COUNCIL 2009/10**

**PRESIDENT: MARGARET COPLAND\***

**SENIOR VICE PRESIDENT: CRAIG DURHAM\***

**JUNIOR VICE PRESIDENT: BABS ONEYEYIN\***

**SECRETARY: DAVID SEATH**

**TREASURER: IAN PURDIE**

**BENEVOLENT FUND: JIM WISHART**

**YOUNGER MEMBER REPRESENTATIVE: ALEX CROSSLAND**

**YOUNGER MEMBER REPRESENTATIVE: BERAN TANILIR**

**STEVE BEDFORD\* (P&DE DIVISION BOARD)**

**GORDON BEETHAM (MIS TRUSTEE)**

**MARTIN COX\* (P&DE DIVISION BOARD)**

**RICHARD CROCKETT (ARKWRIGHT SCHOLARSHIPS)**

**RICHARD DEVERIA\***

**RAMSAY DOW MBE (MIS TRUSTEE)**

**MARTIN DOWNING (INDUSTRY LIAISON)**

**JOE HEFFERNAN (UNIVERSITY LIAISON)**

**STEVE JEWELL (P&DE DIVISION BOARD)**

**KEN MACKIE MBE (MIS TRUSTEE)**

**ROBERT McLAREN (ASSISTANT NEWSLETTER EDITOR)**

**COL ROBERTS (UNIVERSITY LIAISON)**

**BRIAN SMART (MIS TRUSTEE)**

**GRAHAM SMITH (CONFERENCE ORGANISER)**

**JIM SOMERVILLE (UNIVERSITY LIAISON)**

**ALLAN THOMSON (MIS TRUSTEE)**

**VACANCY (PUBLICITY OFFICER)**

**\* DIRECTOR OF THE MINING INSTITUTE OF SCOTLAND**

**VARIOUS ROLES OF INDIVIDUAL COUNCIL MEMBERS ARE GIVEN IN BRACKETS**

### **SECRETARY'S ADDRESS**

**Mr David Seath BSc(Hons) CEng FIMMM  
10 Woodhill Grove  
Crossford  
Dunfermline  
KY12 8YG**

**Tel/Fax: 01383 432856**

**Email: [D.Seath@btinternet.com](mailto:D.Seath@btinternet.com)**

**[www.mining-scotland.org](http://www.mining-scotland.org)**

Members can receive all correspondence by email. Please contact the Secretary if you wish to receive correspondence electronically but currently don't.

## **Young Persons' Lecture Competition 2010**

The IOM<sup>3</sup>'s answer to the X Factor, otherwise known as the Scottish Regional Heats of the Young Persons' Lecture Competition, will be hosted once again by the MIS on 10 February 2010. The aim of this Competition is to provide an atmosphere of friendly competition for young engineers so that their presentation skills will improve whilst addressing an informed audience. The competition is open to anyone in industry or academia who is following or has followed a course in any aspect of Materials, Minerals and Mining science and engineering but aged 28 or under on 1 June 2010. Presentations last not more than 15 minutes on a subject of your choice. Entry forms and further details are available from Craig Durham ([craig\\_durham@nexen.com](mailto:craig_durham@nexen.com)) or the Secretary. First prize is £250, second gets £150 and third gets £100. All entrants will receive a certificate from IoM<sup>3</sup> to recognize their participation in the event.

Albeit our member profile is aging and many of you do not qualify, this is a fantastic opportunity for the younger people in your organisations to hone their presentation skills, and get involved with the Institute. If you know someone who might benefit, please encourage them to participate by contacting [craig\\_durham@nexeninc.com](mailto:craig_durham@nexeninc.com) to register an interest. Full details of the competition rules can be found at [www.iom3.org](http://www.iom3.org).

## **50 Club**

How many of our members boast 50 years or more continuous membership of MIS, IMinE, IMEME, IMM or combination thereof?

