After months of local duelling in the regional battles of the Institute’s Young Person’s Lecture Competition, the heat was on for the national final held on 27 April. The Livery Hall of the Armourers and Brasiers, with its ancient swords and armour, provided a fitting backdrop for the Competition.

Judges unanimously awarded first place to Eleanor Merson from the North East Region for her lecture ‘Chevron cracks in steel welds’. Merson also caught the audience’s attention with her unusual storyline presentation that brought her subject to life. Eleanor was aided by a remarkable fairy wand pointer.

Merson, a PhD student at the University of Leeds, first explained the nature of chevron cracks, which mostly appear on the inside of steel welds, and presented evidence from the two main protagonists researching the area, before presenting her own conclusions as to how these cracks are formed. Steel cracks are rare but have never been adequately explained, which leads to difficulty in predicting when they will occur and they therefore present a significant problem to the steel pipe industry, she said. Merson explained that the microstructure of the steel was an important factor in the formation of the cracks and showed EDX SEM analysis of sample weld defects that led to uncovering a new phase associated with the cracks.

Commenting on her award, a delighted Merson said, ‘I was once given the advice that a lecture should tell a story, so it seemed a natural progression to me to present my lecture as a fairytale’. Merson hopes to work as a consultant on failure analysis in the future and would like to combine this with lecturing, which she thoroughly enjoys. She wins £750 as well as the Armourers and Brasiers Company medal.

The judging panel comprised Dr Chris Corti from the World Gold Council, Dr Hardy Mohrbacher from Niobium Products Company GmbH, and Dr Phil Bischler from BNFL Magnox Generation. Corti commented ‘Eleanor understood that the competition is about presentation skills. She took a potentially boring subject and turned it into an interesting story.’

Second place and £400 was awarded to Tom Geddes from Forensic Alliance, representing the South East Region. He gave a truly gory presentation entitled ‘A light in the dark – modifying luminol for bloodstain detection on common crime scene surfaces’. Luminol is a chemical used by forensic scientists to detect and enhance latent blood stains at crime scenes, and Geddes sought to explain, with the aid of plenty of crowd-pleasing photographs, how blood stains can become damaged by the application of luminol. He described how simple modification of the chemical using xanthan gum could prevent this. Geddes used humour to great effect and definitely had the audience on-side.

‘I’ll need to be able to present evidence in court as an expert witness,’ explained Geddes, ‘so this is good practice for standing up and taking a grilling’.

Corti praised Geddes for his presentation style commenting that unlike the other competitors, Geddes refrained from projecting bulleted sentences onto the screen delivering his talk without notes and using the overhead screen for images only.

Third place and a cheque for £200 went to Svetlana Poliakova from the University of Liverpool, in the North West Region. Poliakova’s lecture, ‘Ways to control slag carry-over in LD converter,’ looked at challenges faced by today’s steelmakers in trying to reduce impurities in steel products.

Poliakova, who is working on a Masters research project in Liverpool, says she enjoys taking technology to a wider audience. ‘I think I did well because of the clarity of my message,’ she said.
Fifty-eight entries were received for the competition from the Institute’s 19 Local Societies, with the winners from each group going forward to seven regional finals, from which the eventual seven national finalists were chosen. The Young Persons’ Lecture Competition is sponsored by the Institute and supported by the Worshipful Company of Armourers and Brasiers. It aims to provide a ‘friendly atmosphere of competition in which young materials and mining engineers and scientists can develop their presentation skills’. Competitors give a 15-minute presentation followed by questions from the judges, who base their assessment on a range of criteria, from structure, clarity and delivery to professionalism of visual aids.

Runners-up, who all receive a £100 prize in recognition of their achievement of becoming regional finalists, were – Neil Hodgson from Heriot-Watt University (Scottish Region), Noel Hopkins from VAI Industries (UK) Ltd, and Bob Ruddlestone from Corus (West Region). The theme of the Masterclass is ‘Technology profiling business’, and gives the rare opportunity for young managers and researchers to spend a day interacting with world leaders in the steel industry. Masterclass leaders this year will include Stuart Pettifor, Chief Operating Officer, Corus plc, and 2005 recipient of the Bessemer Gold Medal for his services to the steel industry. The first Steel Technology Masterclass will be held on Tuesday 27 September 2005, in conjunction with the Sir Henry Bessemer Lecture and Dinner. Presenting this year’s Prestige Lecture will be Stuart Pettifor, Chief Operating Officer, Corus plc, and 2005 recipient of the Bessemer Gold Medal for his services to the steel industry. Feedback from the first event was excellent with comments such as, ‘it has broadened my knowledge of the steel industry both technically and commercially. It has also put me in contact with others in similar professions’. Another attendee said, ‘I think a gained an understanding of the major current issues that face the steelmaking community and gained a new outlook on sustainability’.

The Charles Hatchett Award Panel has recommended the following –

- Yamabe-Mitarai National Institute of Materials Science, Japan
- H Harada National Institute of Materials Science, Japan
- S Nakazawa National Institute of Materials Science, Japan


- T Furuhara, Kyoto University
- J Yamaguchi, formerly Kyoto University, now Nippon Steel Corp
- N Sugita, formerly Kyoto University, now Hitachi Ltd
- G Miyamoto, formerly Kyoto University
- T Maki, Kyoto University

Institute Awards 2005