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You Are Invited to the ASPE Spring Meeting: Control of Precision Systems

Join Dr. Stephen Ludwick, Aerotech's Director of Advanced Technology, at the American Society for Precision Engineering 2010 Spring Topical Meeting. Dr. Ludwick and colleagues David L. Trumper (MIT) and Jan van Eijk (Delft University of Technology) will present "[Fundamentals of Precision System Control](#)" as a full-day tutorial during the three-day technical summit at the Massachusetts Institute of Technology in Cambridge, MA.



Lab tours and further learning and networking opportunities will supplement the technical programs that run Sunday through Tuesday, April 18-20, 2010. The control of precision systems encompasses a wide range of applications in high-speed, high-accuracy manufacturing and automation. The growth of nanotechnology and nanoscale manufacturing has further raised the positioning requirements for machine designers. The ASPE meeting is a chance for industry leaders to converge for discussion, networking, and technical presentations concerning the state of the industry.

Call for Papers

ASPE is now accepting abstract and paper submissions for the Spring Topical Meeting. Contributed papers are invited in, but not limited to, the following topics:

- Precision control of mechatronic systems
- System design and dynamic error budgeting
- Advances in sensors, actuators, processors, and positioning systems
- Multi-axis modeling and uncertainty analyses
- Friction modeling, estimation, and control
- Command generation and feedforward design
- Case studies in precision mechatronic systems

Please [visit the ASPE website](#) for submission information, and to view the [complete archived proceedings](#) from past conferences.

Photovoltaic Solutions Brochure Now Online

Extensive application experience and a broad array of motion products make Aerotech the perfect partner for your photovoltaic (solar cell) manufacturing or testing platform. From small format systems for R&D to full-size production panel processing systems, our worldwide operation engineers and manufactures a variety of [motion platforms for solar cell manufacturing and inspection applications](#).

The [SolarScribe](#) automation series is the most comprehensive photovoltaic panel scribing system available today. It includes both mechanical and air-bearing versions of split-axis and gantry-style systems for maximum application flexibility. All design elements of the SolarScribe have been optimized to provide maximum throughput while maintaining tight control of geometric characteristics like dynamic straightness. In addition, because each customer and solar technology application has its own set of requirements, Aerotech has designed the SolarScribe system to include options like multi-head scan axes, Z and theta correction axes, and machine base/isolation systems. As always, all configurations put Aerotech's proven core technologies and extensive manufacturing capability to work for you, providing outstanding performance and versatility.



Whether the project is large or small, Aerotech's technical expertise will ensure success. [View or download](#) the PDF of our brochure [Automation Solutions for Solar Panel Inspection and Scribing](#) to see some of these state-of-the-art systems.

Motion Control and Positioning Library

This resource provides a short summary and a link to articles, tutorials, white papers, and other materials that discuss problems and solutions involving motion control and positioning equipment and systems.

[Explore Aerotech's Online Library of Product Catalogs and Brochures](#)

Browse our motion solutions for applications in aerospace, semiconductor, medical device fabrication, laser processing, micromachining, electronic manufacturing, test and inspection, data storage, and more. Request a hard copy of any brochure or catalog, or download a PDF today.

[Laser Processing in Stent Production](#)

The diameter of a human hair is approximately 100 microns, while the entire wall thickness of the material in a stent is 25% the thickness of a human hair. By reviewing these numbers, it is easy to understand the difficulties of ensuring quality stent manufacturing. But what is the best method of production to meet these tight tolerances?

[The Need for Speed](#)

Packaging OEMs look to advanced software solutions and linear servos to boost system performance.

[Machine Vision Speeds PCB Solder-Joint Inspection](#)

The system combines servo motion, continuity testing, and solder-joint inspection in one unit for processing of automotive connectors.

[Resolution Resolved](#)

System or stage resolution is often spelled out for motion controls as well as in vendor catalogs and Web site specifications. However, many misinterpret what the term truly means.

[Linear Motor Basics](#)

A steady increase in practical industrial applications has secured a place for linear motors. Here's an overview of the various types of linear motors and what differentiates them from their rotary counterparts.

[How to Select and Install Air Bearing Stages](#)

Air bearing stages are noted for their smooth, frictionless motion. A few tips and techniques will ensure you benefit from their advantages.

[Micropositioning Meets Mechatronics](#)

Compared to traditional methods, the mechatronic design approach is more of a holistic approach to product design, where the tradeoffs between different functional components (software, hardware, user interface, etc.) are carefully considered for their impact on overall performance.

[Motion Control Requirements for Hermetic Seam Welding](#)

A discussion of the motion control platform in regard to [hermetic seam welding](#) of sophisticated electronic devices implanted in the human body.

[Digitizing a Century of Astronomical Images](#)

Aerotech's ABL9000 air-bearing stage is put to use to efficiently digitize more than 500,000 photonegatives.

[Two-Photon Polymerization: A New Approach to Micromachining](#)

Femtosecond lasers enable microfabrication with resolution beyond the diffraction limit.

[Precise Triggering of External Events Based on Axis Position](#)

An axis-based trigger in the controller can significantly improve part quality, reduce cycle time, and eliminate processing problems. This article discusses Aerotech's unique PSO (Position Synchronized Output) option, and how any application that requires precise data acquisition or process action linked to axis position can benefit from it.

[Applications Dictate Gimbal Selection](#)

The choice between direct-drive and gear-driven gimbals and optical mounts presents an opportunity for a comparison of the pros and cons for each.

[Linear Motors Application Guide](#)

A tutorial guide to the history, design, and application of linear motors.

Latest Software Releases (Red indicates a new release)

A3200 Digital Automation Platform	Version 2.54.005
Ensemble Multi-Axis Controller	Version 2.54.005
Soloist Single-Axis Controller	Version 2.54.005

Aerotech Quick Links

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