

Eureka

The Linear Motion Masterclass: Final Programme

18 March 2008, Kaetsu Centre, Cambridge

- 8.30 **Registration, coffee and networking.**
Opportunity to view table-tops
- 9.00 **Chairman's introduction and welcome**
● *Lou Reade, Editor, Eureka*
- 9.15 **Stellar precision**
High precision linear motors form a crucial part of the BoX machine, which is used to grind intricate optical components for a new generation of telescopes.
● *Professor Paul Shore, Precision Engineering Centre, Cranfield University*
- 9.45 **True accuracy**
Explaining the difference between the usual understanding of accuracy ('microns per mm') and how a machine slide actually follows the path of an NC program.
● *George Partington, Steinmeyer UK*
- 10.00 **Putting it on plastic**
Igus shows how modern plastics are used in linear drive applications, and explains how rolling element bearings can use the materials boost performance. There is also information on how plastic cable chains can cut maintenance.
● *Matthew Aldridge & Justin Leonard, Igus UK*
- 10.15 **Coffee and networking**
Plus opportunity to see table-tops
- 10.45 **Linear motor moves in two axes simultaneously**
A novel design of linear motor technology, developed by Philips in the Netherlands, will allow linear motion systems to move in two axes at the same time. This lighter system should work faster than conventional designs, opening up applications in semiconductor manufacturing and other industries.
● *Dr Georgo Angelis, Philips Applied Technologies*
- 11.15 **Designing in a linear motor**
Real-world case studies show how the most powerful aspects of linear motors, their speed and accuracy, can most effectively be incorporated into a modern linear motion system.
● *Cliff Joliffe, Aerotech UK*
- 11.30 **Right place, right time**
An overview of encoder feedback systems and their influence on the accuracy of movement and control, with practical examples of their integration.
● *Ian Oliver, Renishaw UK*
- 11.45 **Q+A**
In the final session of the morning, all speakers will be available for follow-up questions
- 12.00 **Lunch**
Includes opportunity for further networking and viewing table-top displays

AFTERNOON SESSION

Training workshops

Each session is 40 minutes long and is repeated, so delegates are able to attend every session over the course of the afternoon.

Workshop topics

Session 1: Linear motors

Linear motors are best known for their accuracy, but what are the most important factors when designing a linear motor-based positioning system? Aerotech guides delegates through the key issues.

Session 2: Bearings

In this practical session, delegates solve a simple linear drive problem using plastic-based linear systems. Igus will also give guidance on using manufacturer data to specify the correct linear drive. A similar exercise will be carried out for a polymer chain cable system.

Session 3: Encoders

A detailed explanation of how laser calibration can support the design process. It demonstrates how to make similar laser measurements, showing the importance of the drive system and material make-up in a machine structure. Workshop led by Gary Swan and James McMath of Renishaw.

Session 4: Ballscrews

As well as expanding on points from the morning session, Steinmeyer's hands-on workshop will challenge participants to select a particular ballscrew for a particular application.

4.30 **Event ends**



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