UNIVERSITÉ CÔTE D'AZUR

GRADUATE SCHOOL
FORMAL, PHYSICAL AND ENGINEERING SCIENCES

Master's degree

FUNDAMENTAL PHYSICS & APPLICATIONS

OPTIQ

A WORD FROM THE HEAD OF THE PROGRAM

Laurent Labonté
Professor and researcher
at the Nice Institute of Physics

"Uniquely designed ***to prepare engineers to meet the everyday needs of companies in the photonics field****, OPTIQ is the ideal path for enthusiasts of this booming sector.*

Our curriculum enriched by the contribution of professionals in the industry includes the latest technological advances *and best practices. It also draws on* ***the expertise of four Université Côte d'Azur laboratories*** *(INPHYNI, CRHEA, Artemis and Lagrange) and their specialists in lasers, signal processing, mathematics and astrophysics.* ***OPTIQ is also part of the national QuanTEDU-France project,*** *in which Université Côte d'Azur is associated via the Nice Institute of Physics (INPHYNI).* ***This project aims to develop courses*** *in quantum and related enabling technologies,* ***in response to the growing needs of industry in France.***

OPTIQ leads our graduates to a wide range of careers *(in medicine, telecoms, solar energy and optics) immediately upon graduation."*

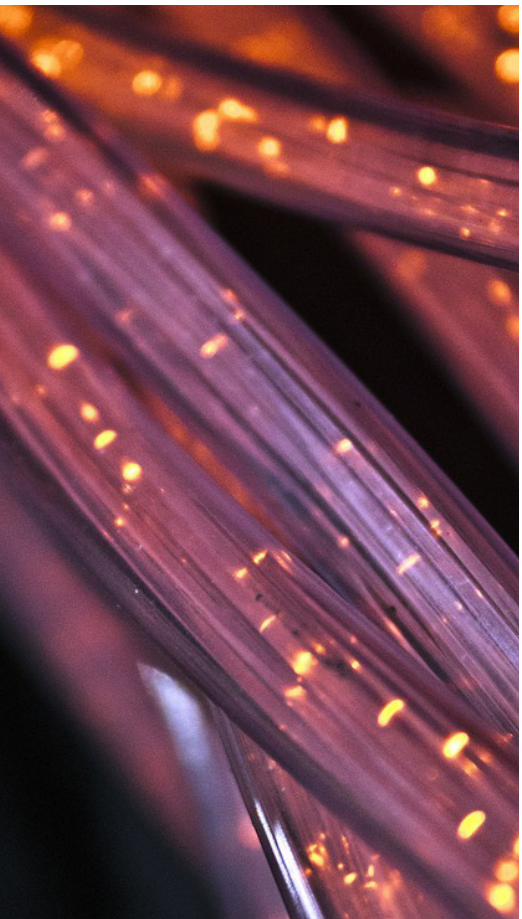
pioneering degree in photonics

gateway to highly skilled jobs

applied expertise

30 partner companies

a variety of career opportunities



TRAINING THE OPTICS AND PHOTONICS ENGINEERS OF TOMORROW

The Optics, Photonics, Instrumentation and Quantum Engineering (OPTIQ) program at Université Côte d'Azur **is a pioneering program in France**. It prepares students for careers in photonics engineering in a wide variety of sectors, including materials science, telecommunications, metrology and quantum technologies.

In this dynamic sector that includes over 1,100 leading companies such as Safran, Thales and Airbus, **recruitment of highly qualified personnel is crucial.**

To prepare the engineers of tomorrow, **the first-year curriculum combines fundamental courses in photonics with courses in electronics and computer science**, and places a strong emphasis on practical experience through labs, projects and a three-month internship in a company.

The second year which alternates work and study combines immersion in a professional environment with courses on cutting-edge technologies taught by academic and industry experts.

THE MAIN FOCUSES OF THE PROGRAM

Four core themes in photonics

- **Materials and nanotechnologies:** metamaterials, crystals, photonics, plasmonics, nanofabrication and characterization techniques, cleanroom work.

