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## ***Optical and Infrared Interferometry and Imaging VI***

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*Editors*

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## Introduction

The 2018 Optical and Infrared Interferometry and Imaging VI conference included many new developments in the astronomical interferometry field, which has expanded this year with particular growth in the disciplines of speckle, aperture masking and intensity interferometry. These areas are experiencing a resurgence due to their utility on large aperture telescopes, as well as the availability of high-speed, low noise detectors and advanced computer systems. We are also learning of more developments for balloon-borne interferometry and potential interferometric approaches on future space platforms. Finally, this conference saw exciting new avenues of inquiry in nulling techniques, adaptive optics, photonics, improved fiber technologies, photon-counting detectors and new beam combiners using novel approaches and combinations of multiple technological advances only recently available.

Highlights of this conference include updates from all the large facilities operating and under development today: CHARA, LBT, MROI, NPOI and VLTI. We heard from the GRAVITY team on the results of microarcsecond measurements of the galactic center. New instruments or facilities are coming online or in various stages of development, including the Planet Formation Imager (PFI), MATISSE, Hi-5, SPICA, MYSTIC, MIRC-X and FOURIER. In the speckle community recent instruments and scientific results were presented, including from 'Alopeke and NESSI, while Cherenkov arrays and new approaches to intensity interferometry with small aperture telescopes showed new promise in this venerable field. Science highlights ranged from discussions of young stellar objects and active galactic nuclei, to stellar convection/spots and exoplanets. The community continues to actively work from optical through thermal infrared, with many synergistic approaches across wavelengths as well as science inquiries utilizing more traditional astronomical techniques to fully constrain the investigations. High angular resolution continues to produce unique insights for the astronomical community that cannot be garnered in any other ways.

We resumed community awards at this meeting. From the strongly competitive field of five dissertation papers, the committee chose to award the best dissertation presentation to Tiphaine Lagadec, The Univ. of Sydney (Australia) for her work on the GLINT South project on the AAT. The Michelson Lifetime Achievement award for his work at Georgia State Univ. (United States) on speckle and long-baseline interferometry through CHARA went to Dr. Hal McAlister. The Fizeau Lifetime Achievement award for his work at Harvard-CfA and NASA-JPL including crucial roles on IOTA, SIM, and the Keck and LBT Interferometers went to Dr. Wesley Traub. The Michelson Investigator award for his work on Cepheids, evolved stars and fundamental stellar parameters went to Dr. Pierre Kervella. The Michelson Awards, previously supported by the Mount Wilson Observatory (United States), are now being sponsored by Lowell Observatory (United States); the Fizeau Awards

continue to be supported by l'Observatoire de la Côte d'Azur (France). Finally, the imaging contest (we have moved past the "beauty" moniker) also contained many interesting approaches to the modeling of our "secret target" and the interested reader will have to seek out the paper led by Antoine Mérand, European Southern Observatory (Germany) in these proceedings to learn who won the competition and why.

We invite you to peruse this volume from SPIE to learn of the latest developments in our fast-paced and innovative field.

**Michelle J. Creech-Eakman**  
**Peter G. Tuthill**  
**Antoine Mérand**