



**Master studies in Particle Physics  
Siegen University  
Germany**



# Where is Siegen?

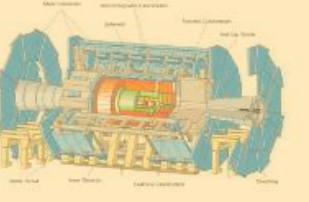
Germany



Siegen is located centrally in Germany, around 125 km northwest of Frankfurt and 90 km east of Cologne and can be reached well via train or car. Nearby international airports are in Frankfurt, Cologne and Düsseldorf.

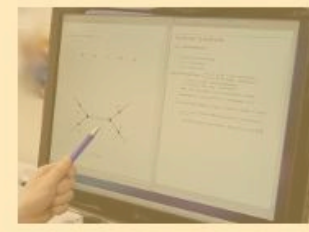


The University of Siegen has around 18.000 students and it has a large theoretical flavour physics group with around 40 members. Downtown Siegen offers many pubs, restaurants and cafes, but also theaters, cinemas and concert halls.




Experimentelle  
Teilchen- und  
Astroteilchenphysik

- Prof. Dr. Markus Cristinziani
- Prof. Dr. Ivor Fleck
- Prof. Dr. Markus Risse



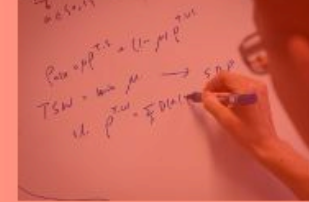
Theoretische  
Teilchenphysik

- Prof. Dr. Guido Bell
- Prof. Dr. Thorsten Feldmann
- Prof. Dr. Alexander Khodjamirian
- Prof. Dr. Wolfgang Kilian
- Prof. Dr. Alexander Lenz
- Prof. Dr. Thomas Mannel



