

PROGRESS IN BIOMEDICAL OPTICS AND IMAGING  
Vol. 18 No. 37

# ***Adaptive Optics and Wavefront Control for Biological Systems III***

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*Editors*

**28–30 January 2017  
San Francisco, California, United States**

*Sponsored and Published by*  
SPIE

**Volume 10073**

Proceedings of SPIE, 1605-7422, V. 10073

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

Adaptive Optics and Wavefront Control for Biological Systems III, edited by Thomas G. Bifano, Joel Kubby, Sylvain Gigan,  
Proc. of SPIE Vol. 10073, 1007301 · © 2017 SPIE · CCC code: 1605-7422/17/\$18 · doi: 10.1117/12.2276751

Proc. of SPIE Vol. 10073 1007301-1

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

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Author(s), "Title of Paper," in *Adaptive Optics and Wavefront Control for Biological Systems III*, edited by Thomas G. Bifano, Joel Kubby, Sylvain Gigan, Proceedings of SPIE Vol. 10073 (SPIE, Bellingham, WA, 2017) Seven-digit Article CID Number.

ISSN: 1605-7422

ISSN: 2410-9045 (electronic)

ISBN: 9781510605879

ISBN: 9781510605886 (electronic)

Published by

**SPIE**

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) • Fax +1 360 647 1445

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Printed in the United States of America.

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## Introduction

Adaptive optics and wavefront control have greatly expanded the capability of optical microscopy and measurements in biological systems. Recent breakthroughs in measuring and controlling high-order optical wavefront have led to many important applications, including deep tissue microscopy with improved imaging quality and depth, optical tweezers with sophisticated shape and momentum distribution, and three-dimensionally patterned optogenetic excitation. This conference includes contributions from leading experts in a variety of research fields that employ innovative adaptive optics for biomedical applications including optical coherence tomography (OCT) in ophthalmology, endoscopy, widefield, stimulated emission/depletion (STED) and multiphoton microscopy, and adaptive optics applied to cleared tissue. Contributions in wavefront control technologies include the dynamic performance of MEMS deformable mirrors, liquid crystal devices, and dynamic red blood cells. Finally, applications in wavefront control include focusing light through dynamic diffusive media, reduction of out-of-focus background light and the use of coherent optical adaptive techniques (COATS) for improvement of the spatial resolution in thick samples. We would like to thank all of the authors who contributed to this conference.

**Joel Kubby  
Thomas Bifano  
Sylvain Gigan**

