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# ***Optical and Infrared Interferometry and Imaging V***

**Fabien Malbet**  
**Michelle J. Creech-Eakman**  
**Peter G. Tuthill**  
*Editors*

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## Introduction

Optical and infrared interferometry continues to rapidly develop and deliver unique scientific reach to astrophysics. As astronomy, in general, goes through a transformative phase, our field has encountered both opportunities and challenges. The primary goals of this conference were to allow the attendees to learn firsthand about the exciting capabilities operational at facilities across the globe and to discuss the future prospects for interferometry in technology and instrumentation. Here, the SPIE meeting plays a unique role as the singular venue that brings together interferometrists from the world over.

For this meeting in Edinburgh, key themes were the burgeoning scientific productivity encapsulated in many invited reviews, the emergence of new instrumentation (particularly from photonics), and the continuing development of image reconstruction techniques. Closure-phase measurements and nulling results from large aperture telescopes continue to help push astrophysical investigations of fainter objects. New instrumentation will bring all these aspects together in the very near future, with increasing interest from non-specialists in interferometry thanks to general user facilities and data-reduction software.

This conference has primarily focused on the latest innovations in technology and engineering for ground- and space-based interferometry in the optical and infrared, including new instrumentation, techniques and software. For example, we had many contributions on integrated optics and detectors. Marquee scientific results in areas ranging from young stellar objects to active galactic nuclei have been made possible with milli- and micro-arcsecond angular resolution.

In several important domains, the distinction between interferometry and aperture masking has been dissolving for some years. The newest generation of extremely large telescopes occupy some middle ground where the field of high-resolution imaging with a single aperture—traditionally aperture masking or speckle interferometry—has been powerfully augmented by the advent of high-performing adaptive optics. Although the major surge in interest in space interferometry from the previous decade has abated, there are several smaller missions from balloons to cubesats that are generating significant interest and keeping these ideas alive.

We had an interesting community discussion that allowed introspection and brainstorming for the intermediate and long-term future of interferometry. Scientific and technical opportunities, priorities and new directions in times of limited funding were major themes. This volume presents a total of 102 contributions (a similar total to recent meetings - 96 in 2012, 116 in 2014).

We would like to thank all oral contributors, invited talks and posters who made this conference an important milestone in our domain.

**Fabien Malbet**  
**Michelle J. Creech-Eakman**  
**Peter G. Tuthill**

