



ERASMUS MUNDUS



Education and Culture DG



ERASMUS MUNDUS

1st Europhotonics Spring School

Advance program

ICFO-The Institute of Photonics Science,
March 25th-31st, 2012, Castelldefels (Barcelona)

Organization



Participants:



UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

Collocated with STELUM workshop:



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General Information

Europhotonics is an Erasmus Mundus Master Course (EMMC) and Joint Doctorate (EMJD) program. The Europhotonics Spring School is organized yearly by one of the consortium organizations. In this first edition, the school will be held at ICFO– Institute of Photonic Sciences. The program will be taught at the master level and will consist of talks (1.5 h duration) and courses (3 hours duration), in selected areas of photonics. The course is mandatory for all Europhotonics second year Master students and PhD students. The School is also open to other students from the consortium.

The consortium is formed by the following institutions:

Institut Fresnel (Paul Cézanne Aix Marseille III University) (FRANCE)
KSOP (Karlsruhe School of Optics & Photonics): KIT (Karlsruhe Institute of Technology) (GERMANY)
LENS (European Laboratory for Non-Linear Spectroscopy) (UniversitadegliStudi di Firenze) (ITALY)
UPC – UniversitatPolitecnica de Catalunya (SPAIN)
UAB- Universitat Autònoma de Barcelona (SPAIN)
UB- Universitat de Barcelona (SPAIN)
ICFO – Institute of Photonic Sciences (SPAIN)

In the present edition, the Europhotonics school will be collocated with:

UPB-University of Paderborn (GERMANY) PhD School.
STELLUM workshop, Marie Curie 7th framework program. ICFO – Institute of Photonic Sciences (SPAIN) and Imagine Optics (France).

School Organizer: Dr. David Artigas (ICFO)

Location Information

ICFO– Institute of Photonic Sciences is located the seaside town of Castelldefels, 20 km south of Barcelona. The address is:

Parc Mediterrani de la Tecnologia (PMT)
Av. Carl Friedrich Gauss, 3
08860 Castelldefels (Barcelona), Spain

How to get ICFO:

From central Barcelona to Castelldefels (ICFO):

- 1- BUS L95: Bus leave from Plaza Catalunya with Ronda Universitat. Take off at the Canal Olímpic (Olympic Channel) bus stop in Castelldefels, located just in front of ICFO. It takes around 45-50 minutes depending of the traffic. Price: 1,45 €
- 2- TRAIN: The Castelldefels train station is less than 1 kilometre (approx 10 minutes walk) from ICFO and connects it to Barcelona by the RENFE Rodalies (local trains) line C-2. Four to six trains run every hour from Barcelona-Passeig de Gracia and Barcelona-Sants stations. Travel time is 20-30 minutes. Price: 2,5 €
- 3- Taxi: 30 minutes. Price: 40-50€ (Traffic and origin depending)

From “El Prat” airport (Barcelona) to Castelldefels (ICFO)

- 1- BUS L99: Take from airport terminal T1. Get off at the bus stop of the train station. Ride will take approx. 20 minutes. Walk from train station to ICFO will take approx. 10 minutes. Price: 1,45 €

- 2- TRAIN: No direct train to Castelldefels is available. You need to go to Barcelona-Sants and then take a train to Castelldefels. Price: 4 €.
- 3- Taxi: 10 minutes. Price: 30€ (Traffic depending).

Registration Fees

The Erasmus grant for PhD Europhotonics Students includes financial support for all the expenses related to attending the Spring School, including travel, housing, maintenance and registration fees. Please, consult to your supervisor for more information.

*Student Registration	110€
Non-student Registration	260€
One day Non-student Registration and Launch	70€
7 days Launches	70€
**Student Diner	15€
**Non-student Diner	35€

* Free registrations for Europhotonics consortium NON-Erasmus students are available. However, the number is limited by the auditorium capacity, priority being given to student paying registration. Please indicate your option in the registration form.

**There will be one organized group dinner for participants and their companions which will be partially supported by the organization.

For registration, fill the registration form and contact ICFO organization at Ester.Tarrago@icfo.es.

Housing Information

Castelldefels is a touristic area with plenty of hotels and apartments. We propose the next 3 options. You will need to mention ICFO when booking to obtain the offer bellow:

Hotel Pitort:

5 minutes walking, breakfast included (<http://www.hotelpitort.com>)

Single-bed room	49€/night
Double-bed room	49€/night
Triple-bed room	77€/night

Hotel BCN-Events:

5 minutes walking, (<http://www.hotel-bcneventscastelldefels.com/>)

Single-bed room	55€/night
Double-bed room	70€/night

Apartments:

In the event that you will be travelling with your family, there are possibilities for renting apartments. Please, contact Ester Tarragó (Ester.Tarrago@icfo.es) for more information.

