



Tuesday 22nd February 2022

09:30 - 10:20 Registration, Poster Exposition, Exhibition and Networking

10:20 - 10:30 **Welcome and Introduction**
Chris McDonald, Chief Executive Officer, Materials Processing Institute

10:30 - 11:30 **Session 1: Development of Products and Applications**
Chaired by Professor Hongbiao Dong, University of Leicester

1. Characterisation of the effects of oxide dispersion strengthening on the tensile deformation and elastic properties of Eurofer97.
Presenter: Tay Sparks (University of Birmingham)

2. Effect of niobium microstructural and mechanical properties of the heat affected zones of welded marine steel.
Presenter: Jun Fu (University of Leicester)

3. A closer look at the TWIP and TRIP mechanism in medium Mn steels.
Presenter: Thomas Kwok (Imperial College London)

11:30 - 11:50 **First Perambulation**
Poster Exposition, Exhibition and Networking

11:50 - 12:50 **Session 2: Process Development**
Chaired by Gill Thornton, R&D Manager, Liberty Powder Metals Ltd

4. Ladle stirring monitoring for inclusion floatation.
Presenter: William Moncaster (University of Warwick)

5. In situ heat treatment to improve the metallurgy of hot work tool steel alloy H13 fabricated by laser additive manufacturing.
Presenter: Anna Tholen (Loughborough University)

6. The impact of process parameters on blast furnace dust output.
Presenter: John Lewis (Swansea University)

12:50 - 13:00 **Presentation of Iron & Steel Awards**

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| 1. Adrian Normanton Medal | 5. Stokowiec Medal and Prize |
| 2. Frank Fitzgerald Medal and Travel Award | 6. Thomas Medal and Prize |
| 3. Dowding Medal and Prize | 7. Hadfield Medal and Prize |
| 4. Tom Colclough Medal and Prize | 8. Gold Medal |

13:00 - 14:00 **Lunch Break**
Poster Exposition, Exhibition and Networking

14:00 - 15:20 **Session 3: Development Techniques and Fundamental Knowledge**
Chaired by Dr Richard Thackray, The University of Sheffield

7. Prediction of mechanical properties of low-carbon hot rolled plate based on machine learning method.
Presenter: Xiaoran Yang (University of Leicester)

8. Development of improved formability interstitial free steels.
Presenter: Talal Said Abdullah (Swansea University)

9. Rapid characterisation of thermally aged stainless steels for nuclear power applications.
Presenter: Oscar Smith (Loughborough University)

10. Design of in situ cathodic charging of TMCP steel under flexural loading.
Presenter: Sarah Hiew Sze Kei (Imperial College London)

15:20 - 15:45 **Second Perambulation**
Poster Exposition, Exhibition and Networking

15:45 - 16:00 **Awarding of Prizes by the Armourers & Brasiers Materials Science Committee**

1. Millman Scholarship
2. Ashok Kumar Fellowship
3. Best Poster
4. Presentation Runner-up
5. Presentation Winner

16:00 - 16:50 **Presentation of Bessemer Gold Medal and Bessemer Lecture**
The Sir Henry Bessemer Lecture will be given by John Ferriola, former Chairman, President and CEO of Nucor Corporation, USA

16:50 - 17:00 **Vote of Thanks and Closing Remarks**
Debojyoti Roy, Director Transformation and Synergy, Tata Steel UK

17:00 - 18:30 **Drinks Reception**

6th Postgraduate Research Symposium on Ferrous Metallurgy



To register
please scan
the link

**The latest academic thinking
on Ferrous Metallurgy**

Tuesday 28th February 2023
#Metallurgy6

Contact the organisers:

Tel: 01642 382000
email: academy@mpiuk.com



POSTER EXPOSITION

1. Minimising particulate emissions of sinter plant operations.

Matthew Thomas (Swansea University)

2. Cohesive zone models of fracture in line-pipe steel.

Pernille Undrum Fathi (Kings College London)

3. Multi-scale in situ studies of deformation mechanism of LPBF 316L stainless steels.

Wanxuan Teng (University of Birmingham)

4. Investigating formability of future steel grades using rapid alloy prototyping.

Liam Moody (Swansea University)

5. Effects of precious metal doping on stainless steels produced by spark plasma sintering.

Natasha Sweeney Fort (The University of Sheffield)

6. Hydrogen diffusion in pipeline steel API 5L X65.

Helena M. Ferreira (Swansea University)

7. Intercritical annealing optimisation in a segregation neutralised dual-phase steel, benchmarked against a commercial DP800.

Pedram Dastur (University of Warwick)

8. The effect of coating weight on the microstructure and performance of Zn-Al-Mg (ZAM) alloy coatings.

Daniel Britton (Swansea University)

9. Avoidance of hydrogen assisted cold cracking in multi-pass weld metal.

Shaun Smart (TWI Ltd)

10. Size control in pelletisation.

William Kennedy Walls (Swansea University)