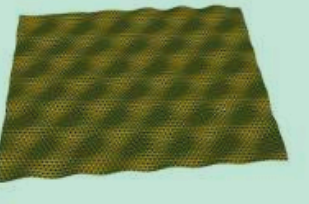
Experimentelle  
Quantenoptik

- Prof. Dr. Christof Wunderlich




Theoretische  
Quantenoptik

- Prof. Dr. Otfried Gühne
- Jun.-Prof. Dr. Stefan Nimmrichter




Festkörperphysik

- Prof. Dr. Carsten Busse



Nano-Optik

- Prof. Dr. Mario Agio



Röntgentomographie

- Jun.-Prof. Peter Modregger



Röntgenphysik

- Prof. Dr. Christian Gutt



Beschleunigerphysik

- Prof. Dr. Jens Knobloch



Didaktik der Physik

- Prof. Dr. Oliver Schwarz

## Particle physics

## Quantum Optics

## Solid states and X-ray Physics

## Didactics

Amazing staff-student ratio



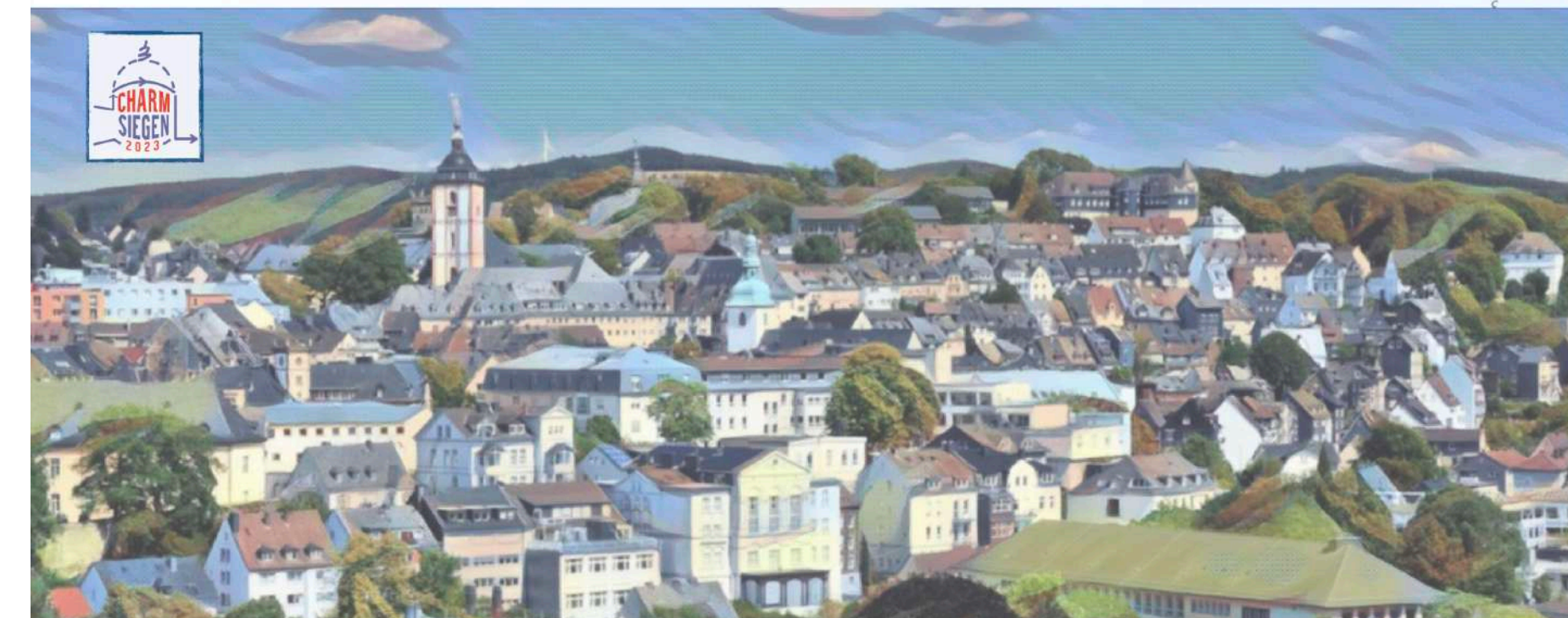
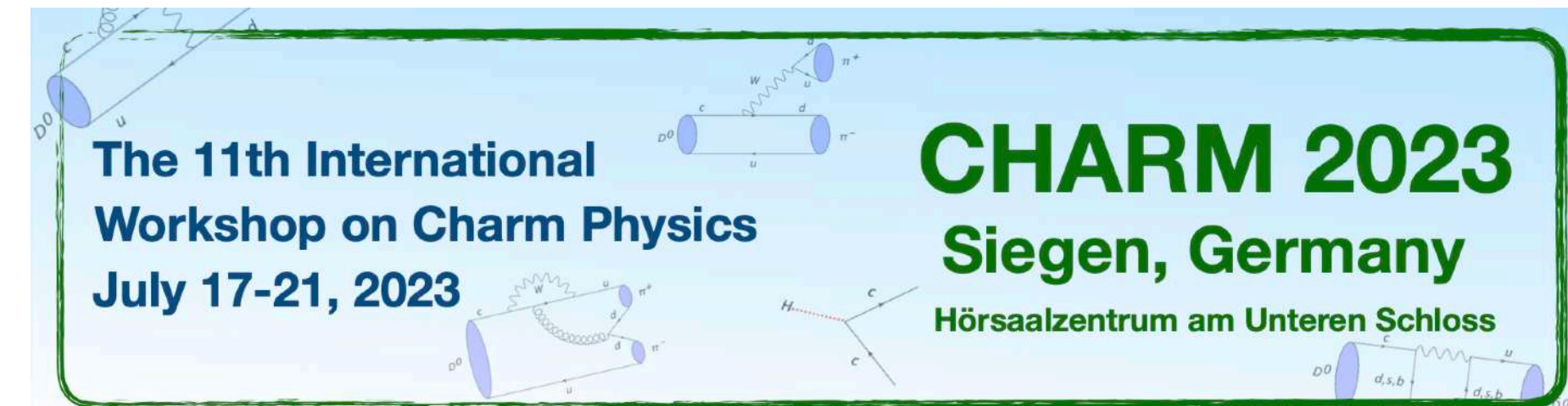
- O(30) beginners in bachelor
- O(10) beginners in master
- O(20) professors



