Why Optics & Photonics - Why KSOP

Optics & Photonics are key technologies for the 21st century. As enabling technologies for high-end industrial applications, they drive research in physics, chemistry, biology and engineering.

In 2006, the Karlsruhe School of Optics & Photonics (KSOP) was founded as the first Graduate School of the Karlsruhe Institute of Technology (KIT) under the German „Excellence Initiative.“ KSOP provides a multidisciplinary environment for first-class research and education as well as for the generation of innovative technologies in Optics & Photonics. Comprising both Master’s and Doctorate programs, the educational concept is designed to qualify graduates for accelerated careers at world leading academic institutions and in high-tech industries.

Today, KSOP’s membership is comprised of over 700 Master students, PhD students and alumni from 40 different countries.

An Interdisciplinary Master’s Program

The 2-year Master’s Program in Optics & Photonics is taught in English. Applicants are required to hold a Bachelor’s Degree in Engineering or Natural Sciences to become a part of the interdisciplinary Master’s program. After completing the fundamental introductory courses and core subjects in the first two semesters, each student chooses a research specialization.

The Industry Network

KSOP’s educational concept is supported by a scholarship program funded by leading Optics & Photonics companies. Premium industry partners (see next page) provide students with internships, master thesis projects, excursions, individualized workshops and career events. This cooperation is of high value not only for students but also for industry partners, as it provides a gateway for future employment opportunities.

Research Focus & Specialization

The research and educational concept of KSOP has been established to optimally reflect the multidisciplinary research among natural scientists and engineers. KSOP research activities cover the most important topics in Optics & Photonics and excel, particularly in the five research areas:

KSOP unites 16 institutes of the KIT under one interdisciplinary Graduate School and therefore benefits from a huge knowledge base. The KIT is the Research University in the Helmholtz Association of National Research Centers in Germany. All five research areas are strongly interlinked and most institutes feature research projects in more than one of the areas.

During their studies, Master students come into direct contact with KSOP research groups. Graduates of the Master’s program can apply for the KSOP PhD Program to deepen their knowledge in Optics & Photonics. More information on the PhD Program can be found on the KSOP website.
Key Data & Benefits

- 2-Year Master’s Program in Optics & Photonics
- Prerequisites: B.Sc. Degree in Engineering or Natural sciences
- Specializations: Photonic Materials & Devices, Quantum Optics & Spectroscopy, Biomedical Photonics, Optical Systems, Solar Energy
- Fully funded and partial scholarships available for outstanding applicants
- Industry internship program & networking
- Intensive lab training, language courses, business etiquette training
- International environment

Program language: English • Start: October • Application deadline: April 30

Voices of Students & Alumni

Javier Mauricio Bruges Martelo completed his master’s thesis at ZEISS

I really like the internationality of the program. The fact of having colleagues from so many different science and/or engineering backgrounds and having the opportunity to work with them and learn how they approach finding solutions enhances my experience all the time.

Lisa Kadner is now working at Polytec GmbH as Application Engineer

What I like about the program is the combination of theory and practice. Practical experience is highly important as all the theory is worth nothing if you cannot apply it to something real.

Associate Partner

SPECTARIS

Contact & Application

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What do other students like about KSOP? Find out on YouTube

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Dr.-Ing. Judith Elsner, KSOP Managing Director
Prof. Dr. Ulrich Lemmer, KSOP Coordinator

Apply until April 30!