UCAS-Fraunhofer joint training program for UCAS doctoral students in Germany 2027-2028

The Fraunhofer-Gesellschaft, headquartered in Germany, is a leading organization for applied research. Since its founding as a nonprofit in 1949, Fraunhofer has held a unique position in the German research and innovation ecosystem. The research organization with more than 30,000 employees currently operates 74 institutes and independent research units throughout Germany. Fraunhofer plays a major role in innovation by focusing on cutting-edge technologies and transferring research results to industry to strengthen Germany as a business location and benefit society.

Its primary customer base comprises large and medium-sized companies, which utilize Fraunhofer's expertise to boost their competitiveness with new technologies. For years, Fraunhofer has been one of the most active patent applicants in Germany and Europe. Its international patent portfolio is the basis for technology transfer through research projects, spin-offs and licensing. Moreover, Fraunhofer addresses societal goals in key technology sectors through interdisciplinary and international partnerships in specific markets. Examples include solutions for microelectronics, artificial intelligence and quantum computing, healthcare, the circular economy, new materials, energy, critical infrastructure security, and defense.

Fraunhofer is a sought-after and established partner in publicly funded projects with industry partner involvement. It is also instrumental in strengthening Germany as a hub for innovation and business, ensuring its future viability. Its activities create jobs in Germany, boost the impact of investment on industry, give companies a competitive edge and foster public acceptance of advanced technologies. International partnerships with excellent research organizations and companies around the world directly connect the Fraunhofer-Gesellschaft with the most influential research communities and economic areas.

Fraunhofer's total annual budget amounts to 3.6 billion euros. Contract research, Fraunhofer's mainstay, generates 3.2 billion of this budget. Unlike other public research organizations, institutional funding from federal and state governments accounts for no more than one-third of its contract research budget, thus providing merely the base. Fraunhofer raises at least two-thirds of its contract research budget competitively from private-sector contracts and public project funding. Unlike organizations that are largely institutionally funded, the resulting strong incentive to develop business fosters entrepreneurial spirit, ensuring that Fraunhofer continuously develops solutions for current and future economic and societal needs. In 2025, industrial revenue accounted for 966 million euros.

The Fraunhofer-Gesellschaft is a recognized nonprofit named after the scholar Joseph von Fraunhofer (1787–1826), who lived and worked in Munich. Joseph von Fraunhofer's inquisitiveness and business acumen enabled him to rise from a glass grinder to a scientific pioneer who, as an inventor and entrepreneur, turned ideas into marketable products and commercialized them.

UCAS-Fraunhofer joint training program

This joint training program for doctoral students has been running since 2008. To date, over 125 UCAS PhD students have been invited to conduct research for their theses at one of the Fraunhofer Institutes. The program aims to promote scientific exchange between Germany and China.

The fellowship is initially limited to 12 months. However, if the hosting Fraunhofer Institute, the Fraunhofer Executive Board, UCAS and your PhD supervisor agree, the stay may be extended by 12 or 24 months after the first year. In the event of an extension, the stipend will be provided by Fraunhofer. Students can apply to different institutes depending on their research fields and the Fraunhofer Institute's willingness to participate in the program.

Participating students will become familiar with the scientific work of one of the world's leading applied research organizations and experience life and culture in Germany.

The following Fraunhofer Institutes are not currently participating in the program and must not be chosen as guest institutes:

- Fraunhofer Institute for Applied Solid State Physics IAF
- Fraunhofer Institute for Communication, Information Processing and Ergonomics FKIE
- Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR
- Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut (EMI)
- Fraunhofer Institute for Applied Optics and Precision Engineering IOF
- Fraunhofer Institute for Computer Graphics Research IGD
- Fraunhofer Institute for Process Engineering and Packaging IVV
- Fraunhofer Institute for Material and Beam Technology IWS
- Fraunhofer Institute for Solar Energy Systems ISE (Photovoltaics)

Application process:

If you are interested in this program, please take a look at the Chinese homepage of the Representative Office Beijing. Click on the Chinese name of an institute to find out more, including its research areas, ongoing research projects and contact details. You may also be interested in consulting the research topics handed in by Fraunhofer (please refer to the attachment) as well as publications by Fraunhofer scientists.

Choose up to three institutes that match your research focus exactly (please refer to the list of institutes that are not participating in the program). The Fraunhofer Institute that could host you must be selected carefully. The closer your research focus matches the research area of the Fraunhofer Institute, the better your chances of success.

In the first phase of your application, you should prepare the documents required by UCAS. You can download these from the UCAS website: https://www.ucas.ac.cn. Please also add a signed copy of the Fraunhofer Privacy Policy, as well as a detailed CV depicting all colleges/universities attended, academic degrees and employment history. Your application must be submitted to Ms. Li Maoli of UCAS by 1 December 2026.

Once the UCAS selection process is complete, the Fraunhofer Representative Office in Beijing and the Fraunhofer Headquarters will conduct a pre-selection, inviting all shortlisted candidates to an online interview in March/April 2027. Based on the outcome of this interview, the Fraunhofer Representative Office in Beijing and the Fraunhofer Headquarters will select candidates who are eligible to apply to the Fraunhofer Institute of their choice. Please do not contact the Fraunhofer Institutes before the interview.

Following the pre-selection of candidates by the Fraunhofer Representative Office in Beijing and the Fraunhofer Headquarters, the application phase at the Fraunhofer Institutes will begin in spring 2027, when selected candidates will submit their applications. The decision to take on a doctoral student lies solely with the Fraunhofer Institutes.

