Welcome to Physics and Astronomy

22 Sept 2025, introduction for Foundation and Y1 students

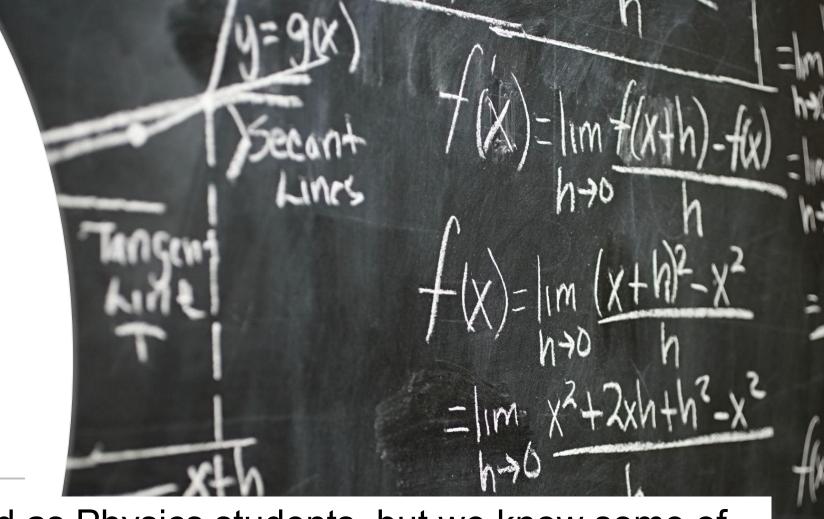
Discussion:
What inspired you to study physics?

What are you most excited about learning?





Welcome Visiting and Exchange students!



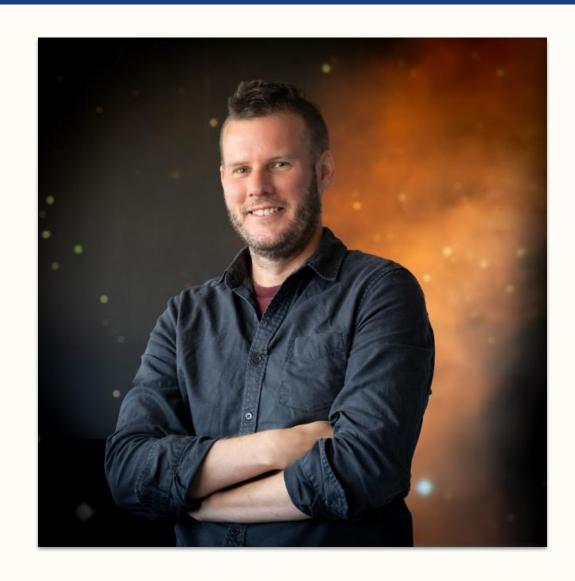
All of you are registered as Physics students, but we know some of you are taking most of your modules in the Maths department. You are welcome to stay in this session, but we suggest you attend the Maths sessions at 12:30pm today (next door in Pev1 1A6).

People

Head of Department

Prof. Stephen Wilkins

- Pevensey III 4C21
- <u>s.wilkins@sussex.ac.uk</u>
- Responsible for setting the vision, overseeing teaching quality, research activity, and curriculum development.
- Research focus is observational and theoretical astrophysics.



Head of Teaching

Prof. Sebastian Jaeger

- Pevensey 2, 5A15
- s.jaeger@sussex.ac.uk
- Oversees the curriculum content, assessment structure, accreditation etc and aspects of its delivery
- Research focus is Theoretical Particle
 Physics flavour physics and physics
 beyond the Standard Model



Academic Senior Tutor (AST)

Dr. Clark Griffith

- Pevensey II, 4A1
- w.c.griffith@sussex.ac.uk
- Responsible for organising and providing academic support for undergraduate students in Physics & Astronomy.
- Research focus is experimental particle physics - detection and understanding of neutrinos.



Foundation Year Convenor

Dr. Maire Gorman

- Pevensey II, 4A16
- M.N.Gorman@sussex.ac.uk
- Serves as Academic Personal Tutor (APT) for all Foundation Years Students - more later!
- Research background in astrochemistry (molecules in exoplanets, brown dwarfs, sunspots) and current focus in physics education research.



