

# Aalen School of Applied Photonics

## Your future in optics, laser and light

Discover the power of light - and start your career with us. The Aalen School of Applied Photonics (AASAP) offers educational programs in the field of optical and photonic technologies - from Bachelor, to Master, to PhD in applied optics. We cover a wide range of scientific aspects with potential product applications in important economic sectors such as information and communication technologies, medicine and health, manufacturing and energy consumption.

Our mission is to educate and promote young national and international students and scientists in the research focus area of photonics. We aim to link learning and research processes, so that your students are a valuable part of photonics as a key technology of the 21st century.

You can join us at any point along your career path. Be it as a student for the Bachelor's program in Optical Engineering, as a Bachelor's graduate for the Master's program in Applied Photonics (both also possible as a kind of "dual study" with a cooperation company or in our research centers), as a Master's graduate for a doctorate in one of our research centers Center for Optical Technologies and LaserApplicationCenter or as an employee. We qualify you for positions in industry, scientific research, teaching and much more.

### About Aalen University of Applied Sciences

Innovative educational models, excellent teaching staff, strong research, comfortable learning spaces and state-of-the-art laboratories, promotion of personality and entrepreneurial thinking, close links with industry, regional and international cooperation: We offer you an attractive study program on a strong foundation. At Aalen University, around 4,500 students are currently studying in over 70 degree courses on one of the most attractive campuses in Germany: young founders are supported in the Innovation Center, while the explorhino Science Center inspires children for science and technology.



[www.hs-aalen.de/aasap](http://www.hs-aalen.de/aasap)

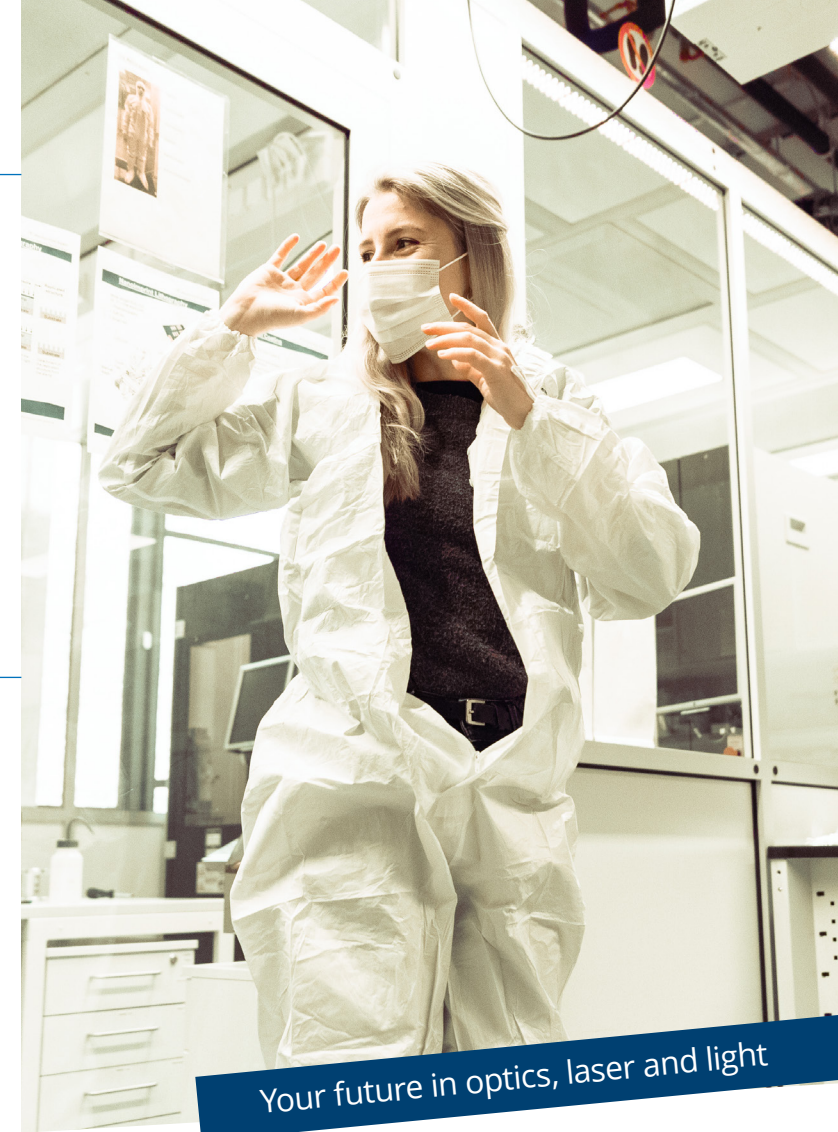
## Contact



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Aalen School of Applied Photonics  
Bachelor - Master - PhD

