



Undergraduate Studies



ROYAL  
HOLLOWAY  
UNIVERSITY  
OF LONDON

# Welcome



Royal Holloway is a major centre for Physics study and research. We pride ourselves on creating a vibrant, friendly and cultured atmosphere, allowing students to progress from the founding concepts of Physics to working side by side with internationally respected scientists.

The department has an outstanding international reputation for its research and an excellent record of teaching from its origins in the late 1800s.

Whichever degree you choose, your studies will be enriched by the international quality of our research at the cutting-edge of Physics.

We provide a very special educational experience: a choice of options worthy of one of the UK's largest teaching departments, smaller class sizes, small group teaching and a beautiful, safe, green campus within easy reach of central London.

I am delighted that you are considering Physics at Royal Holloway and look forward to welcoming you here.

**Professor Stephen Gibson**

Head of Physics



**2<sup>nd</sup>**  
**in the UK for**  
**Graduate Prospects**

*(The Complete University Guide, 2024)*






## Contact details

### Admissions enquiries

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### Connect with us

 @RHULPhysics  
 instagram.com/rhulphysics/  
 YouTube: RHUL Physics  
**royalholloway.ac.uk/physics**

# Physics at Royal Holloway

The Department of Physics is internationally recognised for teaching and research excellence in a broad range of areas including: particle physics at the LHC including the Higgs boson, dark matter searches and neutrino experiments, particle astrophysics, accelerator physics, nanophysics, astronomy, gravitational waves, quantum matter, superconducting/superfluid physics, quantum computing, as well as theoretical physics. We offer:

- flexible degrees that are based on a modular system that maximises your choice of options
- a friendly, supportive environment focused on small group teaching and personal development
- state-of-the-art teaching and research facilities including the UK Centre for Superconducting and hybrid Quantum Systems
- scholarships available on selected Physics degrees for high achieving applicants (conditions apply)
- a beautiful campus with high quality student accommodation and easy access to London
- extensive summer research placements in research groups and industry
- consistently high overall student satisfaction according to student feedback in annual National Student Surveys
- Institute of Physics Juno Champion and Silver Athena SWAN awards recognising best practice as an inclusive community
- Masters and PhD opportunities available to graduates
- an award-winning, IoP gold-tier Physics society, PhysSoc, organising social and scientific interest events and providing a strong support network.



“Having access to amazing facilities like the telescope has helped me to develop many skills and gives a real insight into what we learned in lectures. All the academics are inspiring and do really cool and interesting research and you get a lot of support from them.”

**Alanis**  
BSc Astrophysics

# Choosing your degree

We offer a wide variety of degree courses in Physics, including the opportunity to study other subjects in addition to Physics. Physics itself may be studied with an emphasis on pure, experimental or theoretical physics and over three or four years. The most important choices are between:

- an MSci four-year and a BSc three-year degree course
- a straight Physics degree or one with an emphasis on a particular theme or topic in Physics
- a full Physics degree, or a degree incorporating another subject.

All of our degrees are accredited by the Institute of Physics.

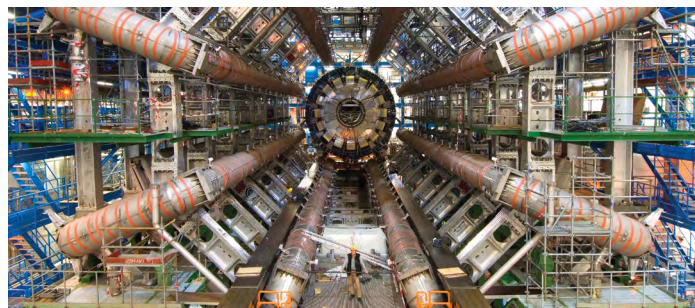
We understand that after submitting your application, or after arrival, your interests may change and so we try to ensure that it is possible to switch between degree subjects and between BSc and MSci degree courses as late as the end of the second year of study.

## Undergraduate study

All of our degree courses follow the same basic structure of giving you a solid foundation to your studies in your first year, followed by a more in-depth study of the most important components of modern Physics in your second year. Year three forms an introduction to subjects that are the focus of current research and there are a wide range of optional modules to choose from as you develop your own particular interests. This is when final year BSc students undertake a research project. Year four for MSci students involves the study of advanced material, a major research project and a review of current published research papers in an area of your interest.