Partner company: SOLNIL

- **Quantum technologies**: information, cryptography, computers and quantum metrology.

Partner company: IBM

- **Optical information and communication technologies:** sources for telecoms, optical fibers, data centers, network architecture and integrated circuits.

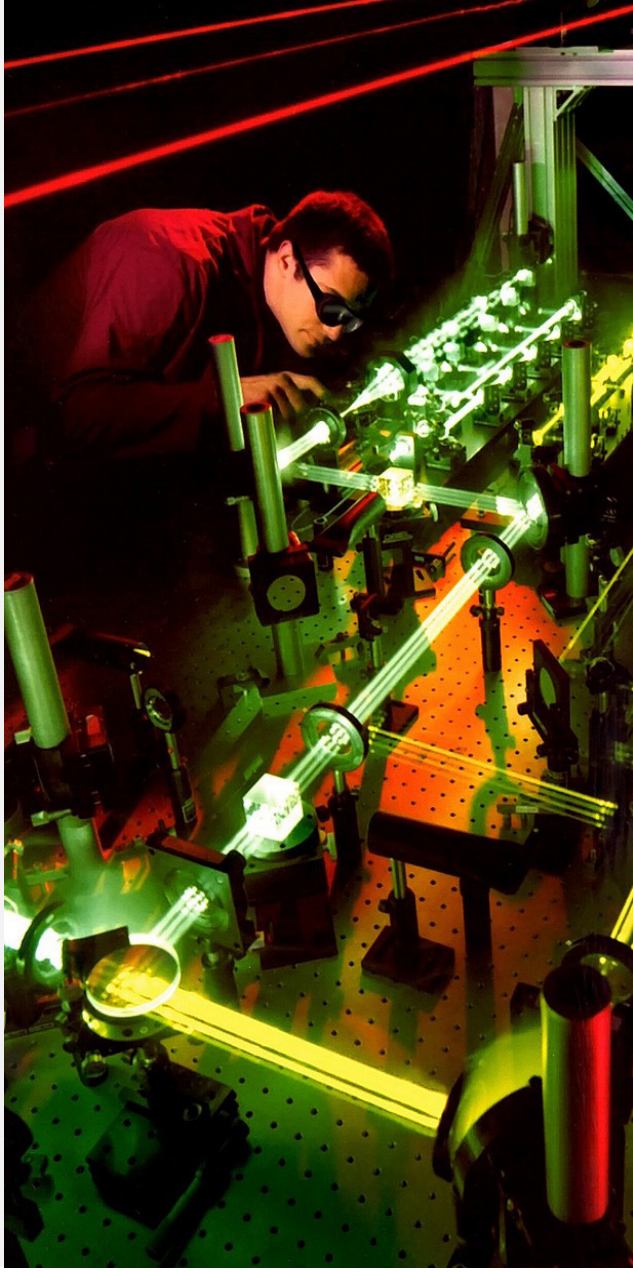
Partner company: ORANGE

- **Sensors and instrumentation:** adaptive optics, Lidar, tomography.

Partner company: THALES ALENIA SPACE

Engineering tools

- **Courses in related disciplines:** IT (interfaces, instrument control) and electronics (embedded systems, instrumentation) and AI.
- **Professional project workshops:** creation of a digital professional portfolio as a career development and project communication tool.
- **Managerial workshops:** initiation to design thinking and innovation techniques (SCAMPER method).



