

BIOPHOTONICS FOR EYE RESEARCH

international doctoral
summer school



The Biophotonics for Eye Research international doctoral summer school is a scientific meeting dealing with aspects of the Physics and Engineering of the human eye.

This meeting aims to follow on from the summer schools organized previously by the Visual Sciences committee of the Spanish Optical Society (SEDOPTICA). In this meeting, we shall focus on new results and techniques in imaging technology and optics of vision.

The format of the meeting is a series of classes, invited lectures with ample time for discussion and interaction, and scientific contributions presentations. The interaction of basic science and cutting edge technology to develop future solutions for better vision will be at the center of the workshop.

Young researchers and doctoral students will present their research in dedicated sessions.

The meeting will be hosted by the University of Granada in the summer of 2025.



SPIE

OPTICA
Advancing Optics and Photonics Worldwide

BER2025
Biophotonics for Eye Research
international doctoral summer school

4-6 JUNE 2025 GRANADA, SPAIN



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ORGANIZING & SCIENTIFIC COMMITTEE

María Viñas	Institute of Optics-CSIC (Spain)
Mikel Aldaba	Technical University of Catalonia-UPC (Spain)
Clara Mestre	Technical University of Catalonia-UPC (Spain)
Alba Paniagua	University of Castilla La Mancha (Spain)
José Juan Castro	University of Granada (Spain)
Justo Arines	University of Santiago de Compostela-USC (Spain)
María S. Millán	Technical University of Catalonia-UPC (Spain)
E Josua Fernández	University of Murcia (Spain)
Juanma Bueno	University of Murcia (Spain)
Pablo Artal	University of Murcia & VOPTICA (Spain)
Aixa Alarcón	Johnson & Johnson Vision (The Netherlands)
Susana Marcos	University of Rochester (USA)
Carlos Dorrnsoro	Institute of Optics-CSIC & 2EyesVision (Spain)
Jaume Pujol	Technical University of Catalonia-UPC (Spain)
Brian Vohnsen	University College Dublin (Ireland)
Christina Schwarz	University of Tübingen (Germany)
Katarzyna Komar	Int. Centre for Translational Eye Research (Poland)
Linda Lundström	KTH Royal Institute of Technology (Sweden)
Walter Furlan	University of Valencia (Spain)
Laura Remon	University of Zaragoza (Spain)
Jose M Meijome	University of Minho (Portugal)

LOCAL COMMITTEE

José Juan Castro	University of Granada (Spain)
Sonia Ortiz	
Miriam Casares	
José Ramón Jiménez	
Rosario González Anera	
Francesco Martino	
Pilar Granados	
Luis J. del Barco	

BER2025 will gather students, researchers, and renowned scholars in an international forum on Biophotonics for eye research, with a series of classes, invited lectures with ample time for discussion and interaction, and scientific contributions presentations. The interaction of basic science and cutting edge technology to develop future solutions for better vision will be at the center of the workshop.

EXPECTED NUMBERS

- 100 attendees from international institutions
- 70 young researchers will present their research
- 3 days event
- 3 scientific societies involved (OPTICA, SPIE, SEDOPTICA)

BER2025 web:

<https://ber.sedoptica.es>

Contact: ccvision@sedoptica.com



Join BER2025 SLACK channel!!

<https://shorturl.at/7Jvgo>

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TECHNICAL PROGRAM

	<i>4 June-Wednesday</i>	<i>5 June-Thursday</i>	<i>6 June-Friday</i>
Morning		BREAKFAST WITH THE EXPERTS	
		KEYNOTE TALK	
		SESSION I Optics and vision	SESSION IV New horizons in refractive, cataract and eye surgery
		SESSION II Structural & Functional disruptions of the eye	SESSION V Visual Function, Smart Glasses and Diagnostics tools
Afternoon	SOCIAL EVENT Networking poster session sponsored by OPTICA Ambassador program	SESSION III Microscopy, retina and beyond	POSTER SESSION
	BIOPHOTONICS: INDUSTRIAL APPLICATIONS		KEYNOTE TALK, AWARDS CEREMONY & CLOSING REMARKS
Evening	KEYNOTE TALK	SOCIAL EVENT Carmen de la Victoria	VISIT TO LA ALHAMBRA
	WELCOME RECEPTION		

REGISTRATION form
<https://shorturl.at/OiztM>

IMPORTANT DATES

Registration opens **1st February 2025**

Deadline for abstracts **22nd April 2025**

<https://docs.google.com/forms/d/e/1FAIpQLSedvdmEkSh5ICEPdrUbMFvKHruCO-M0myuP8L6ewexZqEBufw/closedform>

REGISTRATION*

Junior (early, 1 february to 15 april): 200€

Senior (early, 1 february to 15 april): 300€

Junior (regular, until 14th may): 250€

Senior (regular, until 14th may): 350€

*Includes: accommodation (4th & 5th June; double room for juniors, single for seniors; breakfast included), lodging & social events

Additional information

TRAVEL GRANTS: available for students and early careers

Awards for best young researcher scientific contribution

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WEDNESDAY, JUNE 4TH

WEDNESDAY	
15:00-18:00	SOCIAL EVENT. Networking poster session sponsored by OPTICA Ambassador program
16:30-17:00	Coffe Break
18:00-19:00 BIOPHOTONICS: INDUSTRIAL APPLICATIONS	
18:00 - 18:15	Patrick Kolsch Head of Global Market Development for Life Science and Biomedical. NKT Photonics
18:15 - 18:30	Lucie Sawides Scientist & former Industry. <i>Spanish National Research Council (CSIC) & 2EyesVision</i>
18:30 - 18:45	Vanessa Morcillo VP of Business Development Camera. Wwoptix
	Discussion <i>Moderator: Antonio Castelo (EPIC)</i>
19:00-20:00 KEYNOTE TALK	
	Prof. Susana Marcos University of Rochester (US) <i>Current challenges in Visual Optics & Biophotonics</i>
20:00-22:00	WELCOME RECEPTION

