

M.Sc. Physics

M.Sc. Applied Physics

Info, questions, answers...

Albert-Ludwigs-Universität Freiburg



**UNI
FREIBURG**

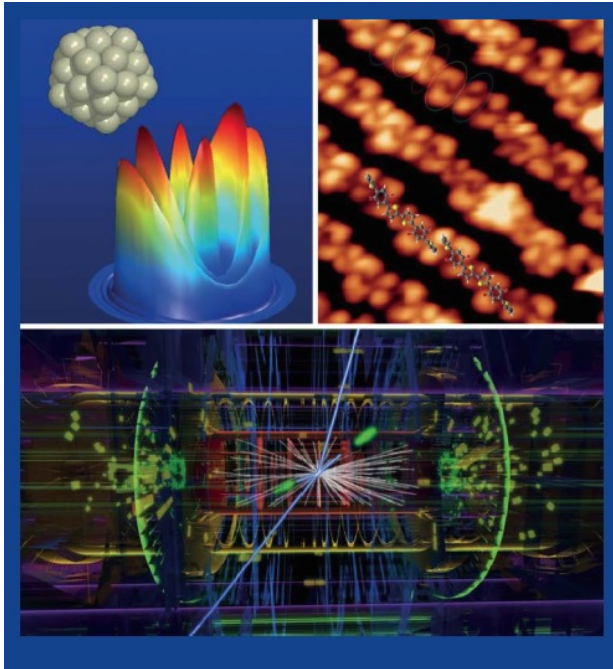
15.04.2024

PD Dr. Markus Walther, master@physik.uni-freiburg.de

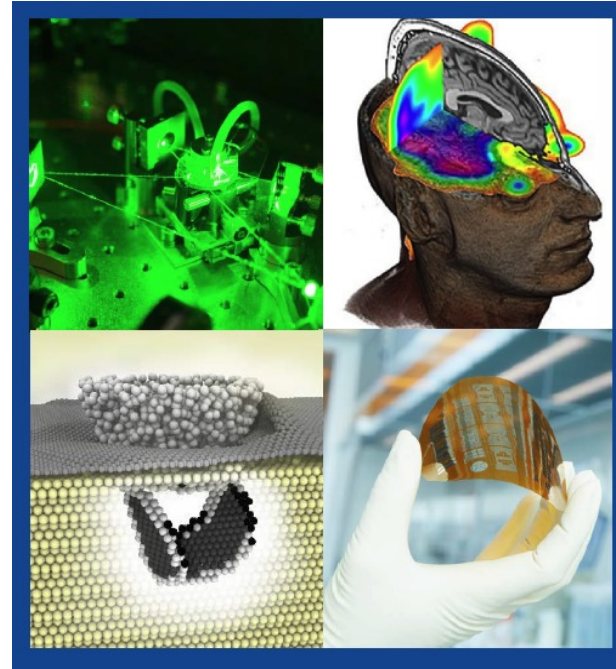
Master programs in Freiburg



UNI
FREIBURG



Master of Science (M.Sc.)
Physics



Master of Science (M.Sc.)
Applied Physics

Program – MSc Physics



Module	Type	Contact hours	EC TS	Compul-sory/ Elective	Recom-mended semester	Assessment
Advanced Quantum Mechanics	L+E	4+3	10	C	1 or 2	PL: written
Advanced Physics 1	L+E	4+2	9	E	1 or 2	PL: written or oral
Advanced Physics 2	L+E	4+2	9	E	1 or 2	PL: written or oral
Advanced Physics 3	L+E	4+2	9	E	1 or 2	SL
Elective Subjects	variable	variable	9	E	1 or 2	SL
Term Paper	S	2	6	E	1 or 2	PL: written or oral
Master Laboratory	Lab	10	8	C	1 or 2	PL: written or oral
Research Traineeship	-	-	30	C	3	SL
Master Thesis	-	-	28 2	C	4	PL: Thesis SL: Presentation

Abbreviations in table:

Type = type of course; L = lecture; E = exercises; S = seminar; Lab = laboratory;

C = compulsory module; E = elective module;

SL = assessed coursework ('Studienleistung'); PL = exam ('Prüfungsleistung')

Final Exams - PL vs SL



Prüfungsleistung (PL) / graded exam

- registration required
- **exam with grade**
(contributes to final grade)
- failed exam must be repeated
- max 2 repetitions (3 tries)
exception:
Term Paper, Master Lab, Master Thesis
(all only 1 repetition!)
- course can not be changed after exam
registration deadline!



