

# Biophotonics for Eye Research summer school @ Sedoptica



**The Biophotonics for Eye Research summer school @Sedoptica** 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 @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.**

**4-6 June 2025  
Granada, Spain**

BER2025  
Biophotonics for Eye Research  
summer school @Sedoptica

4-6 JUNE 2025 GRANADA, SPAIN



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# BER2025 Biophotonics for Eye Research summer school @Sedoptica

4-6 JUNE 2025 GRANADA, SPAIN



## ORGANIZING & SCIENTIFIC COMMITTEE

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

## LOCAL COMMITTEE


|                               |                               |
|-------------------------------|-------------------------------|
| <b>José Juan Castro</b>       | University of Granada (Spain) |
| <b>Sonia Ortiz</b>            |                               |
| <b>Miriam Casares</b>         |                               |
| <b>José Ramón Jiménez</b>     |                               |
| <b>Rosario González Anera</b> |                               |
| <b>Francesco Martino</b>      |                               |
| <b>Pilar Granados</b>         |                               |

**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](mailto:ccvision@sedoptica.com)

 Join BER2025 SLACK channel!!  
<https://shorturl.at/7Jvgo>

# BER2025 Biophotonics for Eye Research summer school @Sedoptica

4-6 JUNE 2025 GRANADA, SPAIN

## PRELIMINARY PROGRAM

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

### REGISTRATION form

<https://shorturl.at/OiztM>

### IMPORTANT DATES

Registration opens **1st February 2025**

Deadline for abstracts **17th March 2025**

### 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 (4<sup>th</sup> & 5<sup>th</sup> 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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**TECHNICAL  
PROGRAM**



|               |  |   |
|---------------|--|---|
|               | <b>WEDNESDAY</b>   |   |
|               | 15:00-18:00  | <b>SOCIAL EVENT. <i>Networking poster session</i></b>   |
|               | 16:30-17:00  | <b>Coffe Break</b>  |
|               | <b>18:00-19:00 BIOPHOTONICS: INDUSTRIAL APPLICATIONS</b> |   |
| <b>4 JUNE</b> | <b>Moderator</b>   | <b>Antonio Castelo</b> European Photonics Industry Cluster<br><b>Patrick Kolsch</b> NKT Photonics<br>Head of Global Market Development for Life Science and Biomedical<br><b>Lucie Sawides</b> Spanish National Research Council (CSIC)<br>Scientist & former Industry <i>2EyesVision</i><br><b>Vanessa Morcillo</b> <i>Wooptix</i><br>VP of Bussiness Development Camera |
|               | 19:00-20:00  | <b>KEYNOTE TALK</b>   |
|               |  | <b>Prof. Susana Marcos</b> <i>Current challenges in Visual Optics &amp; Biophotonics</i><br>University of Rochester (US)  |
|               | 20:00-22:00  | <b>WELCOME RECEPTION</b>  |

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## 4-6 JUNE 2025 GRANADA, SPAIN

### THURSDAY

8:00-9:00 **BREAKFAST WITH THE EXPERTS**

9:00-09:45 **KEYNOTE TALK**

**Prof. Kate Grieve** *OCT in vivo/in vitro methods*  
Institut de la Vision Paris (France)

09:45-11:15 **SESSION I. Optics and vision**

09:45-09:50 **María Viñas Peña** *Vision: ocular optics, brain and beyond*  
Institute of Optics-CSIC (Spain)

09:50-10:10 **Alberto de Castro** *The role of accommodation on vision*  
Institute of Optics-CSIC (Spain)

10:10-10:30 **Prof. J.M. Bueno** *Imaging the eye*  
University of Murcia (Spain)

10:30-10:50 **Prof. Eva Acosta** *Computational approaches for eye research*  
University of Santiago de Compostela (Spain)

10:50-11:15 **Discussion** *Moderator: Justo Arines (USC)*

11:15-11:30 **Break**

11:30-13:30 **SESSION II. Structural & Functional disruptions of the eye**

11:30-11:50 **Prof. J.M. González-Méijome** *Myopia control*  
Universidade do Minho (Portugal)

11:50-12:10 **Prof. Brian Vohnsen** *Stiles-Crawford effect*  
University College Dublin (Ireland)

12:10-12:30 **Prof. Elvira Orduna** *Retina morphological changes*  
University of Zaragoza (Spain)