THURSDAY, JUNE 5TH

THURSDAY	
8:00-9:00	BREAKFAST WITH THE EXPERTS
9:00-09:45	KEYNOTE TALK
	Prof. Kate Grieve <i>OCT in vivo/in vitro methods</i> Institut de la Vision Paris (France)
09:45-11:15 SESSION I. Optics and vision	
09:45-09:50	María Viñas Peña <i>Vision: ocular optics, brain and beyond</i> Institute of Optics-CSIC (Spain)
09:50-10:10	Alberto de Castro <i>The role of accommodation on vision</i> Institute of Optics-CSIC (Spain)
10:10-10:30	Prof. J.M. Bueno <i>Retinal Structure Analysis through Two-Photon Imaging Microscopy</i> University of Murcia (Spain)
10:30-10:50	Prof. Eva Acosta <i>Computational approaches for eye research</i> University of Santiago de Compostela (Spain)
10:50-11:15	Discussion <i>Moderator: Justo Arines (USC)</i>
11:15-11:30	Break

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5 JUNE

11:30-13:30	SESSION II. Structural & Functional disruptions of the eye	
11:30-11:50	Prof. J.M. González-Méijome Universidade do Minho (Portugal)	<i>Structure and changes in the growing eye. Development, progression and control of myopia</i>
11:50-12:10	Prof. Brian Vohnsen University College Dublin (Ireland)	<i>From the Stiles-Crawford effect towards optical sensing of photoreceptor dynamics</i>
12:10-12:30	Prof. Elvira Orduna University of Zaragoza (Spain)	<i>Morphological changes in the retina: the influence of light and accommodation</i>
12:30-12:50	Junior researcher	
12:50-13:15	Discussion <i>Moderator: Jose Juan Castro Torres (UGr)</i>	
13:30-14:30	Lunch	
14:30-16:30	SESSION III. Microscopy, retina and beyond	
14:30-14:50	Simone Morrtal ICFO-The Institute of Photonic Sciences (Spain)	<i>Expansion microscopy for retinal imaging</i>
14:50-15:10	Prof. Michael Telias University of Rochester (US)	<i>Retinal ganglion cells visual sensing using multiphoton microscopy</i>
15:10-15:30	Elena Gofas Salas Institut de la Vision Paris (France)	<i>Biomarkers of inflammation in neurodegenerative disease using AOSLO</i>
15:30-15:50	Prof. Katarzyna Komar International Center for Translational Eye Research (Poland)	<i>AO-TwoPhoton Vision. Ocular Optics and accommodation</i>
15:50-16:10	Prof. Gloria Bueno University of Castilla La Mancha (Spain)	<i>Computational approaches for biological imaging</i>
	Discussion	
20:00-22:00 pm	SOCIAL EVENT. Carmen de la Victoria	



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FRIDAY,
JUNE 6TH



FRIDAY

	9:00-11:00	SESSION IV. New horizons in refractive, cataract and eye surgery	
	9:00-9:20	Aixa Alarcon Johnson & Johnson (The Netherlands)	<i>New horizons in refractive and cataract surgery in the industry</i>
	9:20-9:40	Prof. Walter Furlan University of Valencia (Spain)	<i>Multifocal intraocular lenses: from design to optical bench evaluation</i>
	9:40-10:00	Pablo Pérez Merino Institute of Optics-CSIC (Spain)	<i>Computational Eye tracing & IOL calculator</i>
	10:00-10:20	Consuelo Robles García Voptica SL (Spain)	<i>Clinical visual simulation</i>
	10:20-10:40	Prof. E. Josua Fernández University of Murcia (Spain)	<i>Correcting chromatic aberration</i>
	10:40-11:00	Discussion	<i>Moderator: María Sagrario Millán (UPC)</i>
	11:00-11:30	Break	
6 JUNE	11:30-13:30	SESSION V. Visual Function, Smart Glasses and Diagnostics tools	
	11:30-11:50	Sonia Ortiz University of Granada (Spain)	<i>Visual function & daily tasks</i>
	11:50-12:10	Brian L. Due University of Copenhagen (Denmark)	<i>Practical aspects of using smart glasses in everyday life</i>
	12:10-12:30	Juan L. Aragón University of Murcia (Spain)	<i>Optoelectronic presbyopia glasses</i>
	12:30-12:50	Haris Ginis Diestia (Greece)	<i>Scattering Diagnostic tools</i>
	12:50-13:15	Junior researcher	
	13:15-13:30	Discussion	<i>Moderator: Alba Paniagua (UCLM)</i>
	13:30-14:30	Lunch	
	14:30-16:30	POSTER SESION + Coffee break	
	16:30-17:30	KEYNOTE TALK Prof. Pablo Artal University of Murcia (Spain)	<i>Future challenges in Visual Optics & Biophotonics</i>
17:30-18:00	CLOSING REMARKS. AWARDS CEREMONY		
	18:00-22:00	VISIT TO LA ALHAMBRA	

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