Studienleistung (SL) / non-graded exam

- registration required
- exam with just **pass** or **fail**
- failed exam can be repeated
- infinite repetitions



Program – MSc Physics



Module	Type	Contact hours	EC TS	Compul-sory/ Elective	Recom-mended semester	Assessment
Advanced Quantum Mechanics	L+E	4+3	10	C	1 or 2	PL: written
Advanced Physics 1	L+E	4+2	9	E	1 or 2	PL: written or oral
Advanced Physics 2	L+E	4+2	9	E	1 or 2	PL: written or oral
Advanced Physics 3	L+E	4+2	9	E	1 or 2	SL
Elective Subjects	variable	variable	9	E	1 or 2	SL
Term Paper	S	2	6	E	1 or 2	PL: written or oral
Master Laboratory	Lab	10	8	C	1 or 2	PL: written or oral
Research Traineeship	-	-	30	C	3	SL
Master Thesis	-	-	28 2	C	4	PL: Thesis SL: Presentation

Abbreviations in table:

Type = type of course; L = lecture; E = exercises; S = seminar; Lab = laboratory;

C = compulsory module; E = elective module;

SL = assessed coursework ('Studienleistung'); PL = exam ('Prüfungsleistung')

Program – MSc Physics



Recommendation for start in winter semester:

FS	Module				Σ ECTS	
1	Advanced Quantum Mechanics 10 CP	Advanced Physics 1 9 CP		Term Paper 6 CP	Master Laboratory 8 CP	33
2		Advanced Physics 2 9 CP	Elective Subjects Advanced Physics and/or other discipline by own choice 9 CP			27
		Advanced Physics 3 9 CP				
3	Research Traineeship 30 CP					30
4	Master Thesis (Thesis and Presentation) 30 CP					30

(for start in summer semester swap 1st and 2nd semester)

Program – MSc Applied Physics



Module	Type	Lecture hours	EC TS	Compul- sory/ Elective	Recom- mended semester	Assessment
Advanced Experimental Physics	L + E	4 + 2	9	E	1 or 2	PL written or oral
Advanced Theoretical Physics	L + E	4 + 2	9	E	1 or 2	PL written or oral
Applied Physics	L + E	variable	18	E	1 or 2	PL written or oral
Elective Subjects	variable	variable	10	E	1 or 2	SL
Term Paper	S	2	6	E	1 or 2	PL written and oral
Master Laboratory Applied Physics	Lab	10	8	C	1 or 2	PL written and oral
Research Traineeship	-	-	30	C	3	SL
Master Thesis	-	-	28 2	C	4	PL: Thesis SL: Presentation

Abbreviations in table:

Type = Type of course; L = Lecture; E = Exercises; S = Seminar; Lab = Laboratory;
 C = Compulsory module; E = Elective module;
 PL = exam ('Prüfungsleistung'); SL = assessed coursework ('Studienleistung')

Program – MSc Applied Physics



FS	Module				Σ ECTS	
1	Advanced Experimental Physics 9 ECTS points	Applied Physics 18 ECTS points		Term Paper 6 ECTS points	Master Laboratory Applied Physics 8 ECTS points	28
2	Advanced Theoretical Physics 9 ECTS points		Elective Subjects 10 ECTS points			32
3	Research Traineeship 30 ECTS points				30	
4	Master Thesis (Thesis and Presentation) 30 ECTS points				30	

- **Lecture Courses**
(lectures, excercises, final exam)
- **Term Paper Seminar**
(oral presentation, written report)
- **Master Laboratory**
MSc Physics:
block lab course (4 weeks), Feb/March, registration in Nov/Dec
see website <http://www.physik.uni-freiburg.de/studium/labore/>
- MSc Applied Physics:
6 experiments distributed over first year
see website <http://www.physik.uni-freiburg.de/studium/labore/>

Course Catalog



<https://www.physik.uni-freiburg.de/studium/vorlesungsverzeichnis>

Master-of-Science (M.Sc.) Physics

Compulsory Lecture

The lecture Advanced Quantum Mechanics is offered regularly in the winter semester.

