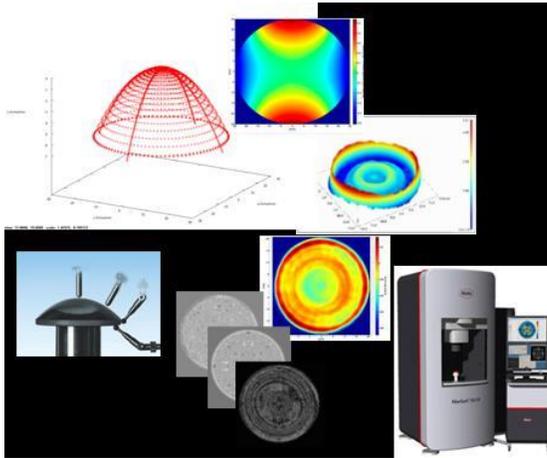


## Challenges and Opportunities in Asphere and Freeform Metrology

Dr. Brent Bergner, Sr. Optical Engineer, Mahr



Aspheric and freeform surfaces can be a useful addition to the optical designer's toolbox. The additional degrees of freedom allow for a reduction in the number of surfaces, making systems lighter, cheaper, and more compact. New technologies such as MRF, slow tool servo diamond turning, and optimized molding and replication techniques have expanded the range of their practical applications. However, aspheric and freeform surfaces can still be difficult and expensive to measure. In this presentation, we survey the various methods for measuring these surfaces and examine some of the sources of error, limitations, and other gotchas for each of the techniques. With that prospective we then look at recent advances and potential paths forward for improving the accuracy, speed, and flexibility of aspheric and freeform

metrology.

**About our speaker:** Brent Bergner has twenty years of experience in precision metrology and optical instrumentation for process control. He has a Ph.D. in Optical Science and Engineering from the University of North Carolina at Charlotte and has made significant contributions to the fabrication, replication, and testing of micro-optic components and systems including: diamond turning, imprint lithography, molded optics, diffractive optics, waveguide gratings, wafer level integration of optical systems, and liquid crystals for telecommunications applications. As a Senior Optical Engineer for Mahr, his current research interests concern instrumentation for process control in optical manufacturing.



**Reception: 6:00; Dinner / Talk: 7:00**  
**Meal: Buffet Style Dinner – Cost: \$35**  
**\$40 after May 4th**  
**OSSC Student Members: \$10,**  
**\$20 after May 4**

**Mahr Metrology**  
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On-line Registration: [www.osscc.org](http://www.osscc.org) or  
 Contact: Don Silbermann, **OSSC** Arrangements Chair,  
[Events@osscc.org](mailto:Events@osscc.org),  
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RSVP by May 4, 2018

**Please post this notice and invite your friends & colleagues to attend!**