We would like to publish a feature in *Materials World* to celebrate our longest serving members of the Institute. If you think you qualify, or know someone who does, please get in touch with the Secretary with your details and the (approximate) date you were admitted for membership.

Currently, our two oldest members were born in 1919 and there are 20 members born in the 1920s. In the next decade (1930s) 33 members were born. These groups are likely to contain our longest serving members. Are you included?

Council would like to present long-service certificates to every member who has supported the Institute for over half a century.

## Technical Presentations

### **Presidential Address: A comparison of mining and offshore safety legislation**

Margaret Copland, BP

Safety legislation for the mining and offshore industries exists to protect the workers and others affected by those activities. The presentation looked at the development of the two regimes and compared prescription versus goal setting approaches. It considered the future of the legislative regimes and asked the question: Is goal setting or prescription best?

### **Using Platelets to Restore Integrity**

Nick Ryan, Brinker Technology

Using the same process that the body utilises to clot blood, it is now possible to plug leaks in pipes and wells to restore integrity. The presentation explained how elastomeric platelets can be designed and used to cure leaks in valves, potable water pipes, water injection pipes, subsea umbilical control lines and gas pipes, and more recently in oil wells by sealing tubing and casing leaks in both producing and water injection wells.

### **Friction Grip Casing Hanger**

Brent Harrald, Plexus Ocean Systems

For the past decade, Plexus Ocean Systems, Aberdeen has designed and supplied innovative POS-GRIP wellheads to the oil and gas industry. POS-GRIP is a 'friction grip' system that utilizes externally applied compression to squeeze a wellhead housing in order to support casing and tubing hangers, as well as to set high-grade metal-to-metal seals. This technology enables many new wellhead products, as well as providing some interesting engineering challenges. This presentation covered design, construction, installation, and operation of this unique technology, and reviewed some of the notable engineering methodologies that were utilized to develop this product.

[All these presentations are on the website.](#)

## Borehole Surveying in mining, quarrying and oil exploration

Dr James Tweedie CEng FIMMM

### *Synopsis*

The need to survey was recognised as early as the 1870s just over a decade after the first mechanised drill was developed for oil exploration. Until 1929 the most used (and unsafe) method of acid etch provided only low-accuracy information about borehole inclination. In 1929 Sperry introduced the SURWEL Gyroscope which delivered both inclination and direction and borehole surveying was born.

Since then there has been continuous development of surveying instruments and methods with major boosts in the late 20<sup>th</sup> century to the present as computing power increased and electronic components and sensors were miniaturised. This process continues apace today.

Knowledge of borehole paths is essential in most industries in which drilling is involved, including Oil & Gas, Mining, Quarrying and Engineering / Construction. It is required to locate the position of the various data that are obtained whilst drilling, either by sampling or logging and, hence, allow accurate interpretation and planning and reduction of risk for later processes. The main challenge now is to survey to a known accuracy. This requires understanding of the instrument being used, its method of surveying and data processing and the constraints imposed by the borehole and surrounding environment.

**This presentation will be made at a joint event with the Edinburgh Geological Society to be held on 10 March 2010 at British Geological Survey, Murchison House, West Mains Road, Edinburgh.**

## Do you wish to serve on Council?

The more observant of you will have noticed that in this issue of your Newsletter we have published the full list of Council and some of the tasks they do. Although not all these functions are 'ex-officio', they are vital to the smooth running of MIS. We also would like to welcome two new members: Beran Tanilir, who replaces David Marshall as Younger Member's Representative for NE Scotland; and Alex Crossland who has been co-opted on to Council as Younger Member's Representative for Heriot-Watt University. These are particularly important positions to promote new membership and keep MIS as a going concern. We have also created a new position of 'Publicity Officer'. The intention is that this person will promote our activities more widely, as well as pull together regular features and items for *Materials World*. If you think you would be interested in helping with this particular role, please contact the Secretary.