



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

ITNs LINC (FP7) & BE-OPTICAL (H2020)

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"LINC"

Learning about Interacting Networks in Climate



LINC

- *Learning about Interacting Networks in Climate*
- FP7-PEOPLE-2011-ITN-289447
- December 2011 - November 2015
- 9 partners in 5 countries (Israel, Germany, Spain, The Netherlands and Uruguay). 6 academic – 3 SMSs
- 3.7 M€ total; UPC 500.000 € (2 ESRs).
- Goals:
 - To train 15 young researchers (12 ESRs + 3 ERs) in the complete set of skills needed to undertake a career in physics and geosciences (climatology, complex systems, computer science, data analysis).
 - To develop long-lasting collaborations among the partners.
- Interdisciplinary approach: the LINC project brings together experts in different fields.

- First school (Mallorca, Spain, September 2012)
- Second school and Workshop 1 (The Netherlands, April 2013)
- Workshop 2 (Potsdam, November 2013)
- Workshop 3 (Montevideo, Uruguay, April 2014)
- Workshop 4 (Lucca, Italy, Sep. 2014 co-located with ECCS)
- Final Conference (Vienna, April 2015, co-located with EGU)



- More than 30 publications in interdisciplinary journals.
- 9 PhD theses completed, 3 to be finished in the next months.
- Database and analysis software are available at
Climatelinc.eu
- Summary of LINC results:
http://cordis.europa.eu/result/rcn/187859_en.html





- *Advanced BiomEdical OPTICAL Imaging and Data Analysis*
- H2020-MSCA-ITN-2015 675512 ETN
- October 2015 - September 2019
- 9 partners in 5 countries (France, Germany, Spain, Poland and UK). 7 academic – 1 SMSs – 1 ophthalmic clinic
- Budget: 3.5 M€; UPC 750.000 (3 ESRs).
- Goals:
 - To provide high-level training in biomedical imaging.
 - To promote academic-private sector partnerships that will transfer the novel technologies to the market.
- Interdisciplinary approach: development of novel imaging techniques, light sources and data analysis tools.
- Beoptical.eu

- WP1: Super-resolution optical imaging for the analysis of cellular processes.
- WP2: High-resolution optical imaging of cardiac tissue.
- WP3: Advanced instrumentation for ophthalmic imaging.
- WP4: Innovative optical components, methods and software for image analysis.
- WP5: Management, training supervision and dissemination.
- Each ESR project is associated to one WP.
- The partners that have 2 ESRs work in different WPs.
- E.g., at partner MPI, one ESR will work on cardiac imaging (WP2), and the other ESR, in data analysis (WP4).

	WP1	WP2	WP3	WP4	WP5
1 - UPC		✓	✓	✓	✓
2 - UGO	✓	✓		✓	✓
3 - MPG		✓		✓	✓
4 - USTAN	✓				✓
5 - IMO			✓	✓	✓
6 - CNRS	✓			✓	✓
7 - NCU		✓	✓		✓
8 - UGLAS					✓
9 - PQInno	✓	✓		✓	✓



NOVEMBER 2015

What is BE-OPTICAL?

BE-OPTICAL is a Marie-Sklodowska-Curie training network funded by the European Union aimed at providing a unique and structured training programme to 14 PhD students in a wide range of optical imaging technologies and signal processing tools.

The Challenges

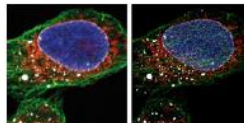
Biomedical imaging is a research field that is producing ground breaking scientific discoveries that have huge social and economic impact. Advances in this field require of specifically designed optical components and data analysis tools that enable the visualisation of structures and processes at different scales, from single cells to entire organs.

It is crucial to develop high-resolution cardiac imaging systems that allow understanding the mechanisms underlying cardiac arrhythmia, which is a most significant cause of mortality worldwide. Eye diseases strongly affect the quality of life of the aging world population, and it is essential to develop advanced optical instrumentation to improve early diagnosis and follow-up.



Training programme

The training programme will provide the students with a broad understanding of how state of the art of optical imaging technologies and data processing tools work. The students will also gain insight into clinical studies of novel imaging technologies and the commercialization process, which will open for them a wide range of job opportunities.



Who is involved?

The consortium includes seven leading academic groups, a leading company in fluorescence instrumentation and an internationally recognized ophthalmological clinic.



Our expertise

We are an interdisciplinary team of physicists, engineers and medical doctors, with complementary expertise in optical imaging, nanotechnology, computer science, complex systems and data analysis.



Contact us

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www.beoptical.eu



Innovative Training Network **BE-OPTICAL**

Advanced Biomedical Optical Imaging and Data Analysis



First School

Fundamentals of Biophotonics, Imaging, and Cardiac Electrophysiology

November 14-18, 2016

Max Planck Institute for Dynamics and Self-Organization

Am Fassberg 17, 37077 Göttingen, Germany, Prandtl Lecture Hall

The School consists of a series of interdisciplinary courses presented by members of BE-OPTICAL, which are experts in their fields, as well as external invited lecturers. Furthermore, participating PhD students will present their projects and discuss their research plans and questions with all participants.

Website: <http://www.bmp.ds.mpg.de/beoptical-home.html>



Application deadline is **Oct 21, 2016**.

Topics covered by the School are:

Introduction to Biophotonics

Godfrey Smith (University of Glasgow, Glasgow, UK)
Jörg Enderlein (Third Institute of Physics, Georg-August-Universität Göttingen)
Stefan Luther (Max Planck Institute for Dynamics and Self-Organization, Göttingen)

Biomedical Imaging

Maciej Wojtkowski (Nicolaus Copernicus University, Toruń, Poland)
Ireneusz Grulkowski (Nicolaus Copernicus University, Toruń, Poland)
Jörg Enderlein (Third Institute of Physics, Georg-August-Universität Göttingen)

Introduction to Cardiac Electrophysiology and Optogenetics

Godfrey Smith (University of Glasgow, Glasgow, UK)
Stefan Luther (Max Planck Institute for Dynamics and Self-Organization, Göttingen)
Ulrich Parlitz (Max Planck Institute for Dynamics and Self-Organization, Göttingen)

Transferrable Skills

Gudrun Stockmann (Göttingen)
Matthias Diederichs (Friedland)

Keynote Lecture (Tue, Nov 15, 19:30h, Taberna am Wilhelmsplatz)

Karen Alim (Max Planck Institute for Dynamics and Self-Organization, Göttingen)

How are slime moulds thinking?

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<http://www.fisica.edu.uy/~cris/>

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Thank you for your attention!