

Professor Allen Yi

Professor
210 Baker Systems
1971 Neil Ave
Columbus, OH 43210
Tel: (614) 292-9984, Fax: (614) 292-7852
eMail: yi.71@osu.edu
Homepage: <http://go.osu.edu/yi>



Experience Highlights

- 10 Years industrial experience
- 12 years Univ. R&D
- 100+ publications
- NSF CAREER (2006)
- Recipient of various awards

Experience Summary

Allen Yi is currently a Professor of Industrial and Systems Engineering at OSU. He received his PhD from Boston University in 1993. He graduated from University of Science and Technology of China in 1986. After working ten years at Corning Precision Lens he joined OSU in 2002. He is a long time member of the American Society for Precision Engineering (ASPE).

He authored and co-authored more than 100 technical papers in precision engineering. Prof Yi's research activities have been in the general area of precision engineering with focus in high volume optical fabrication, freeform and microoptics fabrication as well as micromachining processes for optical, medical and biomedical device fabrication.

Research Areas

■ *Compression Molding of Glass Optical Components.*

Compression molding of glass components is becoming a viable precision manufacturing process. As an emerging new technology, it faces many challenges that include thermal shrinkage, high cost of mold making and optical property variation due to cooling. The aim of my research is to seek fundamental understanding of the glass molding process by integrating precision mold making, rheological modeling of glass materials and precision measuring of molded glass optics.



■ *Freeform Optical Design and Fabrication*

Researches in this area involve design, fabrication, metrology, and assembly of freeform optical elements. The significance of this topic lies in the fact that we are in a largely uncharted area. Freeform in this context is loosely defined as a surface that is not-rotationally symmetric. Freeform optics however is a vigorous scientific and engineering discipline, the development of which is facilitated by advances in computing and fabrication technologies.



■ *Microoptics and Micromachining*

Ultraprecision machining at meso and micro level is an ideal tool for microdevice (including both optical and non-optical) fabrication. Ultraprecision machining is an ideal process to integrate micro details and macro size device substrates thereby providing a complete system solution. This process is especially important for creating true 3D microstructures where lithography can be difficult to implement.