# Physics in Siegen - small but excellent

**Internationally leading research** in several areas:

- World's largest group in theoretical flavour physics
- Germany's first quantum computer
- Large experimental group in ATLAS
- Large group for Pierre Auger Observatory
- **We were hosting many international conferences**




**Particle Physics with the ATLAS Experiment**

**Siegen**  
September 6-9, 2022  
Annual Meeting of the ATLAS ErUM-FSP T02

**FSP ATLAS**  
Erforschung von Universum und Materie

**Program committee**  
Arnulf Quadt, Volker Büscher, Katharina Behr, Dominik Duda, Mahsana Haleem, Oleg Kuprash, Kerstin Lantzsich, Federico Meloni, Jens Weingarten, Chris Young, Markus Cristinziani

**Local organising committee**  
Markus Cristinziani (Chair), Ivor Fleck (Co-chair), Carmen Diez Pardos, Qader Dorosti, Vadim Kostyukhin, Alexey Petrukhin, Wolfgang Walkowiak, Michael Ziolkowski, Stefanie Grebe (Secretary)

**Registration closes August 29, 2022**  
Info: [indi.to/Siegen22](http://indi.to/Siegen22)

**Venue**  
Hörsaalzentrum US-C  
Unteres Schloss 3  
Universität Siegen  
57072 Siegen

ATLAS EXPERIMENT | Federal Ministry of Education and Research | Universität Siegen

The 5th edition of the workshop  
"Beyond the Flavour Anomalies"  
Siegen, Germany, 9 - 11 April 2024



#### Topics

- Rare semileptonic decays
- Tree-level semileptonic decays
- Lepton flavour universality ratios
- Tree-level non-leptonic decays
- Charm sector
- Hadronic effects
- Experimental overviews and prospects
- Beyond the Standard Model

#### Organising Committee

- Alexander Lenz (Siegen University)
- Mitesh Patel (Imperial College London)
- Konstantinos Petridis (Bristol University)
- Aleksey Rusov (Siegen University)
- Danny van Dyk (Durham University)

#### Secretariat

- Arzu Ergüzel (Siegen University)



Detector  
Development

# Centre for Particle Physics Siegen



Data  
Analysis

Machine  
Learning

ATLAS  
CERN

Pierre  
Auger

Ship  
CERN

Flavour  
Physics

Sum  
Rules

SCET

Monte  
Carlo

Multi  
Loop

Lattice



# Master in Particle Physics

[Link to brochure for master studies](#)

- 1-2 years of lectures: 2 semester per years - **classes taught in English**
- 1 year of master thesis: results many times in a publication


## Example curriculum: (many different possibilities)

Focus Area: Experimental Particle or Astroparticle Physics (start WT)