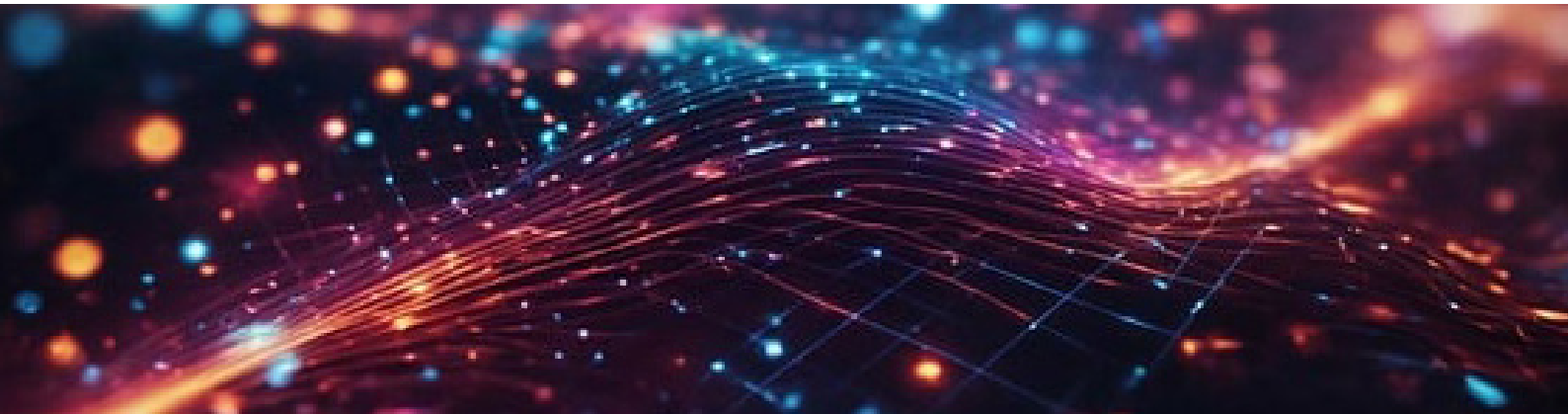
1 year ALTERNATING WORK AND STUDY

> **Master 1:** a three-month internship within a company is included in the second semester.
> **Master 2:** 4 to 6 weeks at the university, followed by 4 to 6 weeks in the company. This schedule allows students to work in companies all over France, and in some cases abroad.

3,000 OPEN POSITIONS EACH YEAR IN PHOTONICS

Given the sector's rapid growth, t**he industry is struggling to find highly qualified staff. The demand for engineers** (with a master's degree) **is estimated at 3,000 per year over the period 2024-2026,*** which confirms the need for highly-trained specialists.

**(Source: KYU, 2021, Photonics France)*



EXAMPLES OF CAREER OPPORTUNITIES

Research and development engineer

Design products or projects, carry out tests and trials, complete technical studies in optics or electronics in various sectors: medical imaging, radar, remote sensing, etc.

Systems engineer

Design new products or projects, complete feasibility calculations, create a new production line, carry out tests, trials, work in a team with other IT or electronics engineers in a telecoms network, laser technology, etc.

Technical sales manager

Oversee sales targets, prospecting, and sales proposals, follow up projects, supervise cost control, work in a team in a variety of fields: optics, photovoltaics, etc.

Salary

For a photonics engineer in France:

Median annual salary: ***€39,000***

Monthly starting salary: ***€35,000***

Monthly senior salary:***€50,000***

A WORD FROM THE BUSINESS WORLD

Mélanie Leseignoux
Sales Manager
at Lumibird

*“**Lumibird, a company specialized in laser technologies,** is actively seeking **engineers with advanced technical expertise and teamwork skills.** Recruitment of candidates with this profile is a challenge in this rapidly expanding sector. **Generalist photonics engineers who have followed the OPTIQ pathway meet our needs and are immediately operational.** The format alternating work and study gives us the opportunity to develop their skills, notably in sales, and retain the best talents who will guarantee the design and distribution of high-performance lasers for scientific, industrial and medical applications. **Our company offers work-study opportunities at our production sites in France and abroad,** more specifically in the USA, Australia, Sweden and Slovenia.”*

FORMASUP MÉDITERRANÉE

DIPLÔME NATIONAL DE MASTER CONTRÔLÉ PAR L'ÉTAT

July 2025

IMPRIM'VERT

CONTACT

Faculty:
Laurent Labonté; Margherita Turconi; Samira Khadir; Fabrice Raineri; Anthony Martin; Mathias Marconi

master.optiq@univ-cotedazur.fr

https://spectrum.univ-cotedazur.fr

For more information contact Mission Handicap

Cette offre de formation est éligible à MON COMPTE FORMATION moncompteformation.gouv.fr