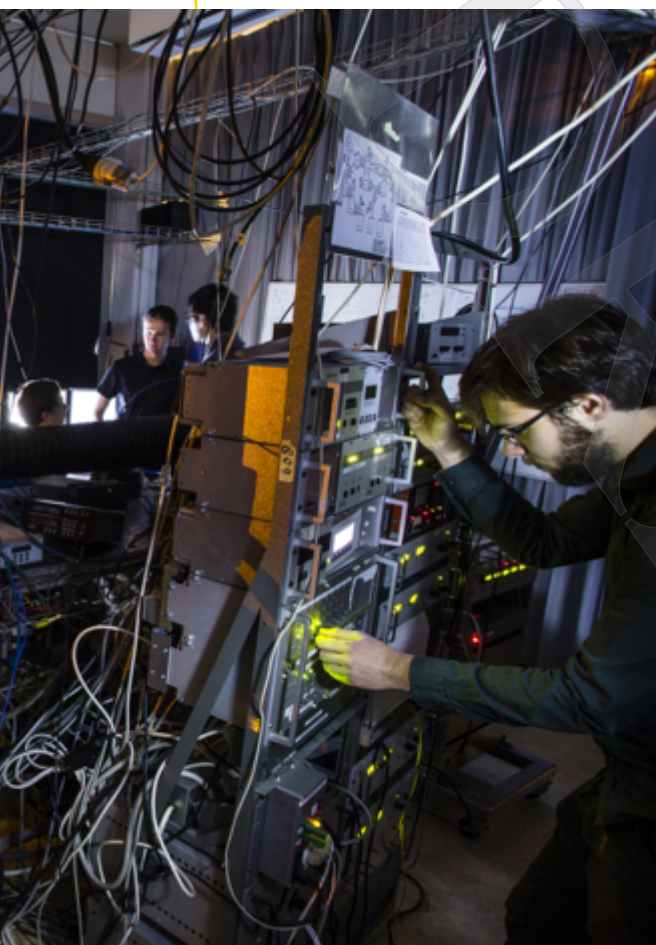




## Master's programme

# Experimental Physics



### SHORT DESCRIPTION

Experimental Physics offers you access to an exciting range of interconnected topics at the extremes of modern science: from the elementary particles to self-organizing complex structures, from the nano-Kelvin cold condensates to TeV hot plasma. In mastering this demanding programme, you will gain an intimate understanding of Classical and Quantum Many-Body Systems, and the tool set to study them with state-of-the-art experimental setups.

### THE RIGHT CHOICE FOR YOU?

Experimental Physics is a field that offers both scientific and technological challenges. You will be trained both in the fundamental scientific theories that describe the world around us and in the design and use of the advanced instrumentation required to study those theories.

Students in Experimental Physics will come in contact with the forefront technologies in particle detection, such as extremely high-granularity Si-pixel detectors and high-performance computing; state-of-the-art setups for laser cooling and Bose-Einstein condensation; and the latests microscopy techniques used to study complex materials down to the atomic level. Hand-in-hand with these experimental methods, you will also learn to apply advanced data analysis techniques and computer modelling.

This Master's programme offers courses with a strong link to experimental research carried out by experimental research groups in the Department of Physics and Astronomy. The research undertaken at Utrecht is at the forefront of fundamental experimental physics. You will have the opportunity to work in close cooperation with research groups that specialize in the strong nuclear forces, ultra cold quantum matter or ultra fast light-matter interaction. As a student in this programme you will also participate in international research meetings.

- Observe the extremes of nature, from ultra small and absolute zero to the hottest places in science
- Take your place in world leading research
- Discover new horizons in an international research environment

### PROGRAMME OUTLINE

- Duration: 2 years (fulltime)
- ECTS: 120
- Language: English
- Start: 1 September/1 February
- Admission deadlines: 1 April/1 September
- Degree: Master of Science
- Officially registered as: Physics and Climate Science (code 60705)

*Bright minds,  
better future*

### INTERNATIONAL RESEARCH

Utrecht University is the only Dutch university to contribute to ALICE, one of the large experiments running in the new LHC accelerator at CERN in Geneva. The research has close connections to different areas of theoretical physics (quantum field theory, relativistic hydrodynamics, and even string theory) and is also relevant to astrophysics. It uses state-of-the-art technologies in particle detection, electronics, and computing.