Die Vorlesung Advanced Quantum Mechanics wird regelmäßig im Wintersemester angeboten.

Advanced Physics 1-3 (Theory & Experiment)

	SWS	CP	Zeiten	Raum	Dozent	Beginn
Theoretical Condensed Matter Physics <i>Fachgebiet*: Theo</i>	4	9	Mi 12-14, Do 10-12	HS II ILIAS	Dzubiella	17.04.2024
Tutorials	2		n.V.			
Complex Quantum Systems <i>Fachgebiet*: Theo</i>	4	9	Di 10-12, Do 14-16	SR I	Thoss	16.04.2024
Tutorials	2		Mi 14-16	SR I		
Introduction to Relativistic Quantum Field Theory <i>Fachgebiet*: Theo</i>	4	9	Di 12-14, Mi 10-12	HS II	Rzehak	16.04.2024
Tutorials	2		Do 10-12	SR II/III		
Computational Physics: Materials Science <i>Fachgebiet*: Theo</i>	4	9	Di, Do 10-12	SR WB 2.OG	Moseler	16.04.2024
Tutorials	2		n.V.	CIP II		
Advanced Optics and Lasers <i>Fachgebiet*: Exp</i>	4	9	Mi, Do 10-12	SR GMH	Issendorff	17.04.2024
Tutorials	2		n.V.			
Condensed Matter II: Interfaces and Nanostructures <i>Fachgebiet*: Exp</i>	4	9	Do, Fr 8-10	HS II	Reiter	18.04.2024
Tutorials	2		n.V.			
Hadron Collider Physics <i>Fachgebiet*: Exp</i>	4	9	Mo, Di 10-12	SR GMH	Jakobs, Lang	15.04.2024

Online Registration / HISinOne

<https://campus.uni-freiburg.de>



FREIBURG

UNI
FREIBURG

walther

Login

[Lost login data?](#)

Campus Management - HISinOne

Albert-Ludwigs-Universität Freiburg



Application

Studies offered

Organisation

Help

Startpage

Applicants

Students

Guest Auditors

International Incomings

Doctoral Candidates

Lecturers

Employees

Choose your portal



Applicants

You want to study and to apply for a study place.



Students

You are already a student and want to register for courses or check your marks.



Guest Auditors

You are registered as guest auditor and want to search and/or register for courses offered for you.



International Incomings

You are EUCOR, ERASMUS, University of Freiburg Global Exchange or Free Mover Incoming.



Doctoral Candidates

You are a doctoral candidate at the University of Freiburg or want to become one.



Lecturers

You are a lecturer and want to manage courses or edit grades.



Employees

You are an employee and want to manage courses or administrate examinations or participate in a training.

Quicklinks



Search for courses

Show university course catalog

Show current courses

Courses institution-wide

Show university course catalog

Cancelled und proceeded courses, changes

Search for rooms

Search for persons

Help

Räume suchen und auf dem Stadtplan anzeigen lassen

HISinOne Manual

Status student application portal



Green: all functions of the application portal are normally available

Online Registration / HISinOne



UNI
FREIBURG

search menu

29

Demo - HISinOne
Albert-Ludwigs-Universität Freiburg

My Studies

Studies offered

Organisation

User information

Help

Bookmarks

You are here: Home > My Studies > Planner Of Studies with module plan

Planner Of Studies with module plan Master of Science, Physik, Hauptfach, PO 2015

