

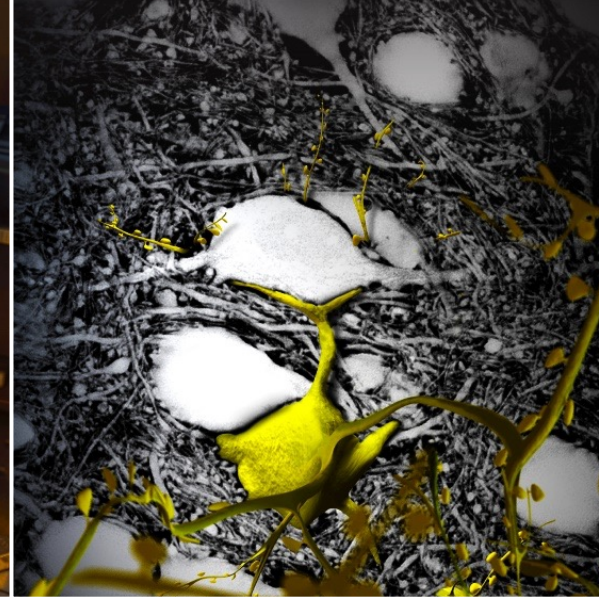
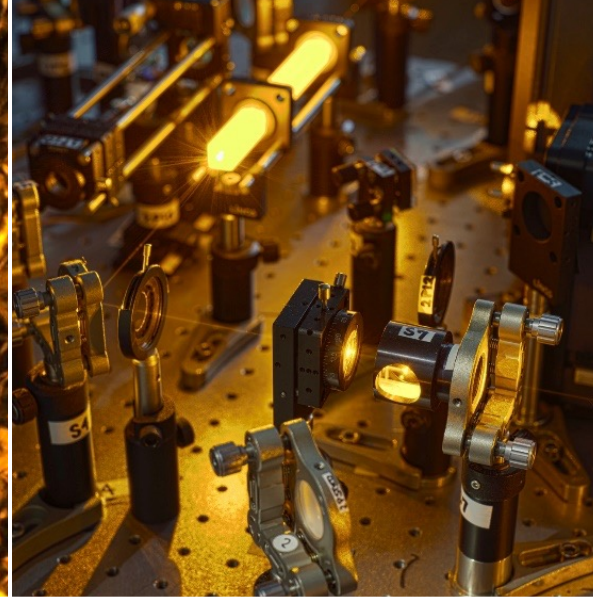
Rencontres de la Biologie

2023

MASTER
Light Sciences &
Technologies



Prof. U. Valentin Nägerl
Responsable parcours Light Biologie



CONTACT

<https://light-st.u-bordeaux.fr>

contact.light-st@u-bordeaux.fr

Contact UF - Biology: valentin.nagerl@u-bordeaux.fr

Linkedin : Light Sciences and Technologies Graduate Program



◆ What areas are covered by photonics?



<https://mediapod.u-bordeaux.fr/video/10974-est-ce-que-la-photonique/>



Selective 5 years program : Master + PhD

Benefits



The only **Ecole Universitaire de Recherche** in Photonics in France (29 EUR selected out of 191 applications in 2017)

An **innovating and interdisciplinary approach** for research and education provided by experts specialized in LIGHT S&T and their applications



Strong involvement of the numerous **research laboratories** and the **industrial R&D centers** of the field.

Possibility of **double-degree** with IOGS engineering school



International openness thanks to academic and industrial partnerships



Excellence grants for students coming from abroad and French universities

Paid internships from the 1st year of Master

Dedicated PhD fellowships & mobility grants



Prominent role granted to **student initiatives**



Courses in English to pursue **international careers**

Light Sciences and Technologies Graduate Program

Master Track



Master track **mutualized** with:

- Master of Fundamental Physics and Applications
- Master of Chemistry
- Master of Health Engineering
- IOGS



Key research domains:

- Extreme Regimes of Light
- Laser & Photonics
- Biophotonics & imaging
- Materials for photonics
- Condensed Matter
- Quantum sciences & Quantum technologies
- Nanosciences
- Optoelectronics
- Photochemistry
- Molecular photonics



