

Welcome in the Master programme

Prof. Axel Görlitz, HHU Düsseldorf

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Website:

- <http://www.physik.hhu.de>

VPN client (OpenVPN):

- available through the ZIM (Center for Information and Media Technology)
- <https://www.zim.hhu.de/servicekatalog/netze/vpn>

Universitäts-Mailadresse:

- Important for instructors to contact students (reasons: security, reliability): generally firstname.lastname@hhu.de
- For more information, visit <https://www.zim.hhu.de/servicekatalog/werkzeuge-fuer-alle/e-mail>

Course Catalog (LSF):

- <https://lsf.hhu.de/>
- All courses are listed in the online course catalog
- Courses taken must be registered for online in the LSF

Student Portal

- <https://studierende.uni-duesseldorf.de>
- Online exam registration
- Exam results and academic transcript

ILIAS :

- <http://ilias.hhu.de>
- learning platform with lecture materials
- Use of the student portal and/or ILIAS, depending on the instructor

Bibliothek (ULB):

- <https://www.ulb.hhu.de/>
- Books can be borrowed and study areas are available
- Textbooks are often available online (as PDF files)

Master Programme in Physics

MSc in Physics - Study Programme			
1. Semester	2. Semester	3. Semester	4. Semester
Focus Area 1 (12 LP)		Specialization (15 LP)	Final Seminar (3 LP)
Focus Area 2 (12 LP)			Master Thesis (30 LP)
Elective Physics (36 LP)			
Elective General (12 LP)			

- Plasma Physics, Quantum Optics and Quantum Information, Solid State Physics, Soft Matter Physics, Biophysics
- Two focus areas (12 ECTS each) have to be chosen
- In each focus area one experimental (type A) and one theoretical (type B) module (6 ECTS each) have to be chosen
- It is guaranteed that in all focus areas lectures of type A and type B are held regularly (i. e. once per academic year)
- Course enrollment at LSF (lsf.hhu.de)

Physics Focus (Schwerpunkt)

Schedule of lectures in the focus areas	
SS 2026	WS 2026/27
Experimental Quantum Optics (A)	Experimental Plasma Physics (A)
Theoretical Quantum Optics and Quantum Information (B)	Theoretical Plasma Physics (B)
Theoretical Soft Matter (B)	Experimental Soft Matter (A)
Theoretical Solid State Physics (B)	Semiconductor Devices (A)*
Optical Properties of Solids (A)	Experimental Biophysics (A)
Theoretical Biophysics (B)	

*additional lectures in experimental solid state physics may be offered in the winter term 2025/26

Elective Physics Modules (Wahlpflichtbereich Physik)

- Focus modules, Laser Physics, Astrophysics, Computational Physics, Numerical Simulations, Advanced Quantum Mechanics, ...
- Modules with a total of 36 credit points have to be chosen
- Course enrollment at LSF (lsf.hhu.de)
- [Handbook of Modules](#) lists courses that are generally offered

Elective Physics Modules (Wahlpflichtbereich Physik)

Modules that can be chosen as elective physics module in SS 2026

all focus modules (if not used in focus area)

Advanced Quantum Mechanics

Quantum Cryptography

Modern Microscopy and Scattering Techniques

Molecular Physics: From Quantum Molecular Structure to Medical Applications

Numerical Simulations

Fusion Plasma Physics

Greens Functions

Imaging Techniques II

Materials Science in Microgravity

Surface Physics II

Self-Assembly of Biomolecules

Soft Matter Systems: Advanced Experimental and Theoretical Methods

Advanced Numerical Methods for Physics and Medical Physics

Laboratory Course on Laser Physics

Computational Molecular Biophysics Practical

Laboratory Course on Quantum Technology

+ further seminars (see LSF)

Elective modules (Wahlbereich)

- Any university course including physics modules.
- Advanced Mathematics, Chemistry, more Physics courses (typically in German).
- Transferable skills, language courses (<http://www.studierendenakademie.hhu.de>),...
- Graded courses/modules count for final grade.

Specialization

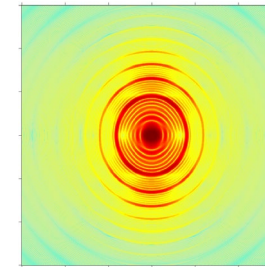
- Training for Master thesis
- 15 Credit Points

Final Seminar

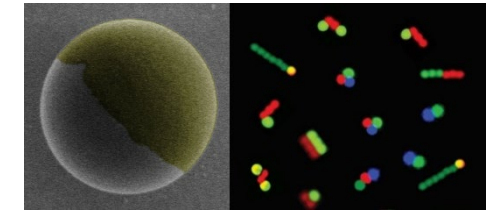
- Presentation of Master thesis
- 3 Credit Points

Research work in one of our primary research areas:

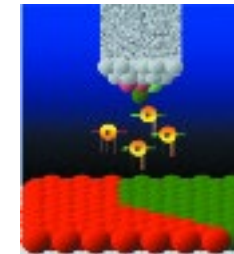
- Plasma Physics
- Soft Matter
- Solid State Physics/Nano Physics
- Quantum Optics/Quantum Information
- Medical Physics/Biophysics



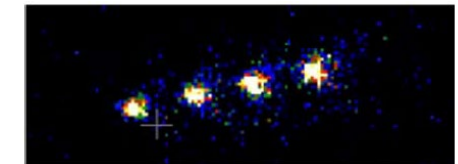
(AG Müller)



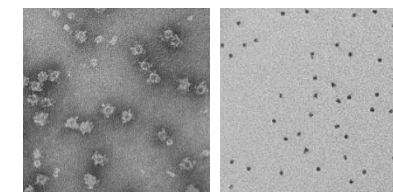
(AG Buttinoni)



(AG Getzlaff)



(AG Schiller)



(AG Monzel)

- Cover entire moduls
- Oral exams (date of exam are individually arranged with the examiner) or written tests (fixed date)
- Registration: 1 week before exam; online-registration (in the Studierendenportal)
- **Exception** - seminars: registration with professor
- **Exception** - directed study: registration with professor

Prof. Axel Görlitz

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Student Advisor: Prof. Hermann Kampermann

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General Information for international students at HHU:

www.hhu.de/en/international