For details of current module options, and our entry requirements please see our website.

DEGREES	UCAS code	Duration
MSci Physics	F303	4 years
MSci Astrophysics	F510	4 years
MSci Theoretical Physics	F321	4 years
MSci Physics with Particle Physics	F372	4 years
BSc Physics	F300	3 years
BSc Astrophysics	F511	3 years
BSc Theoretical Physics	F340	3 years
BSc Physics with Particle Physics	F370	3 years
BSc Physics with Integrated Foundation Year	F30F	4 years
PHYSICS AS A MAJOR SUBJECT		
BSc Physics with Music	F3W3	3 years
BSc Physics with Philosophy	F3V5	3 years
JOINT DEGREES		
MSci Mathematics & Physics	GFC3	4 years
BSc Mathematics & Physics	GF13	3 years



## Studying here

Physics combines experimental work with conceptual thinking and mathematical analysis and each of these demands its own teaching and assessment techniques.

Our teaching will introduce, explain, challenge and excite you to develop your own interests and motivation. A year's worth of study is normally broken down into eight modules, each of a nominal 150 hours of study. This study can take a variety of forms, including lectures, problem classes, PC based classes, presentational based modules, and tutorials. Experimental work typically takes up around 20 percent of study time and can vary from exploring classic experiments two afternoons a week in your first year in our well-equipped and modern teaching laboratories, to working alongside academic staff in six-month long research related projects in your final year.

### Research opportunities

As a major centre for Physics research and teaching in the University of London, our research portfolio continues to expand through the exploration of exciting new research directions, and our strong involvement in strategic research partnerships such as those at CERN and the National Physical Laboratory (NPL).

As an undergraduate at Royal Holloway, your studies will be enriched by the international quality of this research environment within the department and it is an important element of your student experience.

### Supportive learning

We are an extremely friendly and supportive community with a high staff-students ratio. In your first two years, small group teaching is undertaken with three or four students and a member of academic staff. Tutorials help in building confidence, filling gaps in understanding and providing a route for discussion of topics not covered elsewhere.



**of our students say staff are good at explaining things**

*(National Student Survey, 2023)*

**14<sup>th</sup>** in the UK for 4\* world-leading research environment

*(THE, REF Institutions ranked by subject, 2022)*

# Student Life

All students are welcome to join the Physics society, PhysSoc, which does great work in helping everyone to make friends and settle in to the department and university life. PhysSoc organises social and scientific interest events throughout the year, and also gets involved in outreach activities such as school visits and evening lecture hosted by the department.