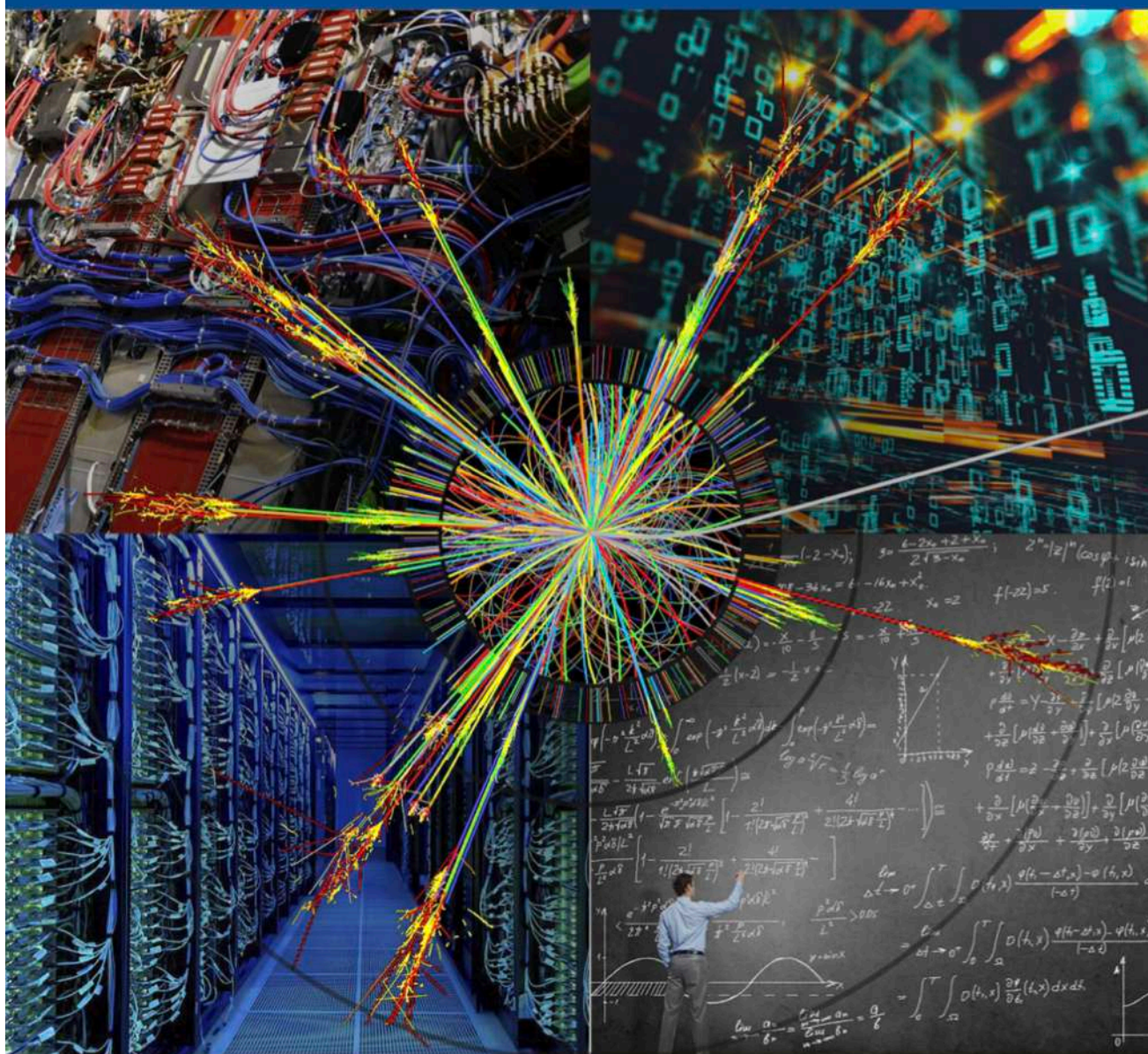
Semester 1 (WT)	Semester 2 (ST)	Semester 3 (WT)	Semester 4 (ST)
Astroparticle Physics 2L/2T (6)	EPP 4L/2T (9)	Oral Exam (-)	
CPPP 4L/2T (9)			
Detector Physics 2L/2T (6)	Cosmology 2L/2T (6)		
	Lab Course Electronics 2L/2T (6)		
	Accelerator Physics II 1L/1T (3)		
Laboratory Course (9)	Master Seminar (6)	Preparation + Training (15+15)	Master Thesis (30)

Additional online courses with Bonn, Jülich and Dortmund

School of Science and Technology  
Center for Particle Physics Siegen



**Master of Science (Physics)**  
Focus Area: Particle Physics  
Description of the Study Program



www.uni-siegen.de

# Physics Fun in Siegen

Instagram Channel



## John Ellis Visiting Siegen



Alexander Lenz @alexlenz42 · Jul 9

Entertaining our visitors at @UniSiegen : Hunt your BBQ in the forests around Siegen #higgs10