Show module plan → Select another course of study Printview

Help

Semester: winter semester 2019

Hide lectures Hide examinations and non-graded works

Search in course catalog

Expand all Collapse all

Structure of examination regulations - All subject related semesters

Actions

Status

07LE33PO-MSc-2015 - Physik, M.Sc., PO 2015

+ 07LE33M-AQM - Module: Advanced Quantum Mechanics - 10.0 ECTS

- 07LE33K-ADV_PHYS1 - Module: Advanced Physics 1 - 9.0 ECTS

+ 07LE33M-ADV_EXP_AMO - Advanced Atomic and Molecular Physics - 9.0 ECTS

+ 07LE33M-ADV_EXP_OL - Advanced Optics and Lasers - 9.0 ECTS

- 07LE33M-ADV_EXP_CM1 - Condensed Matter Physics I: Solid State Physics - 9.0 ECTS

+ 07LE33V-ADV_EXP_CM1 - Condensed Matter Physics I: Solid State Physics - lecture course - 9.0 ECTS

apply

+ 07LE33Ü-ADV_EXP_CM1 - Condensed Matter Physics I: Solid State Physics - exercise course

+ 07LE33SL-ADV_EXP_CM1 - Condensed Matter Physics I: Solid State Physics - 9.0 ECTS (1 of 2)

enroll

+ 07LE33PL-ADV_EXP_CM1 - Condensed Matter Physics I: Solid State Physics - 9.0 ECTS (1 of 2)

enroll

+ 07LE33M-ADV_EXP_CM2 - Condensed Matter Physics II: Interfaces and Nanostructures - 9.0 ECTS

+ 07LE33M-ADV_EXP_PP - Advanced Particle Physics - 9.0 ECTS

signing-in for courses
(available now)

enrolment for exams
(available later)

Teaching Platform / ILIAS

https://ilias.uni-freiburg.de



UNI
FREIBURG

Zentrale Lernplattform der Universität Freiburg
Albert-Ludwigs-Universität Freiburg

Navigation icons: Mail, Profile (17), ILIAS (1/0), Search, Hilfe, User profile

PERSÖNLICHER SCHREIBTISCH ▾ | MAGAZIN ▾ | SUPPORT ▾

Übersicht

Aktionen ▾

Ihre Online-Evaluationen

Was bedeutet diese Box?

Keine offenen Onlineumfragen.

Neuigkeiten - Letzte Woche

(1-5 von 13) weiter

Forum: Fragen zu Ilias
14 Beiträge hinzugefügt.

Kurs: Humanmedizin 1. Studienabschnitt
Es wurden 5 Dateien hinzugefügt.

Kurs: Humanmedizin 1. Studienabschnitt
Lernort mit stabilem w-lan (Zugang über eduroam), auch zum Verfolgen von online-Veranstaltungen

Forum: Forum für Fragen zum digitalen Studienstart // Discussion Forum: Any Questions about your "digital start" at the University?
16 Beiträge hinzugefügt.

Wiki: Werkzeugkasten "Digitale Lehre"
BigBlueButton



Ausgewählte Angebote

3. Advanced Experiment

[Hadron Collider Physics 2020](#)

3. Advanced Experiment

[Master Laboratory Applied Physics - Lab 5 - Measuring the Rotation of the Sun](#)

[Physics of Clusters and Nanoparticles](#)

[Trapping - Cooling - Quantum Control \(Summer 2020\)](#)

5. Elective Subjects

[Physics of Nano-Biosystems SS 2019](#)

5. Elective Subjects

[Quantum Field Theory in Curved Spacetime](#)

[Quantum Magnetism at the Nano Scale SS20](#)

Physisches Praktikum für Studierende der Medizin und Zahnmedizin (WS 2020/2021)

Kalender

◀ Okt 2020 ▶

Mo	Di	Mi	Do	Fr	Sa	So
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

iCal

Meine Portfolios

Portfolio hinzufügen

Notizen

0 Notizen

Mail

0 Mail(s)

Research Traineeship & Master Thesis



One year Research Phase:

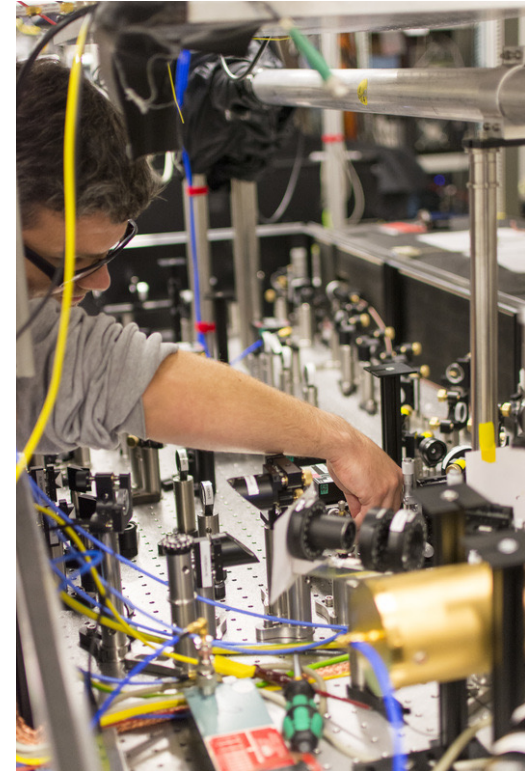
- **Research Traineeship (6 months)**
- **Master Thesis (6 months)**
Thesis and Colloquium (defense)

Requirements:

- Master Lab
- 3 out of 4 PLs

MSc Physics: AQM, Adv Phys 1 and 2, Term Paper

MSc Applied Physics: Adv Exp, Adv Theo, Applied Phys, Term Paper

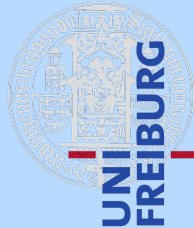


Research traineeship & Master Thesis



UNI
FREIBURG

Uni Freiburg (Institutes):



- Mathematics
- Chemistry
- Biology (Neuroscience)
- University Hospital (Medical Physics)
- Technical Faculty (IMTEK)

Leibniz Institute:

Kiepenheuer Institute
for Solar Physics



Physikalisches Institut



Fraunhofer Institutes:



- ISE (Solar Energy)
- IWM (Materials Research)
- IAF (Solid State Physics)
- IPM (Measurement Techniques)
- EMI (High-Speed Dynamics)

Research Centers of Uni Freiburg :

- FMF (Materials Research)
- FIT (Interactive / Bioinspired Materials)
- BIOSS (Biological Signalling Studies)
- FDM (Data Analysis)
- FRIAS (Advanced Studies)

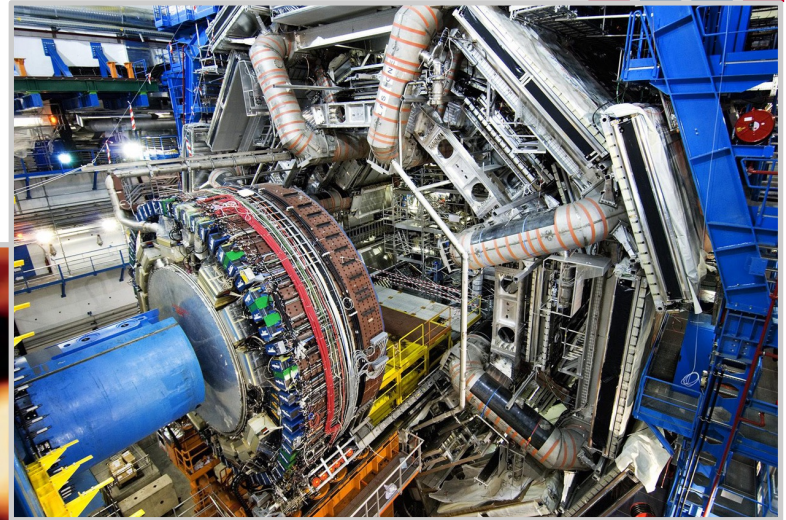
„external“ thesis
(at other institution)

