<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
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<tbody>
<tr>
<td>10:00 - 10:30</td>
<td>Registration, Coffee and Networking</td>
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<tr>
<td>10:30 - 10:40</td>
<td>Welcome and Introduction</td>
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<td>Chris McDonald, Chief Executive Officer, Materials Processing Institute</td>
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<tr>
<td>10:40 - 11:40</td>
<td>Session 1: Characterisation and Modelling</td>
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<td>Chair Session 1: Dr. Richard Thackray (University of Sheffield)</td>
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| 1. A comprehensive model for the coupled modelling of MnS inclusion and macrosegregation.  
  Presenter: Duanxing Cai (University of Leicester) |
| 2. Development of novel coatings for the reduction of high temperature oxidation in carbon steel conveyance.  
  Presenter: James Grant (Swansea University) |
| 3. The application of machine learning in material research: An overview.  
  Presenter: Shuo Feng (University of Leicester) |
| 11:40 - 12:00 | First Perambulation                                                                                |
| 12:00 - 13:00 | Session 2: Steel Property Measurement and Characterisation                                             |
| Chair Session 2: Gill Thornton (Liberty Powder Metals Ltd) |
| 1. Multi-scale characterisation of hot rolled AHSS for improved toughness and bendability.  
  Presenter: Cameron Bee (University of Warwick) |
| 2. Effect of microstructure and test parameters on hydrogen permeation in ultra-high-strength steels.  
  Presenter: James Lelliot (Swansea University) |
| 3. Effects of hydrogen on edge dislocation mobility in bcc iron by molecular dynamics.  
  Presenter: Angel Alberto Izquierdo Sanchez (Newcastle University) |
| 13:00 - 14:00 | Lunch and Networking                                                                                |
| 14:00 - 15:20 | Session 3: Development of Steel Grades and Properties                                                |
| Chair Session 3: Professor Hongbiao Dong (University of Leicester) |
| 1. A best practice guide for welding of newly developed duplex stainless steel (UNS S82551) seamless pipes.  
  Presenter: Kenta Yamada (University of Leicester) |
| 2. Investigating the elevated temperature deformation of iron-base hard facing alloys.  
  Presenter: Benjamin Poole (Imperial College London) |
  Presenter: Lei Tang (University of Birmingham) |
  Presenter: Thomas Davis (University of Oxford) |
| 15:20 - 15:40 | Second Perambulation                                                                                |
| 15:40 - 16:00 | Awarding of Prizes by the Armourers and Brasiers' Materials Science Committee                         |
| 1. Millman Scholarship  
  2. Best Presentation and Runner-up  
  3. Best Poster |
| 16:00 - 16:40 | Keynote Speaker                                                                                      |
| Jon Bolton, Senior Adviser, Liberty Steel Group (UK) |
| 16:40 - 16:50 | Vote of Thanks                                                                                      |
| Dr. Simon Pike, Technical Director, Liberty Steel UK |
| 16:50 - 18:30 | Drinks Reception                                                                                    |

**VENUE:**
Armourers’ Hall, Armourers & Brasiers’ Company, 81 Coleman Street, London EC2R 5BJ

Contact the organisers:
Tel: 01642 382000  
email: academy@mpiuk.com

Please join us:
### POSTER EXPOSITION

**Tuesday 25th February 2020**

1. **Exploring the effects of cryogenic treatment on engineering coating systems.**  
   *Christian Chiadikobi (University of Leicester)*

2. **Sulphur release from pulverised coal injection.**  
   *Chay Davies-Smith (Cardiff University)*

3. **Blistering formation in high strength steels (HSS) during hot rolling and the effect of Mn composition.**  
   *Rebecca Dewfall (Swansea University)*

4. **Robotic plasma processing vehicle chassis.**  
   *Adel Gani (University of Strathclyde)*

5. **Evolution of carbides in high speed steel during heat treatment.**  
   *Yang Liu (University of Leicester)*

6. **Using rapid alloy prototyping to understand the effects of residual elements on a low alloy steel.**  
   *Caroline Norrish (Swansea University)*

7. **Rapid, accurate metallic iron analysis for ironmaking materials.**  
   *Daniel Stewart (Swansea University)*

8. **Austenite stability in carburised bearing steels – Influence of austenitisation temperature and stacking fault energy.**  
   *Adriel Wong (University of Cambridge)*