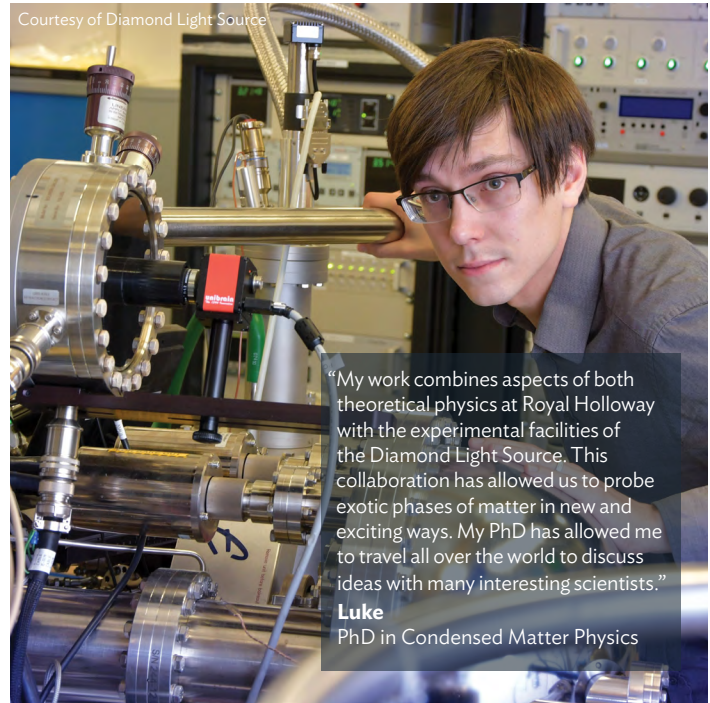
## Our community

Our community of staff and student researchers are exploring key questions in fundamental science, both experimentally and theoretically, to applied instrumentation development. We have research specialisms in understanding quantum matter in all its forms – from the Higgs boson to dark matter to superfluids; the quest for new materials with new functionality; making, understanding and applying new nano-scale electronic/ optical devices; developing new instrumentation and technology for healthcare and; developing accelerator technology for future particle accelerators.



“As part of my degree I was able to go on a trip to CERN and take particle accelerator courses that most physics undergraduates don’t have the opportunity to take.”

**Sophie**  
MSci Physics and  
Accelerator Physics



Courtesy of Diamond Light Source

“My work combines aspects of both theoretical physics at Royal Holloway with the experimental facilities of the Diamond Light Source. This collaboration has allowed us to probe exotic phases of matter in new and exciting ways. My PhD has allowed me to travel all over the world to discuss ideas with many interesting scientists.”

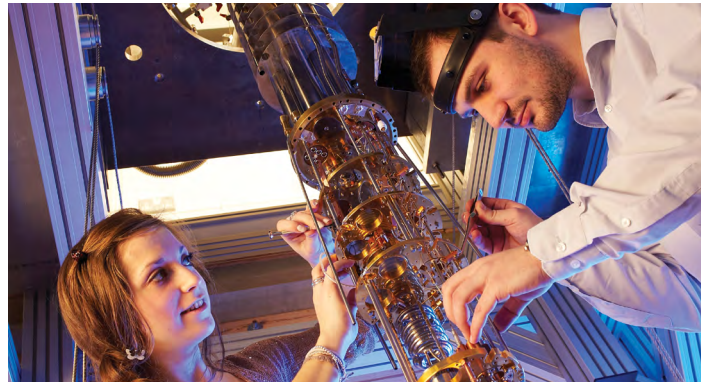
**Luke**  
PhD in Condensed Matter Physics

We’re part of the School of Engineering, Physical and Mathematical Sciences, delivering world class fundamental research and impact.

We have our own in-house state-of-the-art laboratories, and also work at major national and international facilities through research collaborations such as the LHC in Cern, National Physical Laboratory, John Adams Institute for Accelerator Science (joint with University of Oxford and Imperial College), ISIS Neutron source and Diamond Light source.

# Your future career

- As a physicist, you will be highly-regarded by potential employers. Studying physics is a training in fundamental science allowing you to apply the scientific method, have the ability to solve complex problems and develop a deep conceptual understanding of nature.
- A degree in physics can lead to many different career paths where skills in complex data analysis, logical and critical thought and effective communication are essential.
- Our physics graduates go on to find employment in diverse areas from engineering, computer science, civil service and government, to finance, management and medicine. Many also choose to pursue a higher degree or enter research.
- Students benefit from our links with international research laboratories, partner universities and companies, especially through a strong programme of summer internships.



Both the academic training and skills that I acquired during my degree are fundamental to my current research project and with my experience of the experimental techniques.

**Harriet van der Vliet**  
MSci and PhD in Physics

- We provide opportunities for you to develop transferable skills and prepare yourself effectively for graduate jobs. Our alumni regularly return to share their experience, build connections and give advice to students. Our students are well supported by the university's Careers Service as well as a dedicated Physics department employability officer.

Top **25** UK Physics  
department

*(Complete University Guide, 2024)*

This brochure was produced in October 2023 and information was correct at that time. Please make sure you check our website or contact us directly for the very latest information if you are considering an application.



## Royal Holloway, University of London

- Learn from world leading experts
- Highly ranked for student satisfaction
- Beautiful campus in a safe location
- Vibrant and active community
- Award-winning careers service

### Visit us to find out more

Our Open Days are a great way to get a feel for life at Royal Holloway. Look around the campus, meet our students and staff, and find out more about studying and living here.

Find out more and register to attend at [Royalholloway.ac.uk/opendays](https://royalholloway.ac.uk/opendays)

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