Research traineeship & Master Thesis

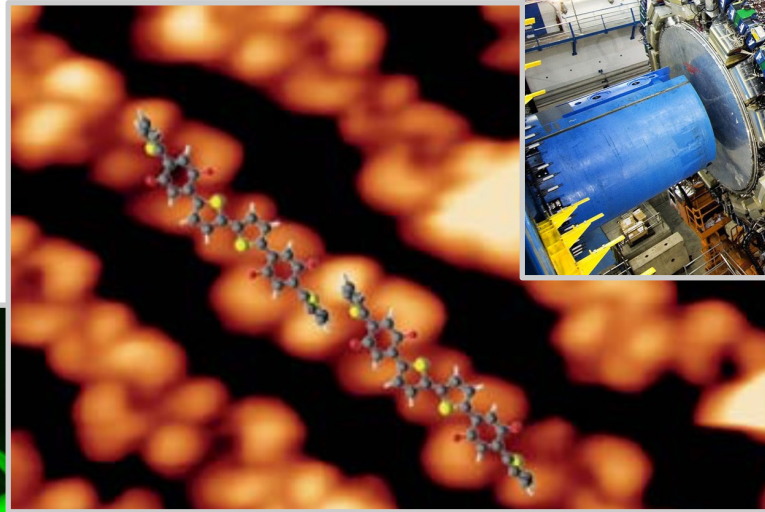


BURG

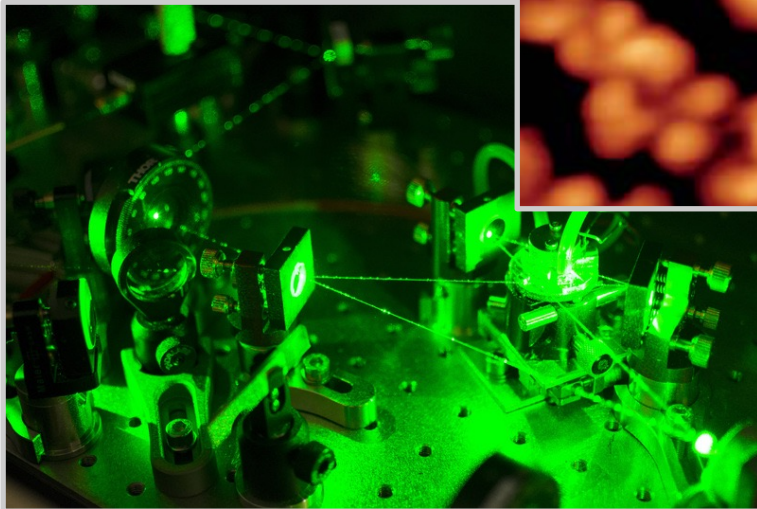
**Condensed Matter and
Applied Physics**



**Atomic, Molecular
and Optical Physics**



**Particles, Fields,
Cosmos**



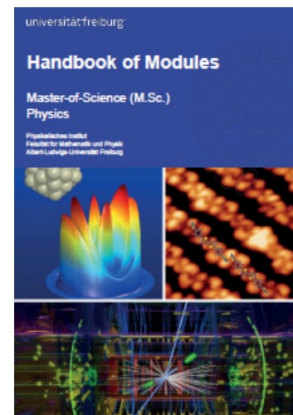
Poster presentations on research topics and
available thesis projects: **end of semester (Jan/Feb)**

Optional Specializations

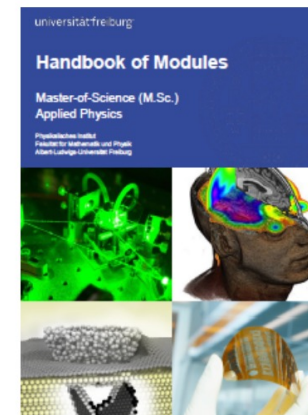


- **M.Sc. Physics**
 - Specialization in “Atomic, Molecular and Optical Physics”
 - Specialization in “Condensed Matter Physics”
 - Specialization in “Particle Physics”
- **M.Sc. Applied Physics**
 - Specialization in “Quantum Science and Technology” (new)
 - Specialization in “Applied Condensed Matter Physics” (new)

For more info
Check-out Handbook of Modules:



Handbook of Modules
M.Sc. Physics
PO 2020




Handbook of Modules
M.Sc. Applied Physics
PO 2016



Verwalten Sie Ihren Uni-Account selbst

myAccount Login

Anmelden

Wenn Sie bereits beim Rechenzentrum registriert sind und somit über einen Uni-Account  verfügen, können Sie diesen hier verwalten.