Q&A:

1. *Who will sponsor the students?*

UCAS is responsible for funding the costs of the first year. If Fraunhofer agrees to extend the placement by a further 12–24 months, Fraunhofer will provide the scholarship.

2. *Where can I find more information on Fraunhofer and the research topics of the Fraunhofer institutes?*

- Online info session on Fraunhofer and the joint program for doctoral students on 4 November 2026 at 15:00 Chinese time
- The website of Fraunhofer Office Beijing: 德国弗劳恩霍夫应用研究促进协会-北京代表处 (in Chinese)
- Website of Fraunhofer Germany: https://www.fraunhofer.de/en.html (in English).
- List of institutes and research establishments in Germany: https://www.fraunhofer.de/en/institutes/institutes-and-research-establishments-in-germany.html (English)
- Fraunhofer Magazine: https://www.fraunhofer.de/en/media-center/publications/fraunhofer-magazine.html (depicts Fraunhofer's research topics, in English).
- Fraunhofer Annual Report 2025: Fraunhofer Annual Report 2025
- Films about current research topics: Videos (in English).

3. Which documents do I need to submit?

Please hand in the following documents:

- Duly filled-in and signed application form. Take special care to describe the research proposal and potential applications in detail

- A detailed CV including your academic and employment history
- Duly signed Fraunhofer data protection policy

4. How many institutes can each student choose?
Each student may apply to a maximum of three institutes.

5. How should a suitable contact person be chosen?
You can find a suitable contact person by browsing the Fraunhofer Institutes' websites or publications. A list of all the institutes is available on the official website: https://www.fraunhofer.de/en/institutes/institutes-and-research-establishments-in-germany.html. You can also search according to your own research area. Alternatively, you can ask the Representative Office in Beijing for support. In general, your contact person should be the head of a department or research group who is actively involved in research.
You may also be interested in consulting the research topics handed in by Fraunhofer (please refer to the attachment).

6. *How to prepare for the interview?*
Prepare some brief information about yourself, your academic background, your PhD project, a study proposal for your stay at Fraunhofer, why you wish to work at a Fraunhofer Institute, the potential applications of your research, and your expectations of living and working in Germany. The interview will be conducted in English.

7. *I have not yet received a reply from the Fraunhofer Institute. Should I send another enquiry?*
Since your potential hosts are busy, it may take them up to one month to respond. Please be patient and refrain from making frequent enquiries about the status of your application.

8. How can I get a visa after receiving an offer?
You will receive an invitation letter by email, issued by the Fraunhofer headquarters. You are responsible for the visa application process. Please check the current visa guidelines on the homepage of the German embassy. You may be required to provide proof of adequate financial resources for your research stay in Germany, such as a blocked account.

9. When can I move to Germany?
This varies according to your personal schedule and the waiting time for the visa to be granted. Currently, the waiting time for a visa is quite long, so we assume that you will start your research stay at the end of 2027 at the earliest.

10. What is the working language in the institutes?
English and German. Proficiency in German, or a German language test, is not required.

11. Which certificates will be accepted as proof of English language proficiency?
Fraunhofer accepts the following certificates: GRE, IELTS, TOEFL and CET6.

12. Will I receive support to help me settle in?

Both the administration and your colleagues at the host institute will help you familiarize yourself with everyday life in Germany. Furthermore, the Fraunhofer headquarters offers counselling in English and Chinese and will invite you to an online platform where you can access information on everyday life in Germany.

Contact details:

Fraunhofer Representative Office Beijing

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Research stay opportunity at Fraunhofer Institute for Molecular Biology and Applied Ecology IME, Molecular Biotechnology branch Münster

Fraunhofer Institute:

The Fraunhofer Institute for Molecular Biology and Applied Ecology IME conducts applied life-science research ranging from the molecular level to entire ecosystems. Its activities cover molecular biotechnology, applied ecology and bioresources, providing research and services for fields including agriculture, chemistry, environmental and consumer protection, pharmacy and medicine. The institute combines interdisciplinary expertise with state-of-the-art laboratories and maintains strong links with universities and international research partners.

A particular strength of Fraunhofer IME's Münster site is its close connection with the Department of Biology and Biotechnology of Plants at the University of Münster. This university link embeds the Münster activities in a strong academic research environment and supports Fraunhofer IME's broader mission of translating developments in the life sciences into novel research strategies and technologies.

Topic for research stay:

Yield Optimization and Yield Security in Crop Plants through Targeted Trait Improvement Using New Genomic Techniques

Ensuring sustainable agricultural yields is one of the central challenges of modern plant biotechnology in light of climate change and increasing biotic and abiotic stress factors.
The goal of this research focus is to develop and apply innovative genetic and biotechnological approaches for the targeted improvement of yield-related traits in crop plants. The focus is on increasing their resilience to stress factors as well as enhancing and stabilizing plant productivity.

We particularly welcome applications from doctoral students whose dissertations are being prepared in collaboration with the following CAS institutions:

Institute of Genetics and Developmental Biology, Chinese Academy of Sciences
Institute of Botany, Chinese Academy of Sciences
Center for Excellence in Molecular Plant Sciences / Institute of Plant Physiology and Ecology, Chinese Academy of Sciences
Kunming Institute of Botany, Chinese Academy of Sciences

Academic host:

Prof. Dr. rer. nat. Dirk Prüfer
Deputy Head of the Division Molecular Biotechnology
Fraunhofer Institute for Molecular Biology and Applied Ecology IME
Schlossplatz 8
48143 Münster
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