

# DATE NOTE

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## International Workshop on Ultraprecision Manufacturing of Aspheres and Freeforms

*Workshop in Jena from September 14 to 15*

*Jena (Germany)*

**Under the title "Ultra Precision Manufacturing of Aspheres and Freeforms" the Fraunhofer Institute for Applied Optics and Precision Engineering IOF and OptoNet e.V. invite again to their international workshop in Jena, Germany from September 14 to 15, 2022.**

It is already the 10th time that Fraunhofer IOF and OptoNet e.V. invite an international expert community to Jena to jointly discuss the latest technologies and developments in the fields of freeforms and aspheres. In its anniversary year, the event will focus on scientific freeform optics projects, manufacturing technologies, freeform systems and applications, and the characterization of freeform surfaces.

In addition to professional exchange during lectures and discussions, the event also offers the opportunity for extensive networking at an evening event. Furthermore, the workshop will be accompanied by an exhibition of the latest technological highlights. This year's exhibitors include: AMETEK GmbH BU Precitech, AMETEK GmbH BU Taylor Hobson, Bühler Alzenau GmbH, DUTCH UNITED INSTRUMENTS, Mahr GmbH, micro resist technology GmbH - Moore Nanotechnology Systems, RSP Technology, SCHNEIDER GmbH & Co. KG as well as son-x GmbH, and Trionplas Technologies GmbH.

The event will take place at the Abbe-Zentrum Beutenberg, Hans-Knöll-Str. 1 in Jena, Germany. The event language is English.

For more information and to register by August 20, visit: <https://optonet-jena.de/events/upm2022/>.

The event is supported by Carl Zeiss Jena GmbH and Qioptiq Photonics GmbH & Co. KG.

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**Editorial Notes**

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**Program**

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**Wednesday, September 14, 2022**

**11:30 a.m. Registration & Welcome Snack**

**12:00 p.m. Welcoming, Retrospect & Protagonists**

Andreas Tünnermann (Fraunhofer IOF), Germany  
Anke Siegmeier (OptoNet e.V.), Germany

**12:30 p.m. KEYNOTE | Grating Technology for Space Instruments at IOF: Status and Prospects**

Uwe Zeitner (Fraunhofer IOF), Germany

**01:00 p.m. PART 1 | Scientific Freeform Optics Projects**

*Research highlights from CeFO, the Center for Freeform Optics*  
Jannick Rolland (UNC Charlotte Center for Freeform Optics), USA

*Free your mind – Form your optics: The fo+ Alliance*  
Sven Kiontke (asphericon GmbH), Germany

*The new era for free-form micro-optics: story of a unique pilot line*  
Jessica van Heck (PHABULOUS Pilot Line Association), Switzerland

**02:30 p.m. Exhibition & Coffee Break**

**03:00 p.m. PART 2 | Manufacturing Technologies**

*Ultra precision polishing asphere and freeform optics by robot ccp*  
Xuejun Zhang (Changchun Institute of Optics (CIOMP)), China

*Manufacturing blazed metallic freeform gratings with commercial machines*  
Cyril Bourgenot, Christopher Graham, John Girkin (Precision Optics Laboratory, University of Durham), UK

*Manufacturing of Functional Surfaces by Diamond Machining*  
Oltmann Riemer, Lars Schönemann (Leibniz-Institut für Werkstofforientierte Technologien IWT), Germany

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**FRAUNHOFER-INSTITUTE FOR APPLIED OPTICS AND PRECISION ENGINEERING IOF**

*Enabling New Materials in Ultra Precision Machining Through Ultrasonic Assistance*  
Benjamin Bulla (son-x GmbH), Germany

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*Form Error Compensation of Freeform Surfaces Machined by Diamond Turning*  
Christopher Morgan (Moore Nanotechnology Systems, LLC), USA

*Freeform Optics Fabrication with Atmospheric Plasmajets*  
Hendrik Paetzelt (Trionplas Technologies GmbH), Germany

*High productive machining of large scale free form mirrors*  
Christian Wenzel (Innolite GmbH), Germany

**05:30 p.m. Exhibition & Coffee Break**

**07:30 p.m. Evening event**

Andreas Tünnermann (Fraunhofer IOF), Germany  
Keynote address: Jeff Roblee (AMETEK Precitech Inc.), USA

**Thursday, September 15, 2022**

**08:00 a.m. Registration**

**08:30 a.m. PART 3 | Freeform Systems and Applications**

*Using Aspherical Optics: SENTINEL-4 A Geostationary Imaging UVN Spectrometer for Air Quality Monitoring*  
Giorgio Bagnasco (ESA/ESTEC Noordwijk), The Netherlands

*Satellite-based Quantum Communication: Applications of High-Performance Optical Systems*  
Fabian Steinlechner (Fraunhofer IOF), Germany

*The Hyperspectral Imaging Spectrometer DESIS on board of the International Space Station*  
Ingo Walter (Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Institut für Optische Sensorsysteme), Germany

*Additive Manufacturing of Metal Optical Systems for Space*  
Nils Heidler, Enrico Hilpert (Fraunhofer IOF), Germany

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**FRAUNHOFER-INSTITUTE FOR APPLIED OPTICS AND PRECISION ENGINEERING IOF**

**10:15 a.m. Exhibition & Coffee Break**  
**10:50 a.m. PART 5 | Part IV · Characterization of Freeform Surfaces**

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*Advances in MRF and SSI Technologies enable new Freeform Manufacturing Capabilities*  
Jean Pierre Lormeau (QED Technologies), USA

*Inline Metrology of Freeform Surfaces*  
Ruth Mackey, David Mackey (mBryonics Ltd), Ireland

*Fast and Accurate Measurement Solution for Aspherical and Freeform Optics*  
Rens Henselmans (Dutch United Instruments), The Netherlands

*Data Processing for Freeform Production and Metrology*  
Andreas Beutler (Mahr GmbH), Germany

*Light scattering based roughness and defect characterization of freeform surface*  
Christian Mühlig (Fraunhofer IOF), Germany

**01:00 p.m. Closure**  
Anke Siegmeier (OptoNet e.V.), Germany

**01:15 p.m. Exhibition & Snack Buffet**

## Contact

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