

PARTNERS

**CAREER OPPORTUNITIES AT THE
ABBE SCHOOL OF PHOTONICS**

The education and qualification of young scientists in the field of Optics & Photonics are key goals of the Abbe Center of Photonics. International Master and doctoral programs are run by the center's Abbe School of Photonics (ASP), offering:

- Master and doctoral degrees in Photonics with the highest international recognition.
- High-profile education in a top-notch scientific environment with intense mentoring.
- An international program with modules focused on scientific, technical, and transferable skills.
- Financial support through a comprehensive scholarship program for the most excellent students.

More information on Master, doctoral, and scholarship programs, as well as on the online application system of the Abbe School of Photonics is available at

www.asp.uni-jena.de



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**OPTICS & PHOTONICS AT THE
FRIEDRICH-SCHILLER-UNIVERSITÄT JENA**

- Interdisciplinary research ranging from the fundamentals of light to photonic applications
- International education programs on the science of light



THE CENTER

OUR COMMITMENT TO TRADITION

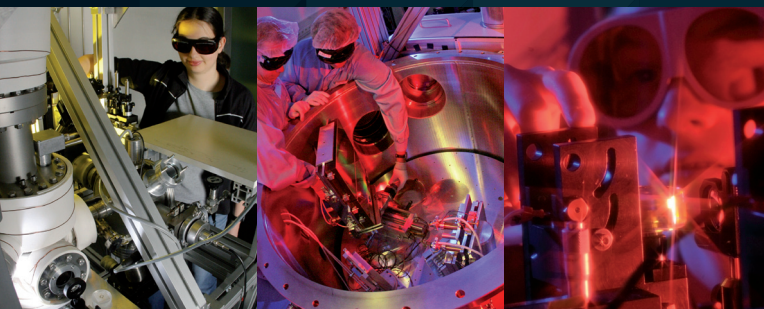
For more than a century the city of Jena has been a world-leading location for research, education and industry to optics and photonics. The breakthrough work of Ernst Abbe, the first to formulate the limit of optical resolution due to diffraction, provided the roots to develop an exceptionally strong community specializing in optics and photonics. The significance of this field for Jena continues to flourish to this day.

A CENTER FOR OPTICAL SCIENCES

In 2010, the leading optical scientists of the Friedrich-Schiller-Universität Jena founded the Abbe Center of Photonics (ACP) to reflect their distinguished position in academic optical sciences. The ACP is an interfaculty center for optics and photonics research and education at the Friedrich-Schiller-Universität Jena. It interconnects and concentrates on the core activities of local scientists who investigate and utilize light in all its properties.

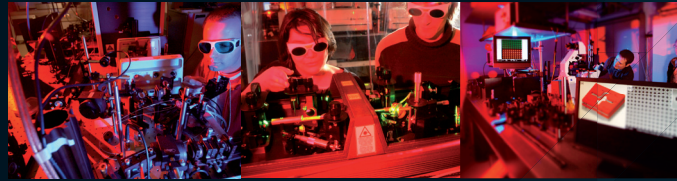
MODERN PHOTONICS RESEARCH

The ACP is interdisciplinary – its principal investigators come from various backgrounds spanning from physics, chemistry, and biology to medicine. In joint research projects, ACP scientists cover both fundamental and applied topics. While encompassing a broad variety of different research fields, one of the main goals of the ACP is to develop expertise in its three strategic domains: Ultra Optics, Strong Field Physics, and Biophotonics.



ULTRA OPTICS

Ultra Optics was founded as a Center for Innovation Competence by the German Federal Ministry of Education and Research. In Ultra Optics, the ACP addresses the generation and complete control of light in all its properties, enabling unprecedented and application-tailored optical solutions.

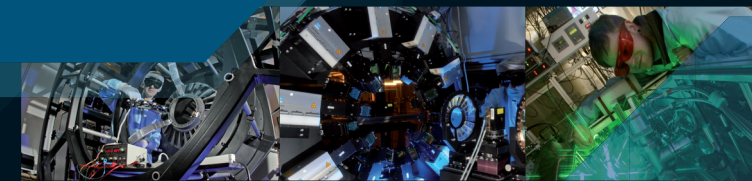


Ultra Optics is a synergistic combination of four fields:

- ♦ **Laser Physics**
utilizing the laser as a tool, instrument, or information carrier
- ♦ **Nanooptics**
investigating nanoscale light-matter interaction platforms
- ♦ **Photonic Materials**
creating novel materials with unprecedented opportunities
- ♦ **Optical Systems**
designing solutions for complex challenges in optics

STRONG FIELD PHYSICS

Strong Field Physics is dedicated to the generation of light with extreme properties and at extraordinarily high intensities as well as the interaction of light with matter up to the relativistic domain. Equipped with outstanding facilities such as the POLARIS laser system, ACP scientists gain access to unclaimed science territories, such as ultra-short wavelengths, relativistic field strengths, and laser-driven particle acceleration.



Strong Field Physics targets research on the following prominent topics:

- ♦ **Nonlinear and Relativistic Laser Physics**
exploring new domains of ultrahigh field intensities
- ♦ **X-ray Optics**
designing and optimizing ultra-short wavelength applications
- ♦ **Ultrahigh Peak Power Lasers**
developing a new class of intense laser systems

BIOPHOTONICS

Biophotonics is an emerging, highly multidisciplinary research area, embracing a multitude of light-based technologies to develop optical solutions for the life sciences, environmental sciences, and medicine. Covering numerous aspects of applied optics and photonics research, the ACP enables strong synergies between specialists in medicine, the natural sciences, and engineering.



Major topical fields in Biophotonics are:

- ♦ **Novel Spectroscopic Techniques**
creating innovative photonic tools for biological research
- ♦ **Bioimaging and Biospectroscopy**
gaining multidimensional information on living systems
- ♦ **Chip-based Analytics and Diagnostics**
functionalizing light for life, earth, and environmental sciences