

2023 ASPE Summer Topical Meeting

Precision Bearings and Spindles

Charlotte, North Carolina, USA
19-20 July 2023

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American Society for Precision Engineering (ASPE)
3434 Edwards Mill Road, Suite 112-325
Raleigh, NC
27612

Phone: (984) 268-9756

www.aspe.net

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Program & Schedule

Wednesday, July 19, 2023

7:00 AM – Registration & Coffee

Grigg Lobby

8:00 AM – 12:00 Noon (Break half-way through tutorial)

Tutorial – Precision Metrology of Rotary Axes

Grigg 132

12:00 Noon – 1:30 PM

Boxed Lunch & Commercial Session

Grigg Lobby & Grigg 132

1:30 PM – 3:00 PM

Technical Session 1 – Precision Manufacturing Processes

Grigg 132

1. Designing, Building and Testing the Spindle for LODTM with Bob Donaldson
Jeffrey W. Roblee (AMETEK – Precitech, Inc.).....1
2. Bearing Review of the Crystal Mitigation Stations
Todd Noste (Lawrence Livermore National Laboratory).....3
3. Design and Construction of a Low-Cost Diamond Turning Lathe and
Workholding System
Cyrus M. Lloyd, Nicholas A. Browning (Auburn University).....8
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Ultra-Precision Hole Jig-Grinding
Sinan J. Badrawy (Moore Nanotechnology Systems, LLC).....16

3:00 PM – 3:30 PM

Break

Grigg Lobby

3:30 PM – 5:15 PM

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Grigg 132

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Ralf Dupont (Levicron GmbH).....24
3. Development of a New High-Accuracy Angle Generator
Christian F. Guertin (Vermont Photonics Technologies Corporation).....32

4. Super-Accurate Angular Encoder System with Multi-Detecting Heads Using VEDA Method
Nobuyuki Ishii (Magnescale Co. Ltd.).....34
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Zane Comden, John Draganov, Stephan Schlamming, David Newell, Leon Chao (National Institute of Standards and Technology); Frank Seifert (University of Maryland).....39

5:15 PM – 6:45 PM

Reception, Lab Tours & Demonstrations

Duke Centennial Hall (next to the Grigg Building)

Dinner-on-your-own

Thursday, July 20, 2023

7:00 AM – Registration & Coffee

Grigg Lobby

8:15 AM – 9:45 AM

Technical Session 3 – Hydrostatic Bearings

Grigg 132

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9:30 AM – 10:00 AM

Break

Grigg Lobby

10:15 AM – 12:00 Noon

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Grigg 132

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12:00 Noon – 1:30 PM

Boxed Lunch & Digital Presentations

Grigg Lobby & Grigg 132

1:30 PM – 3:30 PM

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Grigg 132

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