Benutzerkennung

Die Benutzerkennung (ein Kürzel von max. 8 Zeichen) wurde Ihnen vom Rechenzentrum zugewiesen.

Passwort

Bitte auf Groß-/Kleinschreibung achten!

Passwort vergessen?

Klicken Sie bitte hier:

Nur nutzbar, wenn Sie uns eine Mailadresse bekannt gegeben haben. Sie können oben schon Ihre Benutzerkennung eingeben!

Registrieren

Angestellte der Universität, die noch keinen Uni-Account  beim Rechenzentrum besitzen, können ihn sich hier einrichten.

Hinweis für Studierende

Studierende erhalten automatisch Benutzerkennung und Initialpasswort per EMail an Ihre bei der Immatrikulation hinterlegte Mail-Adresse zugesandt. Falls Sie die Benutzerkennung nicht (mehr) kennen, wenden sich an den [Nutzerservice](#). Bitte bringen Sie Ihre "UniCard" mit!

Wie ändere ich die [Standard-Sprache](#) in Firefox oder Internet Explorer?

Weiter



- Search Site
- Home
- Quick Access

- News
- Faculty
- Institute
- Teaching & Studies
- Research
- Staff
- Scientific honesty and the principles of good scientific practice

Welcome to the Institute of Physics



Popular links

- [Course Catalog](#)
- [Physics Colloquium](#)
- [Podcasts of the Physics Instituts](#)
- [Awards and Prizes](#)

Research

- [Research groups](#)
- [Priority programmes / Research Training Groups](#)
- [Scientific Advisory Board \(SAB\)](#)

News

[more news](#)



Physics Colloquium 22.04.2024, 17:15 Uhr

"Thermal relaxation asymmetry: When and why heating is faster than cooling"

Aljaz Godec

MPI Goettingen

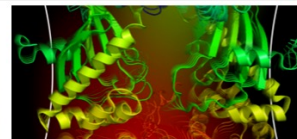
[More lectures...](#)



New Professor at the Institute of Physics

Heidi Rzehak joins the institute as new professor for theoretical physics. Her research focus is the physics beyond the standard model of particle physics.

[Read more...](#)



New insights into the movement of individual molecules

International team gains insights into molecular details of biological processes with techniques from physics. Their results have been recently published in the scientific journal 'Advanced Science'.

each Monday
during semester





Westbau Physics

fachschaft@physik.uni-freiburg.de

Student Advisory

<https://www.physik.uni-freiburg.de/studium-en/studienberatung-en/>



UNI
FREIBURG

Institute of Physics



You are here: Home › Teaching & Studies › **Student Advisory**

Search Site



Home



Quick Access



News

Faculty

Institute

Teaching & Studies

Course Catalog

Master (M.Sc.) Physics

Master-of-Science (M.Sc.)

Applied Physics

PhD

Student Advisory

Examination Office

International / Erasmus

Student Labs / Lab Courses

Bachelor, Master & PhD projects

Student Advisory / Course Guidance

In case you have specific questions related to the study programmes or individual need for guidance, please contact the student advisors of physics:

Student Advisor B.Sc. and M.Sc.



PD Dr. Markus Walther

Westbau 01 024

Tel. +49 (0)761 203 5721

Office hours: Mon, Thu 10:30-12:00 ← my office hours

E-Mail: studienberatung@physik.uni-freiburg.de

Slides of Welcome Meeting for new Master students (23.10.2023):

- [Master_Info_WS23.pdf](#)

Dates & Deadlines
Forms & Applications