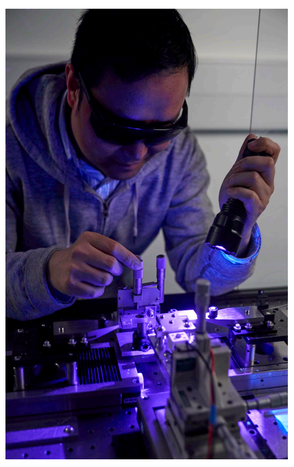
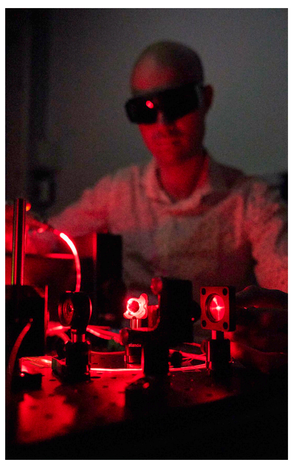
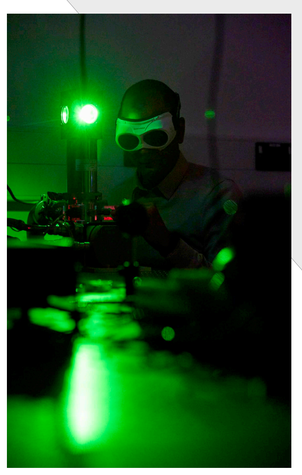
Postgraduate Educational Programmes at Aston Institute of Photonic Technologies

AiPT
Aston Institute of Photonic Technologies

Range of degree programmes & funding mechanisms available

- AiPT offers extensive postgraduate educational opportunities to students
- Programmes cover **PhDs** and **Masters** level courses
- **MSc by research** is a newly introduced course
- **Fully funded** or **self-funded** routes are available

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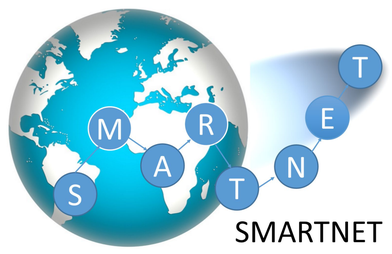
ERASMUS MUNDUS Joint Master degree programmes: SMARTNET and PIXNET Programmes

General EMJMD Information:

- Collaborative **two-year joint master degree programme**
- Students will receive at least a **double Masters Degree** (two MSc degrees from two different universities)
- **Fully funded** (scholarship with fee waiver) and **self-funded** routes are available
- Interdisciplinary, multi-national training
- Mobility paths involving different partners
- Applicants need to comply with ERASMUS mobility and eligibility rules
- Applications are open in fall / winter each year, with results being announced in spring and the course starting in September
- TWO programmes at AiPT: **SMARTNET** and **PIXNET**

SMARTNET

- The **Smart** Telecom and Sensing **Net**works **(SMARTNET)**



- Providing training in the inter-disciplinary fields of ***photonics, 5G wireless technologies for data communication, sensing, big data processing***

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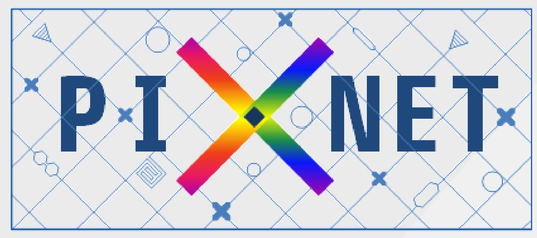
https://smartnet.astonphotonics.uk/

PIXNET

- **P**hotonic **I**ntegrated **C**ircuits, **S**ensors and **NET**works **(PIXNET)**



- Providing training in the inter-disciplinary fields of ***optical communication, optical network architectures, optical components, optical signal processing, photonic integration technologies***

pixnet@santannapisa.it http://pixnet.santannapisa.it/

PhD Training Networks at AiPT: European Training Networks (ETNs) & European Industrial Doctorates (EIDs)

General ETN and EID Information

- Funded by the EU under Marie Skłodowska-Curie Actions
- Both **European Training Network** (ETN) and **European Industrial Doctorate** (EID) available
- For **Early Career Researchers ECR, i.e.** within their first 4 years of research experience but without a PhD
- **Fully funded** PhDs (fees paid by projects)
- Exceptionally **high salaries** while studying
- Meaningful **industrial exposure**
- Trans-national mobility required
- Bespoke **training** and **secondment** schedule
- SIX different doctoral networks coordinated by AiPT

WON - ETN

- **W**ideband **O**ptical **N**etworks **(WON)** - 14 positions

WON
Wideband Optical Networks

- **Goal:** Implementing the paradigm of multilayer orchestration of optical networks when deploying a transmission bandwidth exceeding the C-band.

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REAL-NET - EID

- **REAL**-time monitoring and mitigation of nonlinear effects in optical **NET**works **(REAL-NET)** - 6 positions

- **Goal:** Realistic implementation of DSP algorithm to compensate nonlinear effects in fiber with and without machine-learning-based algorithms
- Applicants will spend 18 months (50%) with an industrial partner **Orange** or **Infinera**

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MOCCA - EID

- **M**ultiscale **O**ptical Frequen**c**y **C**ombs: **A**dvanced Technologies and Applications **(MOCCA)** – 4 positions

MOCCA

- **Goal:** developing a new generation of optical frequency comb (OFC) techniques
- Applicants will spend 18 months (50%) with industrial partner **AMO GmbH, THALES** and **III-V Labs**

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FONTE - EID

- **F**ibre **O**ptic **N**onlinear **TE**chnologies **(FONTE)** – 4 positons

FONTE

- **Goal:** develop communication and coding methods suitable for the nonlinear optical fiber, in order to increase the data rates of the future communication systems
- Applicants will spend 18 months (50%) with industrial partner **Nokia Bell Labs**

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MEFISTA - ETN

- **M**ulti-scal**e** **fi**bre-based optical frequency combs: **s**cience, **t**echnology and **a**pplications **(MEFISTA)** - 6 positions

MEFISTA

- **Goal:** Development and trial tests of mode locked femtosecond lasers in the context of autonomous driving (car-object distance ranging, object recognition, moving objects speed tracing: Doppler LIDAR) that will be supported by RDM autonomous driving expertise and facilities.

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MONPLAS - ETN

- 14 positions

MONPLAS

- **Goal:** Improve our ability to detect micro and nanoplastics for their presence, uptake and threat to animal and human life through the combination of research and development in various scientific areas including microfluidics (asymmetric field-flow fractionation,..), photonics (FTIR specroscopy, photoluminescence, SERS, microRaman,…), other analytical techniques (pyrolysis-gas chromatography - mass spectrometry) and toxicity.

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Aston University

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Funded by the European Union under the Marie Skłodowska-Curie Actions