An extensive **hands-on experience** training (66 over 120 ECTS) given in state-of-the-art research facilities:

- Lab courses
- Research projects
- Long internships in M1 & M2



Individualized monitoring and learning agreements



Common curriculum & possibility of **double-degree** with IOGS engineering school

◆ Organization

SEMESTER 1

- › **Preparatory courses** cover the fundamentals of modern optics, cell biology & neuroscience
- › **Core courses** provide a comprehensive education in microcopy, bio-imaging, image processing and analysis
- › **Practicum courses** introduce experimental techniques in optics and microscopy and computer programming (e.g. in Python)

SEMESTER 2

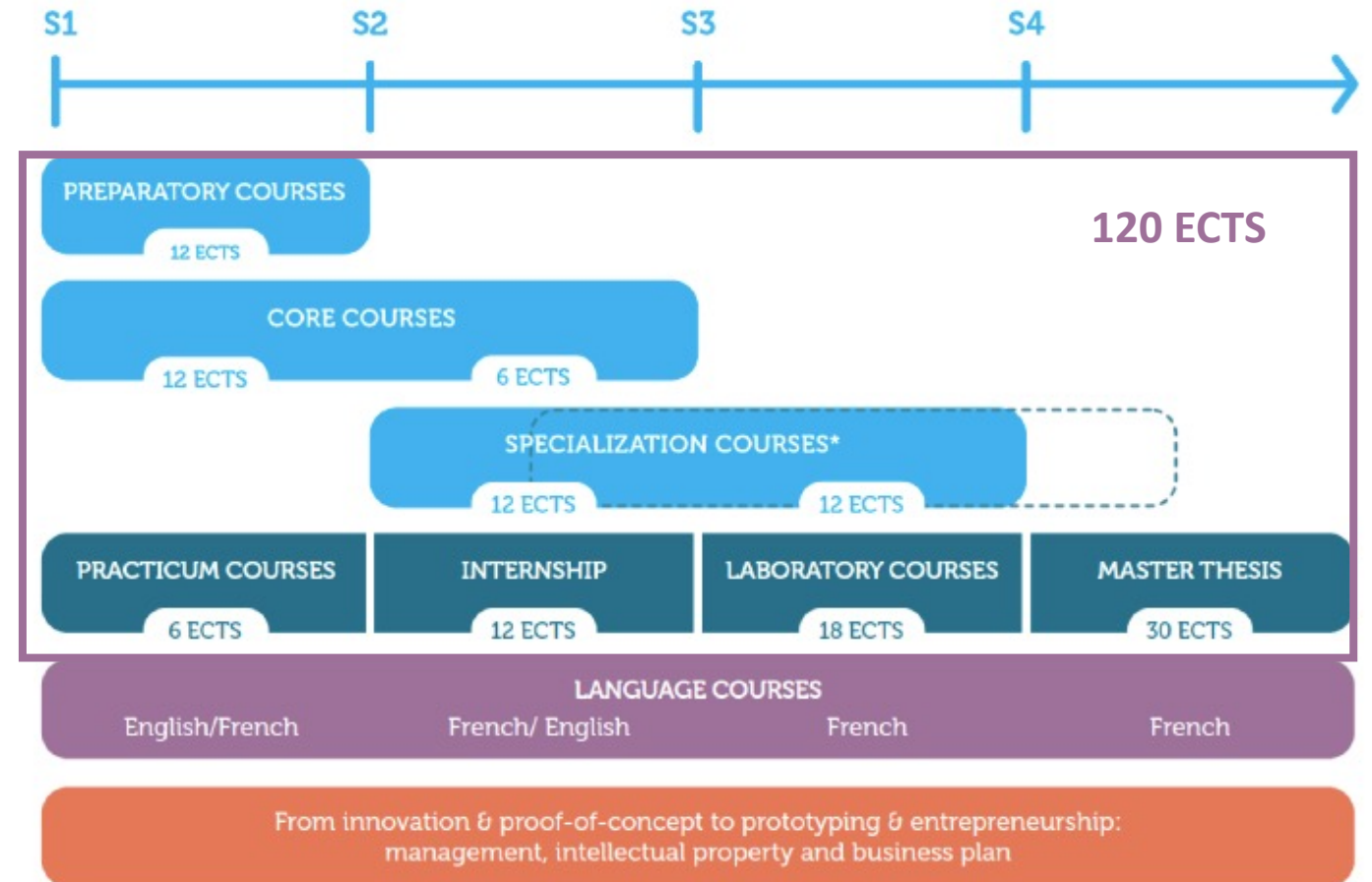
- › **Core and specialization courses** (e.g. neurophotonics, onco-photonics)
- › **Internships** for practical training, in academic or industry labs and/or abroad