### CAREER PROSPECTS

You will acquire both the theoretical background as well as the experimental experience required to start a PhD in world-leading groups around the world, but also for careers in Research & Development in the high-tech industry.

### COURSES

Mandatory courses are Particle Physics, Photon Physics, Soft Condensed Matter Theory and Experimental Quantum Physics. In addition you can choose from a great number of courses like Modeling and Simulation, Statistical Data Analysis or Gravitational Waves.

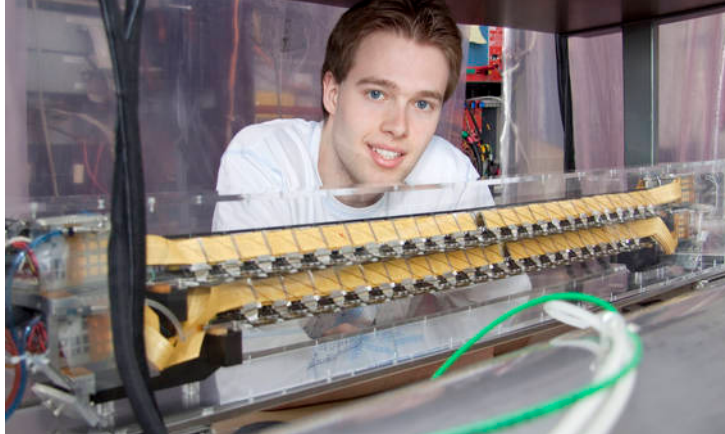
### ADMISSION

Applicants must hold one of the following degrees:

- a BSc degree with a major in Physics
- a BSc degree with a major in Science with a strong component in Physics

### YOUNG INNOVATORS

Do you want to get more out of your Master's programme? Utrecht University offers an honours course for Master's students with leadership potential. For more information see [www.uu.nl/yi](http://www.uu.nl/yi)

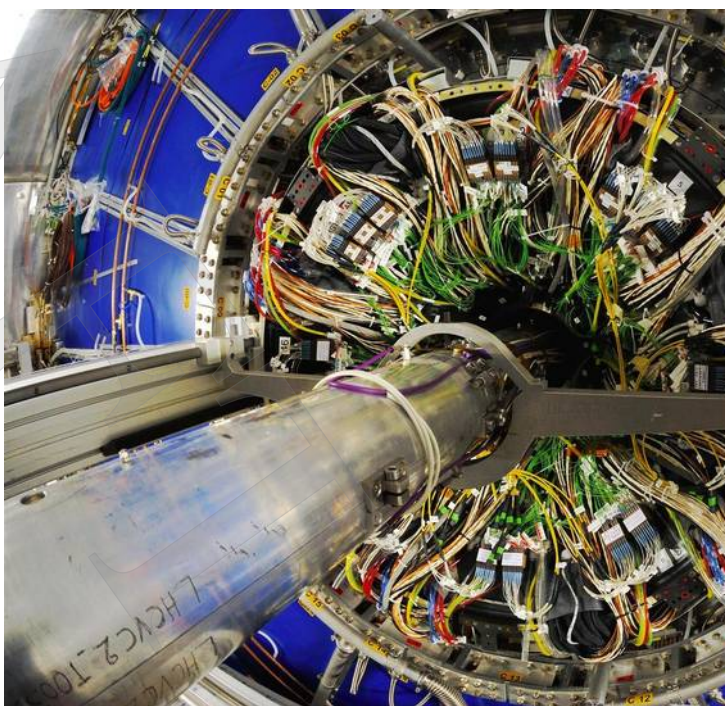


## "Search for the building blocks of nature!"

"Experimental physics is a fascinating field because it deals with the fundamentals of matter. In essence, what we do is the search for the smallest building blocks of nature in order to better understand the structure and evolution of the universe.

Utrecht is at the fore-front of cutting-edge leading research. I had the opportunity to give a presentation about my research at CERN in Switzerland!"

*Niels Vermeer, Master's student*



**MASTER  
YOUR  
FUTURE**  
AT UTRECHT UNIVERSITY

[www.uu.nl/masters](http://www.uu.nl/masters)

#### More information

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[www.uu.nl/masters/exphys](http://www.uu.nl/masters/exphys)

Watch the video

