



# IMAGING AND APPLIED OPTICS CONGRESS

7 – 11 June  
Renaissance Arlington Capital View Hotel  
Arlington, Virginia, USA

[osa.org/imagingOPC](http://osa.org/imagingOPC)

Abstracts Deadline: 18 February 2015\*

Advance Registration: 11 May 2015

## CALL FOR PAPERS

### Freeform Optics (FREEFORM)

[osa.org/freeform](http://osa.org/freeform)

Fabrication techniques that create optical surfaces that are not surfaces of revolution open an expansive new space. Particularly enabled systems include illumination systems, head-worn displays, pervasive surveillance systems, and compact and/or high-performance imaging and sensing devices. But there is a dearth of optical testing methods for these surfaces, and the theory and implementation of an aberration theory as a basis for optical design of these surfaces is very new. This meeting covers evolving methods for surface representation and optimization of both imaging and illumination systems, and a perspective on the new challenges these surface present to optical testing and manufacturing.

This will be the third OSA meeting on freeform optics and builds upon the successful freeform optics meeting held in Tucson in 2013. With ever-expanding successes from the introduction of freeform surfaces into both imaging and nonimaging (illumination) optical systems, there is innovative work being done in both academia and industry in all areas of optical system evolution including:

- ▶ Optical design
- ▶ Optical system simulation
- ▶ Surface representation
- ▶ Fabrication
- ▶ Metrology
- ▶ Optical system assembly



## Freeform Optics (FREEFORM)

[osa.org/freeform](http://osa.org/freeform)

Invited speakers from both industry and academia will speak to the latest developments in these topics and more.

### TOPIC CATEGORIES

---

- ▶ The latest optical designs based on introducing freeform surfaces in lithography, imaging systems and spectrometers
- ▶ Illumination systems that are improved or enabled by freeform surfaces
- ▶ Recent examples of fully realized optical systems that utilize freeform optics
- ▶ Optical design methods for introducing freeform surfaces
- ▶ New methods for testing freeform surfaces
- ▶ Advances in and examples of freeform surface fabrication
- ▶ Methods for developing tolerances for freeform surface fabrication and assembly
- ▶ Methods for specifying freeform surfaces for fabrication and accounting for orientation at assembly
- ▶ Mathematics of freeform surface representations
- ▶ Methods for displaying aberration field properties in optical systems with freeform surfaces

### CHAIRS

---

**Jannick Rolland**, *University of Rochester, United States, General Chair*

**Kevin Thompson**, *Synopsys, United States, General Chair*

# IMAGING AND APPLIED OPTICS CONGRESS

7 – 11 June  
Renaissance Arlington Capital View Hotel  
Arlington, Virginia, USA

[osa.org/imagingOPC](http://osa.org/imagingOPC)