Program:

Opening: Prof. Hugues Giovannini, Fresnel Institute, France, and Europhotonics coordinator, and Prof. Lluís Torner, Director of the ICFO-The Institute of photonics Sciences, Spain.

Talks (1.5 h):

- *Talk 1:* Prof. [Ramón Corbalán](#), Universitat Autònoma de Barcelona -UAB-, Spain. Title: "Last Nobel Prizes in Optics."
- *Talk 2:* Prof. [Hans Eisler](#), Karlsruhe Institute of Technology, Germany. Title: "Nanophotonics."

- *Talk 3*: Prof. Dr. Wolfgang Sohler, University of Paderborn, Germany, Title: “Integrated Optics in Lithium Niobate: Waveguide Lasers and Nonlinear Frequency Converters”
- *Talk 4*: Prof. Dr. Klaus Lischka, University of Paderborn, Germany. Title: Semiconductor Nanostructures for quantum information”
- *Talk 5*: Prof. Frank Koppens, ICFO-The Institute of photonics Sciences, Spain. Title: “Graphene Photonics.”

Courses (3 h):

- *Course 1*: Prof. Kestutis Staliunas, Universitat Politècnica de Catalunya, Spain. Title: "Light beam manipulation in structured materials."
- *Course 2*: Prof. Stefan Enoch, Fresnel Institute, France. Title: “Plasmons.”
- *Course 3*: Prof. Paul French, Imperial College, UK. Title: “fluorescence lifetime imaging.”
- *Course 4*: Prof. Derryck T. Reid, Heriot-Watt University, UK. Title: “Applications of Ultra short pulsed laser and adaptive optics to microscopy and nanomachinig.” (supported by STELUM)
- *Course 5*: Prof. Gerhard Birkel, Technische Universität Darmstadt, Germany. Title: "Using light for quantum information with trapped neutral atoms and BECs."
- *Course 6*: Prof. Olivier Haeberle, Universite de Haute-Alsace, France. Title: “Optical Diffraction Tomography.” (supported by STELUM)
- *Course 7*: Prof. Elizabeth von Hauff, Freiburg University, Germany. Title: “Fundamental processes in organic photovoltaics.”
- *Course 8*: Prof. Francesco Vanzi, LENS-European Laboratory for Non-linear Spectroscopy, Italy. Title: “Single molecule biophysics and super-resolution microscopy.”

Europhotonics Workshops:

The PhD workshop consists on poster and oral presentations for first and second year students, respectively. Oral presentations are divided into 15 minutes talk and 10 minutes questions. Posters size should no be larger than 150 cm high and 80 cm wide.

Workshop 1: Oral presentation

- Nadia Formica, “Highly Stable Ultrathin Ag-Ni Films for Flexible Transparent Optoelectronics” (ICFO- KIT)
- Francesco Pastorelli, “Nanostructuring for light trapping in solar cells” (Fresnel – ICFO)
- Jean-Christophe Gomez-Lavocat, “Simulation of Light-Activated Liquid Crystal Elastomer at the nanometer scale” (LENS – ICFO)
- Claudia-Patricia Valdes-Escobar, “Cerebral blood flow responses to hypercapnia observed by laser speckle flowmetry in mice and future directions” (ICFO – Fresnel)

Workshop 2: Oral presentation

- Cesar-Augusto Valades-Cruz, “polarization resolved super-resolution microscopy”(Fresnel – ICFO)
- Tieh-Ming Chang, “Metamaterial-based optical manipulation and trapping” (Fresnel – ICFO)
- Fatma Zhora Bioud, “Four wave mixing microscopy to probe molecular order in biological samples” (Fresnel – LENS)
- Thomas Hett, “Waveguide-coupled microresonators based on Silicon-oxynitride" (UPB)

Workshop 3: Posters presentations (provisional)

- Wiktór Walasik "Plasmon-soliton coupling. Preliminary study" (Fresnel- IFCO)
- Yu-Chieh Cheng “Beam reflection from chirped Bragg-type mirrors” (UPC – LENS)
- Nikola Bralović, “Light management in energy harvesting by optical antenna” (KIT – ICFO)
- Irina Fateeva “3D Deflectometry of highly reflecting surfaces” (KIT – UPC)
- Roland Ayuk Ashu “Super-resolution fluorescence microscopy using nanostructured substrates” (Fresnel – ICFO)
- Assegid Mengistu Flatae “Coupled high-Q micro-cavities” (KIT – LENS)
- M. Urbanski, M. Wahle, A. Lorenz, C. Meier and H. Kitzerow "Tunable Photonic Structures using Liquid Crystals" (UPB)

