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Fabrice Manns
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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

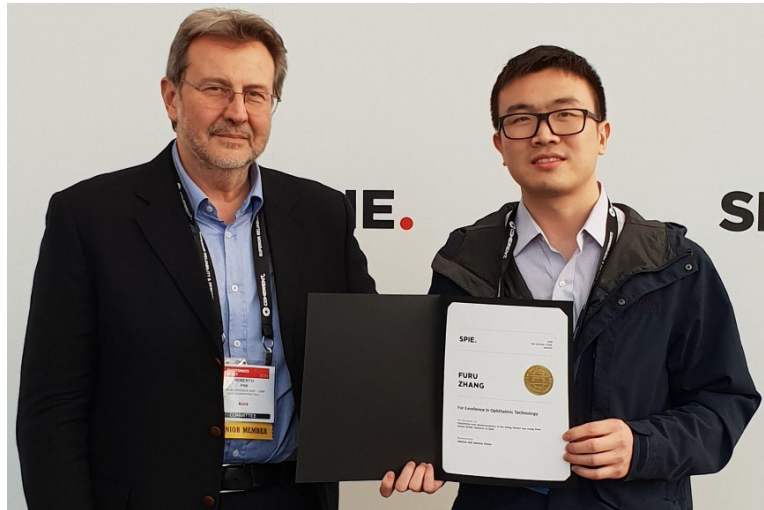


Presented on Sunday February 3, 2019 to

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 Pini (left) presents the 2019 Pascal Rol Award to Furu Zhang (right).

Past awardees

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

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
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