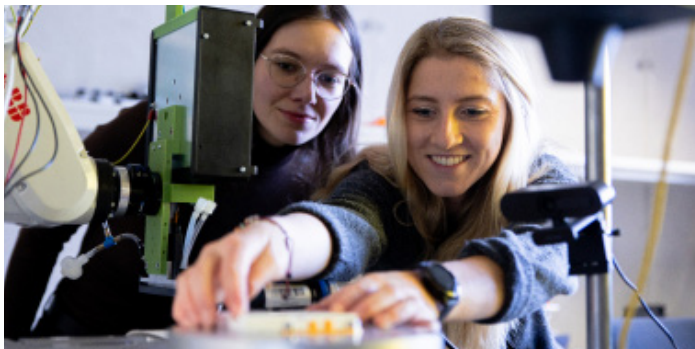
## Optical Engineering (Bachelor)

Become a professional in the exciting combination of light, technology, physics, computer science and electronics - Optical Engineers make the fascinating properties of light usable for people in the modern world. The course lasts 7 semesters and offers three options (you can switch between these up to the 4th semester):

- **Regular studies:** Students complete the Bachelor of Engineering in the traditional way. After the basic content, we offer exciting in-depth modules that include practical elements. Project work, practical semester and Bachelor's thesis can be carried out either in the course's research laboratories or at one of our industrial partners.
- **As a kind of "dual study program"** in two possible variants:
  1. In addition to the regular studies, further elements from practice are integrated in **cooperation with a company**. Students are integrated into the company at an early stage, where they then also work during the semester break. Project work, practical semester and Bachelor's thesis take place at the industrial partner.
  2. Students are integrated into a **working group of their choice at Aalen University** (our Center for Optical Technologies (ZOT) or the LaserApplicationCenter (LAZ)) and practice their practical semester, project work and Bachelor's thesis in applied research.



[www.hs-aalen.de/oe](http://www.hs-aalen.de/oe)



## Applied Photonics (Master)

Photonics encompasses many new disciplines in optics. Essentially, we focus on the following application areas in the Master's program: Lasers, interaction between light and matter, optical elements Elements and systems, opto-electronics and biophotonics. The program offers the following options:

1. **Conventional training program:** Lectures, laboratory exercises and projects over five days per week (3 semesters).
2. **Part-time program:** Lectures, laboratory exercises and projects over two days + up to three days of work experience per week at one of our industrial partners or in our research centers (ZOT/LAZ) (4 semesters).



[www.hs-aalen.de/aph](http://www.hs-aalen.de/aph)



## PhD

The Center for Optical Technologies and the LaserApplicationCenter are two institutes at the university in which professors independently guide Master's graduates towards a doctorate. Our doctoral students have the opportunity to work on current findings in applied optics, develop scientific questions, form hypotheses, select and implement suitable subject-specific research methods in the laboratory and publish results in scientific publications. In this way, they acquire and deepen their specific specialist knowledge and gain (inter-) specialist skills.

## Our research centers



The **Center for Optical Technologies (ZOT)** sees itself as the optics competence center of Aalen University. The ZOT carries out basic and application-oriented research projects with industry or other university partners in the areas listed below. Our working groups:

- Optics Technology & Robotics (Prof. Dr. Rainer Börret)
- Light-Matter Interaction & Lasers (Prof. Dr. Anne Harth)
- Micro- and Nanophotonics (Prof. Dr. Andreas Heinrich)
- Biophotonics (Prof. Dr. Andreas Walter)
- Opto-electronics (Prof. Dr. Peter Zipfl)



[www.hs-aalen.de/zot](http://www.hs-aalen.de/zot)

The **LaserApplicationCentre (LAZ, Prof. Dr. Harald Riegel)** works on research topics in the fields of materials research, surface technology, foundry technology, optical technologies and energy-efficient production, among others. Examples include the laser pre-treatment of surfaces for joining hybrid material pairings or the creation of hybrid surfaces with topologically optimized properties.



[www.hs-aalen.de/laz](http://www.hs-aalen.de/laz)