

asphericon  
ACADEMY

# Designing tomorrow's systems today.

EXPERTISE

2GO

LASER WORLD OF  
PHOTONICS 2023

MESSE MÜNCHEN

WORKSHOPS

27. - 28.06.23

Linking design, manufacturing, metrology for optimized  
applications based on aspheres and freeforms



# AGENDA

## WHAT IS IT ABOUT?

- = Three successive workshops on optical design, manufacturing and metrology of aspheres and freeforms
- = Structured, state-of-the-art training
- = Unique opportunity to learn from the technology leader in aspheric and freeform manufacturing
- = Engage in a close exchange with industry experts

## WHAT CAN YOU EXPECT?

- = Structured overview of current technologies, trends and best-practice examples
- = Develop a better understanding of how to design highly sophisticated optical elements that are both manufacturable and ready to use
- = Let yourself be inspired by new solutions and valuable hints directly from practice
- = Take the opportunity and discuss your current questions and challenges with experts
- = Training material with many take-home messages

## WHO SHOULD PARTICIPATE?

- = Optical Designers
- = Technical Project Managers
- = Engineers with a manufacturing background
- = Laser Scientists

## WHY SHOULD YOU ATTEND?

- = You want to gain a deeper understanding of the unique features of aspheres and freeforms?
- = You want to improve performance predictions in your optical design by learning more about manufacturing and metrology?
- = You want to find out how you can really transform your ideas into highly efficient optical systems?
- = You have current design, manufacturing or metrology questions we should address in the workshop?
- = You want to get highly distilled knowledge as expertise to go?
- = Benefit from free admission to the Laser World of Photonics

All three workshops are designed in such a way that they complement each other perfectly and can therefore be excellently combined. Mix and match the workshops according to the day and time best suited to your visit of the Laser World of Photonics.

10-12 am

2-4 pm

TUESDAY  
27.06.

Asphere

Freeform

WEDNESDAY  
28.06.

Manufacturing/  
Metrology

### WORKSHOP #1: ASPHERE

- = Deeper understanding of surface descriptions for aspheres (ISO 10110, Zemax, CodeV)
- = Getting the most out of your optical design with aspheres
- = Learn about tolerancing concepts (ISO 10110, Zemax, CodeV) that make your asphere design ready for manufacturing
- = Optimization of manufacturability with maximum cost efficiency
- = Considering design effects on the overall optical system
- = Challenges and opportunities in high-end finishing approaches

### WORKSHOP #2: FREEFORM

- = What is new for surface descriptions for freeform surfaces? (ISO 10110, Zemax, Code V)
- = New opportunities and challenges with freeform design
- = Learn about tolerancing concepts that help with performance prediction
- = Latest examples for demonstrating current possibilities in freeform manufacturing
- = Challenges and opportunities in high-end finishing approaches and metrology

### WORKSHOP #3: MANUFACTURING/METROLOGY

- = Application- and price-oriented analysis of classical manufacturing vs. sub-aperture grinding / polishing for aspheres / freeforms
- = Dive into the diversity of metrology approaches (form, geometry, roughness, wavefront) and deal with limits and possibilities
- = Maximizing system performance by learning about manufacturing statistics
- = Alignment of optical design and manufacturing realities
- = Better understand technical drawings

Please feel free to send us your questions or current challenges in advance, which we should address in the workshop!

# YOUR ASPHERE & FREEFORM EXPERT

## DR. ULRIKE FUCHS

After joining asphericon in 2010 Dr. Fuchs focused early on linking manufacturing of aspherics and metrology with questions in optical design. With her team she also works on concepts that allow better prediction of system performance during optical design and tolerancing processes. Recently, great emphasis is put on transferring those ideas to freeform optics. As Vice President Strategy & Innovation she now coordinates all R&D activities at asphericon as well as strategic product development. She has already been able to register 6 patent families and is the inaugural winner of the Kevin P. Thompson Optical Design Innovator Award. Furthermore, she has been working as an Associated Editor for Optics Express since April 2018 and is the author of more than 70 publications. Currently, Dr. Fuchs is a member of the Board of Directors of Optica (2023-2025). She holds a PhD in physics from the Friedrich Schiller University of Jena.



## PRICES:

### SINGLE PACKAGE\*

Choose between workshops: #1 Asphere, #2 Freeform, #3 Manufacturing/Metrology  
150 €\*

### PREMIUM PACKAGE\*

All workshops  
360 €\*

### Special pricing for (PhD) students!

Register for our workshops and benefit from discounted rates.

Single package: 125 €\*  
Premium package: 300 €\*

\*Your Advantage: Free admission to Laser World of Photonics (save 56 € / day ticket)  
Limited space available. Hurry, while first comes first served!

For further information  
please contact:

Dr. Thomas Hegenbart  
+49 3641 3100 552  
event@asphericon.com  
www.asphericon.com

BOOK HERE:

