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Contents

vii Authors
ix Conference Committee
xiii Introduction

ANGIOGRAPHY AND BLOOD FLOW

10858 02 Quantitative artery-vein analysis in optical coherence tomography angiography of diabetic retinopathy [10858-1]

PASCAL ROL LECTURE

10858 0B Need for technologies in advanced corneal research, diagnosis, and transplantation (Keynote Paper) [10858-82]

OCULAR OPTICS AND MECHANICS

10858 0H Varying femtosecond laser induced crosslink density in corneal stroma to control degree of refractive error correction [10858-15]
10858 0J Quantifying changes in lenticular stiffness with optical coherence elastography [10858-17]

OPHTHALMIC ADAPTIVE OPTICS

10858 0K Classifying cone photoreceptors in the living human eye using their unique phase response to light (Pascal Rol Award) [10858-18]
10858 0L Method to track and measure loss of inner retinal neurons in the living human eye [10858-19]
10858 0O Photoreceptor identification and quantitative analysis for the detection of retinal disease using AO-OCT imaging [10858-22]
10858 0P Visualizing and enhancing axial resolution in nonconfocal adaptive optics ophthalmoscopy [10858-52]

OPHTHALMIC IMAGING: TECHNOLOGY
Device for silent substitution excitation of melanopsin for human eye [10858-36]

OPHTHALMIC IMAGING: CLINICAL

Optic nerve head morphometry for glaucoma diagnosis, optimization of clinical measurement strategy [10858-45]

POSTER SESSION

Lacrimal canaliculus imaging by dynamic OCT using extrinsic contrast agent [10858-50]

Wide field of view retinal imaging by handheld fundus camera [10858-51]

Multiscale Hessian filtering for enhancement of OCT angiography images [10858-54]

Optical coherence tomography guided artery-vein classification in the retinal OCT angiography of macular region [10858-55]

Longitudinal optical coherence tomography angiography of hyaloid vessels in the developing mouse eye [10858-57]

Second harmonic generation imaging of chick corneal development [10858-65]

Non-invasive and label-free follow-up of accelerated-crosslinking using multiphoton tomography [10858-67]

Performance analysis of a hyperspectral system for human iris imaging [10858-69]

Nano sensitive study and fractal analysis of segmented retinal layers in Fourier domain OCT: promises for early disease detection [10858-71]

Fully automated corneal nerve segmentation algorithm for corneal nerves analysis in-vivo UHR-OCT images [10858-73]

An original low-power opto-fluidic engine for presbyopia-correcting adaptive eyeglasses [10858-74]

Modeling the load resistance in laser-assisted corneal transplantation [10858-76]

Macular pigment reflectometry: development and evaluation of a novel clinical device for rapid objective assessment of the macular carotenoids [10858-78]

Impact of retinal image quality: software aid for a low-cost device and effects on disease detection [10858-79]
Authors

Numbers in the index correspond to the last two digits of the seven-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first five digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

Agyanov, Sokolov, 0J
Agricli, Serigli, 13
Alam, Minhasur, 02, 1L
Alexandrov, Sergey, 21
Ala, Sarwar, 11
Bakchandran, Chiranjeev, 13
Bartiga, Simon, 29
Batista, Ana, 1X
Benson, Jeremy, 29
Berge, Bruno, 24
Bizheva, Kostadinka, 23
Breung, Hans Georg, 1X
Canovetti, Annalisa, 26
Cassaling, Fredéric, OP
Cebulla, Colleen M., 00
Chen, Yang-Fang, 1V
Chhablani, Jay, 21
Choi, Dong-Hak, 1H
Choi, Stacey S., 00
Coss, Jeneatte, 28
Crowell, James A., 0K, 0L
Das, Nandan, 21
Davey, Rinatkin G., 28
Dey, Rajib, 21
di Ciclia, Luca, 1Z
Dobele, Nathan, 00
Dong, Chen-Yuan, 1V
Fan, Jiashuai, 0H
Ferrara, Paolo, 26
Fomovsky, Mikhail, 0H
Fujimoto, Masahiro, 1H
Gelber, Marthai, 13
Ghosh, Nirmana, 21
Gibson, Donald, 2D
Gierhart, Dennis L., 28
Golias-Salas, Elena, OP
Grieve, Kate, 0P
Hager, Tobias, 1X
Han, Le, 23
Hiwatashi, Fumiko, 1H
Hosseinnezhad, Zohreh, 23
Ignatovich, Filipp, 2D
Jarosz, Jessica, 24
Kawasaki, Aki, 13
Kim, Tae-Hoon, 1N
King, Travis, 2D
König, Karsten, 1X
Kralj, Olivera, 23
Kurokawa, Kazuhiko, 0K, 0L
Lagarde, Neill, 08
Larin, Khalil, 0J
Lasoued, Ayoub, 0K, 0L
Lavigne, Quentin, 24
Leahy, Martin, 21
Lee, Sheng-Un, 1V
Um, Jennifer L., 02
Ulu, Changpeng, 1L
Malandrini, Alex, 26
Manna, Suman K., 1K
Maynard, John, 29
Mecè, Pedro, 0P
Mellon, Serge, 0P
Meleppat, Ratheesh K., 1K
Menabuoni, Luca, 26
Miller, Donald T., 0K, 0L
Miller, Eric B., 1K
Mollex, Norbert, 24
Nemeth, Sheilla, 29
Ngo, Angelique, 26
O’Gorman, Sean, 21
Obayashi, Kohji, 1H
Ohr, Matthew, 00
Palacios, Diego, 1I
Paques, Michel, 0P
Petit, Cyril, 0P
Pin, Roberto, 26
Pugh, Edward N., 1K
Rossi, Francesca, 26
Rossi, Michele, 26
Rovati, Luigi, 1Z
Sahel, José, 0P
Sandberg Melin, Camilla, 1C
Seltz, Berthold, 1X
Shen, Kai, 1I
Singh, Mannohar, 0J
Söderberg, Per G., 1C
Solit, Peter, 29
Son, Taeyoon, 02, 1L, 1N
Sorbara, Luigina, 23
Sorban, Todd, 2D
Tan, Bingyao, 23
Tosch, Devis, 02, 1L
Truffer, Frederic, 13
Uji, Akihito, 1H
Vukelic, Sinisa, 0H
Wang, Chao, 0H
Wang, James H., 11
Wang, Michael R., 11
Well-Gray, Elaine M., 00
Wigdahl, Jeffrey, 29
Wong, Alexander, 23
Wu, Chen, 0J
Yao, Xincheng, 02, 1L, 1N
Yoshimura, Reiko, 1H
Yu, Zhaohua, 1C
Zamora, Gilberto, 29
Zawadzki, Robert J., 1K
Zhang, Furu, 0K, 0L
Zhang, Hongqiu, 0J
Zhang, Pengfei, 1K
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1  Angiography and Blood Flow I
   Robert J. Zawadzki, University of California, Davis (United States)
   Kostadinka Bizheva, University of Waterloo (Canada)

2  Small Animal Imaging
   Marco Ruggeri, Bascom Palmer Eye Institute (United States)
   Yuankai Kenny K. Tao, Vanderbilt University (United States)

3  Pascal Rol Lecture
   Per Söderberg, Uppsala University (Sweden)

4  OCT Technology
   Daniel X. Hammer, U.S. Food and Drug Administration (United States)
   Derek Nankivil, Johnson & Johnson Vision Care, Inc. (United States)

5  Ocular Optics and Mechanics
   Arthur Ho, Brien Holden Vision Institute (Australia)
   Georg Schuele, Johnson & Johnson Vision (United States)

6  Ophthalmic Adaptive Optics
   Wolfgang Drexler, Medical University of Vienna (Austria)
   Sina Farsiu, Duke University (United States)

7  Angiography and Blood Flow II
   Daniel V. Palanker, Stanford University (United States)
   Per Söderberg, Uppsala University (Sweden)

8  Ophthalmic Therapy and Vision Restoration
   Ezra Maguen, American Eye Institute (United States)
Ygal Rotenstreich, The Chaim Sheba Medical Center, Tel Hashomer (Israel)

9 Spectral Imaging
Donald T. Miller, Indiana University (United States)
Luigi Rovati, University degli Studi di Modena e Reggio Emilia (Italy)

10 Ophthalmic Imaging: Technology
Arthur Ho, Brien Holden Vision Institute (Australia)
Marco Ruggeri, Bascom Palmer Eye Institute (United States)

11 Ophthalmic Imaging: Clinical
Karen M. Joos, Vanderbilt University Medical Center (United States)
Roberto Pini, Istituto di Fisica Applicata “Nello Carrara” (Italy)
Introduction

The papers contained in this volume were presented at the twenty-ninth conference on Ophthalmic Technologies, held from 2 to 3 February 2019, at the Moscone Center in San Francisco, California (United States) as a part of the SPIE Photonics West BiOS Symposium.

A total of 48 oral presentations and 34 posters were presented by scientists, clinicians, and engineers from academia and industry representing 22 countries spanning 4 continents. The conference covered a broad range of topics, including novel approaches to increase the resolution of photovoltaic retinal implants, the use of high speed retinal imaging for imaging neuronal activity, laser-induced ocular gene therapy and fundus imaging using transmitted light.

The conference hosted its thirteenth presentation on the topic of the unmet needs and impact of technology in the clinical area. Dr. Neil Lagali, from the Department of Clinical and Experimental Medicine at Linköping University (Sweden), presented current needs and recent advances in the field of corneal research, diagnostics and surgery.

The nineteenth Pascal Rol Award was presented to Dr. Furu Zhang and his colleagues from Indiana University (United States) for their outstanding paper on "Classifying cone photoreceptors in the living human eye using their unique phase response to light" [10858-18]. Established in memory of Dr. Pascal O. Rol, former chair and co-founder of the Ophthalmic Technologies conference, the award is in recognition of the best manuscript and presentation. Special congratulations to Dr. Zhang, who also won the award just two years ago, in 2017! The 2019 finalists of the award, selected by the entire program committee among 78 abstract submissions, included Kazuhiro Kurokawa [10858-19], and Tingwei Zhang [10858-35].

We are very grateful to Johnson and Johnson Vision for sponsoring the 2019 Pascal Rol award and keynote lecture through the Pascal Rol Foundation.

We thank the Program Committee members, session chairs, speakers and participants, as well as the SPIE staff, for their support and dedication in making this conference a success.
We extend an invitation for the Ophthalmic Technologies XXX conference, which is scheduled for Saturday 1 February 2020 and Sunday 2 February 2020 in San Francisco, California (United States).

Fabrice Manns
Per G. Söderberg
Arthur Ho
Nineteenth Pascal Rol Award for Excellence in Ophthalmic Technologies
Sponsored by Johnson and Johnson Vision through the Pascal Rol Foundation

Presented on Sunday February 3, 2019 to

Dr. Furu Zhang

for his excellent paper on

"Classifying cone photoreceptors in the living human eye using their unique phase response to light"

Prof. Roberto Pinì (left) presents the 2019 Pascal Rol Award to Furu Zhang (right).
### Past awardees

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Research Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Kazuhiro Kurokawa</td>
<td>Method to investigate temporal dynamics of ganglion and other retinal cells in the living human eye</td>
</tr>
<tr>
<td>2017</td>
<td>Furu Zhang</td>
<td>Tracking dynamics of photoreceptor disc shedding with adaptive optics-optical coherence tomography</td>
</tr>
<tr>
<td>2016</td>
<td>Zhuolin Liu</td>
<td>Imaging human retinal pigment epithelium cells using adaptive optics optical coherence tomography</td>
</tr>
<tr>
<td>2015</td>
<td>Francesco de la Rocca</td>
<td>Ultra-compact switchable SLO/OCT handheld probe design</td>
</tr>
<tr>
<td>2014</td>
<td>Marco Ruggeri</td>
<td>Biometry of the ciliary muscle during dynamic accommodation assessed with OCT</td>
</tr>
<tr>
<td>2013</td>
<td>Yossi Mandel</td>
<td>In-vivo performance of photovoltaic subretinal prosthesis</td>
</tr>
<tr>
<td>2012</td>
<td>Clemens Alt</td>
<td>In vivo quantification of microglia dynamics with an SLO in a mouse model of focal laser injury</td>
</tr>
<tr>
<td>2011</td>
<td>James Loudin</td>
<td>Photovoltaic retinal prosthesis</td>
</tr>
<tr>
<td>2010</td>
<td>Daniel Hammer</td>
<td>Multimodal adaptive optics for depth enhanced high-resolution ophthalmic imaging</td>
</tr>
<tr>
<td>2009</td>
<td>Kazuhiro Kurokawa</td>
<td>1μm wavelength adaptive optics scanning laser ophthalmoscope</td>
</tr>
<tr>
<td>2008</td>
<td>Boris Povazay</td>
<td>Minimum distance mapping using volumetric OCT: A novel indicator for early glaucoma diagnosis</td>
</tr>
<tr>
<td>2007</td>
<td>Yoshiaki Yasuno</td>
<td>Clinical examinations of anterior eye segments by three-dimensional swept-source optical coherence tomography</td>
</tr>
<tr>
<td>2006</td>
<td>Enrique Fernandez</td>
<td>Adaptive optics using a liquid crystal spatial light modulator for ultrahigh-resolution optical coherence tomography</td>
</tr>
<tr>
<td>2005</td>
<td>Karsten König</td>
<td>Cornea surgery with nanojoule femtosecond laser pulses</td>
</tr>
<tr>
<td>2004</td>
<td>Daniel Palanker</td>
<td>Attracting retinal cells to electrodes for high-resolution stimulation</td>
</tr>
<tr>
<td>2003</td>
<td>Igor Ermakov</td>
<td>Non-invasive optical techniques for the measurement of macular pigments</td>
</tr>
<tr>
<td>2002</td>
<td>Georg Schueie</td>
<td>Non-invasive temperature measurements during laser irradiation of the retina with optoacoustic techniques</td>
</tr>
<tr>
<td>2001</td>
<td>Matthew Smith</td>
<td>Minimizing the influence of fundus pigmentation on retinal vessel oximetry measurements</td>
</tr>
</tbody>
</table>
The 2019 Pascal Rol Lecture on Ophthalmic Technologies
Saturday February 2, 2019

Professor Neil Lagali, Linköping University (Sweden)

Need for technologies in advanced corneal research, diagnosis, and transplantation

The Pascal Rol Lecture on Ophthalmic Technologies is presented by a leading researcher in ophthalmology with a strong interest and pioneering research contributions to the field of ophthalmic technologies. This invited lecture is intended to trigger further development of ophthalmic technologies by stimulating discussions between basic scientists, engineers, and clinicians.

The 2019 lecture was supported by Johnson and Johnson Vision through the Pascal Rol Foundation (www.pascrollfoundation.org)