2018 SCHEDULE

Livermore Technical Presentation Agenda

DAY 2 – October 19th

Welcome Back to the Livermore, CA Technical Workshop

8:00am

ISO 10110 Standards, Optics, Quality and Profits in the 21st Century

International standards facilitate commerce on a global scale by reducing transaction costs. Inspection does not create quality. Quality is not free, and reputations are priceless. The goal in the American optics industry in the 21st century is to reduce the costs of bidding and accepting contracts, and ensuring quality in such a way that overall costs are minimized. We offer a guide to transition to ISO 10110 simply, and how to increase product quality and profits at the same time.

Dave Aikens – Savvy Optics
Ray Williamson – Ray Williamson Consulting

10:00am - 10:15am

Coffee Break

10:15am

Achieving and Superseding Laser Surface Requirements

Our presentation is on achieving low surface roughness below 5 angstroms concentrating on 2 angstroms or less with typical laser substrates. With today's surface roughness demands being always lower than the laser optics requirements of yesterday, low surface roughness, scatter and surface quality are in high demand. We offer options, ideas and suggestions to achieve the requirements now and for the future.

Justin Mahanna – Universal Photonics

10:50am

OptiSonic: Ultrasonic Fabrication Methods and Applications

Hard ceramic and optical materials can present a significant challenge in manufacturing precision components. Utilizing the OptiSonic technology has significantly improved processing a wide range of materials for a variety of fabrication requirements.

Dave Mohring – OptiPro

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Science of Surfacing

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DAY 2 – October 19th

Livermore, CA Technical Workshop - continued

11:25am

Machining of Freeform Optics for Infrared Applications

The single point diamond turning of infrared optics with freeform geometry presents many challenges such as tool path, rake angle, and tool height calculations. These are our solutions to enable precise machining at low cost.

Daniel Gauch – Schneider Optical Machines Inc.

12:05pm – 1:05pm
Noon Hour Talk
Buffet Style Pasta Luncheon

Apprenticeships (APOMA National Credential)

Mike Mandina – Optimax Systems Inc.

1:05pm

Laser Damage Testing and new laser damage standards

Laser damage evaluation is an important diagnostic in the evaluation of surfaces, optical coatings and bulk materials. In the past, test guidelines and procedures have been defined by a specific customer or end user making the data, in many cases, germane to a specific application. This talk discusses laser damage test procedures, and their effect on resultant data. In addition, it will review the ISO test procedure, proper interpretation of resultant data, and discuss the newest version of a US damage test procedure currently under consideration by the OEOSC.

Michael Thomas - SPICA

1:40pm

Ultrasonic Cleaning of Optical Surfaces

We will conduct an informal discussion surrounding the optimization of cleaning parameters for producing “ready to coat” optical surfaces. We will touch on chemistries, fluid hydraulics, fixturing, drying techniques, and ultrasonics to provide a basic understanding on how these individual parameters effect the removal of contamination without detriment to the optical surface.

Steven Cramer – Jayco Cleaning Technologies

2:20 – 2:35pm

Afternoon Break

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Livermore, CA Technical Workshop – continued

2:35pm

Work Manufacturing Concept for Large Cylinder Lenses

This concept will introduce technologies and the tools used for the fabrication and measurement of large cylinder lenses.

Matthias Pfaff – Optotech

3:10 pm

Three-Dimensional Configurable IC™ Optic Material for Precision CNC Optical Polishing

Fabrication of next generation optical surfaces will be manufactured in rigorous, predictive, process-controlled environments and IC™ Optic polishing material's uniform and controlled pore structure allows manufacturers to fabricate optics that meet ever increasing demands in form and repeatability.

William Gemmill – Eminess Technologies

3:35 pm

Latest advancements in MRF and SSI Technologies

Magnetorheological finishing (MRF) and sub-aperture stitching interferometry (SSI) have enabled high precision optics manufacturing for about 20 years. Recent advancements allow for high-NA concave optic polishing, enhance mid-spatial frequency error corrections, improve laser damage threshold and extend SSI to measure freeform optics.

Paul Dumas / Bruce Forman – QED

4:10 pm

Additive Manufacturing of Glass Optics

Techniques for three-dimensional (3d) printing of glass have opened the door to novel glass optics with both unconventional structures and tailored composition. The state-of-the art in glass 3d printing and associated challenges will be presented.

Rebecca Dylla-Spears – LLNL

4:50 – 5:00pm

Workshop wrap-up

Closing remarks, Thank you to speakers, sponsors & workshop evaluation and committee forms.

Mike Mandina – APOMA President Elect – Optimax Systems Inc.

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