Autumn Newsletter 2022

In this issue:

- October technical meeting
- Annual General Meeting
- Formula Student competition
- Prof Anne Neville
- Meet your Council
- Prize winners

OCTOBER TECHNICAL MEETING: Clean Ironmaking and Steelmaking Processes

Our October speaker is Pasaquale Cavaliere. He is Professor of Metallurgy at the University of Salento in Italy, having received his PhD from the University of Rome. He has served as the Marie Curie Fellow at the Massachusetts Institute of Technology's Materials Science and Engineering Department and is the author of over 200 papers, which have garnered over 2000 citations.

Pasaquale's interests lie in clean ironmaking and steelmaking processes including recent technological solutions in productivity analyses, dangerous emissions control, energy saving and emissions abatement efficiency.

**When:** Tuesday 25th October 2022 at 6pm BST

**Where:** on-line. Please register [here](#)
ANNUAL GENERAL MEETING

The annual general meeting took place on 27th September. The meeting received proposals for the modification of the constitution of the Scottish Association for Metals. This document is largely unchanged since the Association was formed almost 40 years ago from the merger of the West of Scotland Iron and Steel Institute and the Scottish branch of the Institute of Metals.

The proposed changes are designed to:

- Remove reference to annual membership fees as these are no longer collected
- Allow past Presidents to remain ex-officio members of Council
- Allow Council members to serve 2 consecutive terms
- Change the financial year to 1 September - 31 August with the AGM being held in September/October
- Ensure all references to members are gender-neutral
- Ensure compatibility with the digital world

The revised constitution can be viewed at [https://tinyurl.com/y8axda3y](https://tinyurl.com/y8axda3y). Any comments or observations should be sent to scottishmetals@gmail.com.

FORMULA STUDENT COMPETITION

For many years, the Association has been a sponsor of some of Scotland Formula Student teams, so we were delighted when the team from University of Glasgow ("UGRacing") was crowned overall WINNER of the 2022 UK Formula Student competition at Silverstone in July. Congratulations also to the Edinburgh University team ("EUFS") who performed exceptionally well in the autonomous vehicle competition at Silverstone.
PROFESSOR ANNE NEVILLE (1970-2022)

The world of engineering materials lost one of its stars this summer with the death of Anne Neville, Professor of Tribology and Surface Engineering at the University of Leeds.

Anne grew up in Dumfries and studied Mechanical Engineering at the University of Glasgow, graduating with a BEng in 1992 and a PhD in 1995. Her thesis concerned the corrosion of engineering materials in marine environments and was supervised by Trevor Hodgkiess. She was appointed a lecturer in Mechanical Engineering at Heriot-Watt University and promotions quickly followed - Reader (1999) and Professor (2002). In 2003 she was attracted south to the University of Leeds, where she again made her mark, establishing a new Institute, the Institute of Functional Surfaces.

As well as being a world-leading researcher in tribology and corrosion who was decorated with numerous awards, Anne was a thoroughly decent human being, much loved by all who knew her. She leaves a great legacy of science and engineering and a huge hole in the lives of many.

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MEET YOUR COUNCIL: Professor Bob Reuben (President 2021/23)

What 3 words would describe your materials expertise?

Eclectic: Although founded in metal-bashing, steel-polishing, microscope-peering hard-nosed metallurgy in Dalzell Works in 1970, my interests have spread to micromechanics, condition monitoring and, most recently, biomedical engineering.

Form-and-function: OK, 3 words ☺. The thing that interests me fundamentally is the relationship between macro-, micro- and nano-structure and properties (i.e. what the materials can do and why we engineer their structure)

Inclusive: To my mind, every solid is a material, and the most interesting ones are composites of some kind. This goes all the way from composites of iron and iron carbide to soft tissue, a composite of various histological components.
Favourite (recent) materials moment: Forget 3D printing of metals. This is micro-scale sintering of Ti-6Al-4V particles to produce structures of overall size a few millimetres, but with micron-scale controlled porosity.

The work is an exemplar of what can be done with precision power laser energy delivery. The photo shows a preliminary trial with the beam scanning from top right to bottom left. Surface melting and bridging are evident in the originally angular particles.

Bob Reuben is Professor Emeritus, School of Engineering and Physical Sciences, Heriot-Watt University)

PRIZE WINNERS

Congratulations to this years Scottish Association for Metals prize-winners:

- Liam Dobbie (Best materials related project submitted in the study of Mechanical Engineering at the University of Glasgow)
- Emma Knox (Best materials related Final Year Project submitted in the study of Biomedical Engineering at the University of Glasgow)
- Cezary Lisicki (Best materials project submitted for the award of MSc in Advanced Materials Engineering at Edinburgh Napier University)

October 2022

The Scottish Association for Metals is affiliated to the Institute of Materials Minerals and Mining. If you no longer wish to hear from us, please email scottishmetals@gmail.com using the words "please remove me".