12:30-12:50 **Junior researcher**

12:50-13:15 **Discussion** *Moderator: Jose Juan Castro Torres (UGr)*

13:30-14:30 **Lunch**

14:30-16:30 **SESSION III. Microscopy, retina and beyond**

14:30-14:50 **Simone Morrtal** *Expansion microscopy for retinal imaging*  
ICFO-The Institute of Photonic Sciences (Spain)

14:50-15:10 **Prof. Michael Telias** *Retinal ganglion cells visual sensing using multiphoton microscopy*  
University of Rochester (US)

15:10-15:30 **Elena Gofas Salas** *Biomarkers of inflammation in neurodegenerative disease using AOSLO*  
Institut de la Vision Paris (France)

15:30-15:50 **Prof. Katarzyna Komar** *AO-TwoPhoton Vision. Ocular Optics and accommodation*  
International Center for Translational Eye Research (Poland)

15:50-16:10 **Prof. Gloria Bueno** *Computational approaches for biological imaging*  
University of Castilla La Mancha (Spain)

**Discussion**

20:00-22:00 pm **SOCIAL EVENT. Carmen de la Victoria**

5 JUNE

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**4-6 JUNE 2025 GRANADA, SPAIN**

**FRIDAY**

**9:00-11:00 SESSION IV. New horizons in refractive, cataract and eye surgery**

**9:00-9:20 Aixa Alarcon** *New horizons in refractive, cataract and eye surgery in the industry*  
 Johnson & Johnson (The Netherlands)

**9:20-9:40 Prof. Walter Furlan** *Contact lens design. On-bench evaluation*  
 University of Valencia (Spain)

**9:40-10:00 Pablo Pérez Merino** *Computational Eye tracing & IOL calculator*  
 Institute of Optics-CSIC (Spain)

**10:00-10:20 Consuelo Robles García** *Clinical visual simulation*  
 Voptica SL (Spain)

**10:20-10:40 Prof. E. Josua Fernández** *Correcting chromatic aberration*  
 University of Murcia (Spain)

**10:40-11:00 Discussion** *Moderator: María Sagrario Millán (UPC)*

**11:00-11:30 Break**

**11:30-13:30 SESSION V. Visual Function, Smart Glasses and Diagnostics tools**

**11:30-11:50 Sonia Ortiz** *Visual function & daily tasks*  
 University of Granada (Spain)

**11:50-12:10 Brian L. Due** *Practical aspects of using smart glasses in everyday life*  
 University of Copenhagen (Denmark)

**12:10-12:30 Juan L. Aragón** *Optoelectronic presbyopia glasses*  
 University of Murcia (Spain)

**12:30-12:50 Haris Ginis** *Scattering Diagnostic tools*  
 Diestia (Greece)

**12:50-13:15** Junior researcher

**13:15-13:30 Discussion** *Moderator: Alba Paniagua (UCLM)*

**13:30-14:30 Lunch**

**14:30-16:30 POSTER SESION + Coffee break**

**16:30-17:30 KEYNOTE TALK**

**Prof. Pablo Artal** *Future challenges in Visual Optics & Biophotonics*  
 University of Murcia (Spain)

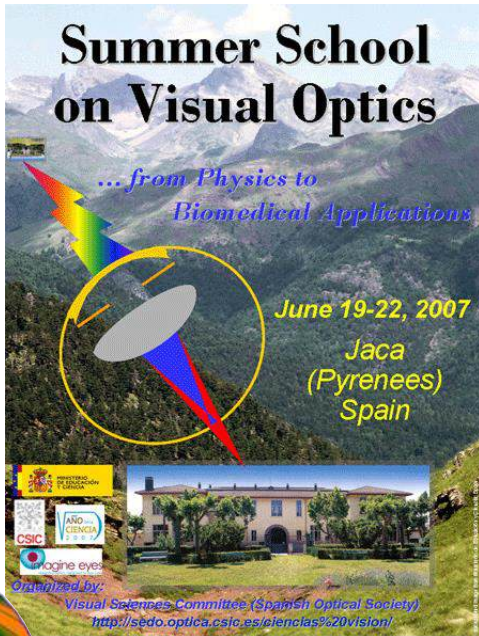
**17:30-18:00 CLOSING REMARKS. AWARDS CEREMONY**

**18:00-22:00 VISIT TO LA ALHAMBRA**

**6 JUNE**

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