# Summary: Why Physics in Siegen?

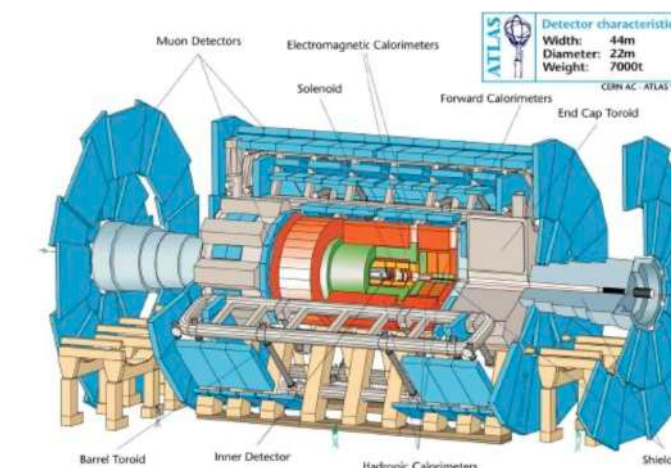
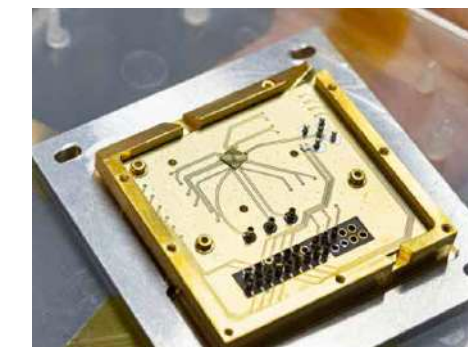
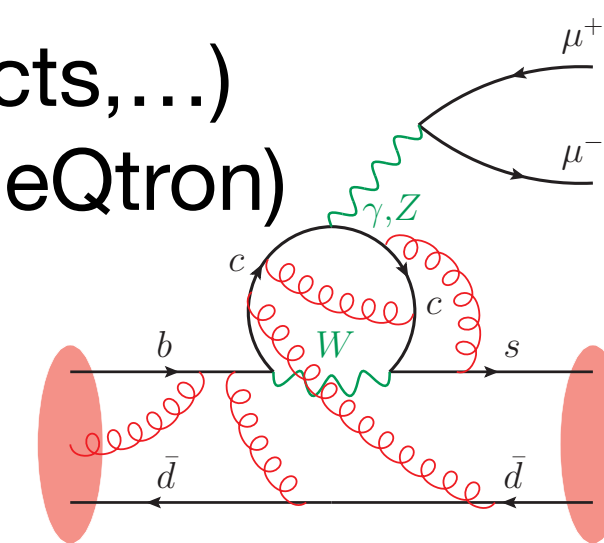


## 1. Sensational Staff-student ratio

**classes taught in English**

## 2. World leading in several areas, e.g.

- Theoretical flavour physics (Large 3rd party funding projects,...)
- Experimental quantum optics (own quantum computer, EleQtron)
- Experimental particle physics (ATLAS @ CERN, Auger,...)
- X-ray physics (DESY,...) ...



## 3. Low living costs

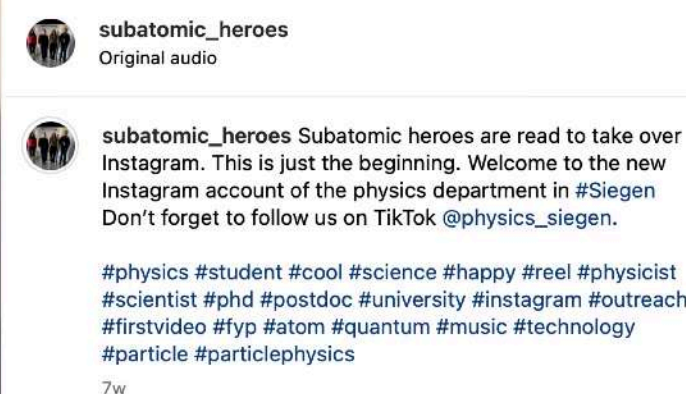
**No tuition fees**

Administrative fee of currently 333 Euro per term

## 4. Amazing nature



## 5. Active student life





# Summary: Why Physics in Siegen?

## 1. Sensational Staff-student ratio

classes taught in English

## 2. World level

- Theoretical
- Experimental
- Experimental
- X-ray physics

## 3. Low living

**No tuition**  
Administrative fee of current

## 4. Amazing

## 5. Active st



**Digital Master Day Particle Physics Siegen**  
**27th March 2025 (6th May 2025)**  
<https://indico.physik.uni-siegen.de/event/515/>

**9:00 Central European Time**  
**Via Webex**  
<https://uni-siegen.webex.com/meet/alexander.lenz>

