Special Issue

Freeform Optics for Illumination and Imaging

Message from the Guest Editor

Optical freeform surfaces, owing to their high degree of design freedom, can significantly reduce the number of components required in optical systems. As a result, they have found extensive applications in both imaging and non-imaging optical systems, making them a key research focus within the field of optical engineering.

This Special Issue aims to compile the latest research findings from leading experts in the field. The topics covered in this Special Issue include, but are not limited to, the following:

1. Methods for designing optical freeform surfaces;
2.Technologies and processes for manufacturing optical freeform surfaces;
3. Optical freeform surfaces metrology;
4. Novel optical systems incorporating freeform surfaces, such as the following:
- LED lighting optics;
- Laser-beam-shaping systems;
- Photovoltaic concentrator systems;
- Off-axis reflecting telescopes;
- Vehicle-mounted head-up displays (HUDs);
- Virtual reality/augmented reality (VR/AR) optical systems;
- Hyper-spectral imaging systems.
5. The integration of freeform optics with interdisciplinary fields such as artificial intelligence (AI), computational imaging, and micro/nano optics.

Guest Editor

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Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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