SEMESTER 3

- › **Specialization and laboratory courses** in cutting-edge labs and core facilities

SEMESTER 4

- › **Scientific Master thesis** carried out in research or industry labs



◆ Focus on internships

INTERNSHIP OPPORTINUTIES

Universit  de Bordeaux:

Interdisciplinary Institute for Neuroscience, Institute for Neurodegenerative Diseases, Neurocentre Magendie, Institute of Optics, Bordeaux Imaging Center *and many more*

International active collaborations in light sciences:

Universit  Laval (Qu bec), University of Central Florida (USA), Universidad del Pais Vasco (Spain), Universidad de Sao Paulo (Brazil) *and more coming*

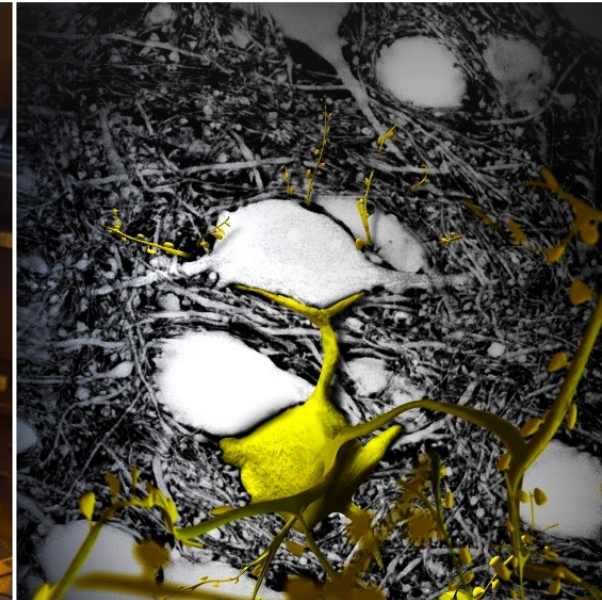
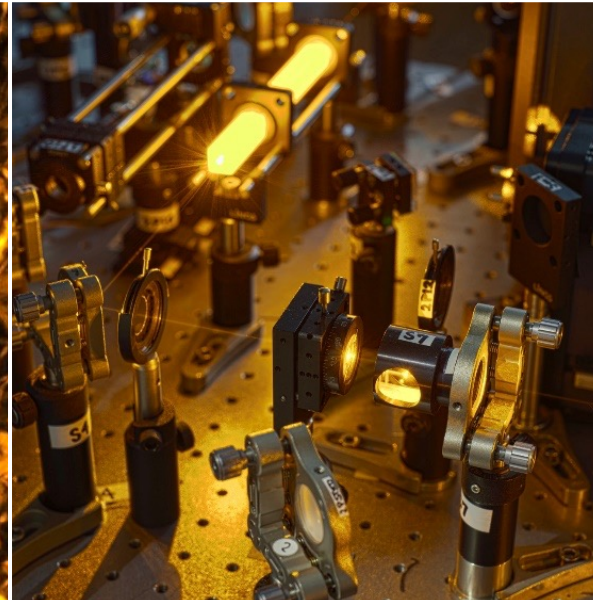
TOTAL OF RESEARCH CREDITS: Master 1 (12)
Master 2 (30)

42 ECTS

Forum des Masters de Biologie

2023

MASTER
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Come check us out!

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