FY Autumn Module Convenors

Foundation Mathematics A



Daniel Litm

Foundation Mechanics



Lily Asquith

Properties of Matter



Lisa Falk

Foundation Physics Lab A



Clark Griffith

Y1 Autumn Module Convenors

Modules for all Y1 students:

Mechanics



Stephan Huber

Foundations of Data Analysis



Maire Gorman

Math Methods 1



David Seery

Physics Study Success



Kathy Romer

Y1 Autumn Module Convenors

Y1 students will have one of these modules (depends on course or option choice):

Analysis 1



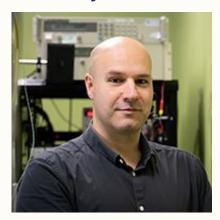
Kirsten Leslie

Intro to Astrophysics



Das Baskill

Intro to Quantum Physics



Fedja Oručević

PS staff

Important Professional Services staff for you to know:



Your **course coordinator** for physics:
Hannah Garrick

Student Experience coordinator for physics:
Amy Wilkins



Find them in the FoSEM Teaching Support office (Chichester Rm 002)

Essentials

Essentials | Your course

 We are all here to study physics! Depending on your course, this will mean 3, 4, or even 5 years of your life committed to a subject we hope you love as much as we do.



• The main aim of your course is that by the end of your studies, you will have the skill set of a professional physicist, which opens up a large range of potential careers paths



Academia
Climate science
Education
Engineering
Cyber Security
Medical Physics & Digital Health Care
Data Science

Government
Finance
Law
Renewable Energy
Artificial Intelligence and Robotics
Video game development

. . . .

Essentials | Your course

It will be challenging but rewarding.









- You will need to treat it as a full-time job. Our curriculum and assessment assume a
 weekly time investment of around 40 yours during term time and during the assessment
 periods following them (close to 30 weeks in total per year)
 (compare: 120 Credits/year <-> 1200 study hours/year = 40 hours/week * 30 weeks/year)
- Be careful with scheduling other large commitments in parallel to study periods, such as work. You need time to rest, socialize, for hobbies, etc.

Essentials | Your course

Your course can have many different titles:

	found MPhys	dation year	
research placement	wii nyo	Astrophysics	
BSc	Physics	Theoretical Physics	
	Astrophysics	Quantum Technology	
industrial placement year		Physics with Data Science	

- Read about the different physics options here:
 https://www.sussex.ac.uk/study/subjects/physics-and-astronomy/undergraduate
- If you think you are on the wrong course talk to Sebastian at the end of this session!
- It may be possible to switch course (in some cases up to year 2). Get advice from your
 Academic Personal Tutor...

Essentials

https://student.sussex.ac.uk/new-students/welcome/checklist

- complete <u>registration</u> online
- pick up your <u>student ID card</u>
- view the welcome week event schedule
 - <u>University events</u>, Student Union <u>events</u>
 - School of Mathematical and Physical Sciences <u>events</u>
- access student support services at the <u>Student Centre</u>
- <u>register for a doctor</u>
- get connected...



Essentials | Get connected!

One of the best pieces of advice for new students is to get connected and stay that way!

- WiFi: <u>eduroam</u>.
- Email: Login to your <u>Sussex email</u> now and every day.
- SussexMobile: Download the app this is needed for logging your attendance
- Sussex Direct: access your timetable, personal details, fees, library account...
- Canvas: <u>access</u> your Virtual Learning Environment

Any tech problems, go to <a>IT Services (ITS)

Essentials | Misconduct

- We aim to foster a save, inclusive, and respectful learning environment
- We are committed to protecting our community and preventing and tackling harassment and sexual misconduct
- All students and staff are required to complete training developed in partnership with the Higher Education sector. The training will help you understand
 - what constitutes harassment and sexual misconduct
 - the impact it has, key University policies
 - disclosure and reporting, self-care
 - how to find out more
- This training is required by the Office for Students (OfS), and must be completed before you can access Sussex Direct

Access the training here: https://canvas.sussex.ac.uk/courses/37724

Essentials | Timetable

 Make sure you know where to see your timetable:

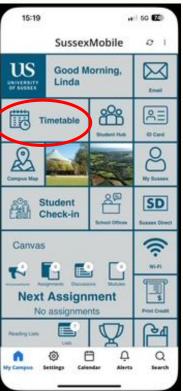
> through a browser via Sussex Direct <u>https://direct.sussex.ac.uk/login.php</u>

or use the SussexMobile App

Double check that you know where to gather
 ahead of time

 Be aware! The timetable may change, especially at the start of term

Take a look now!

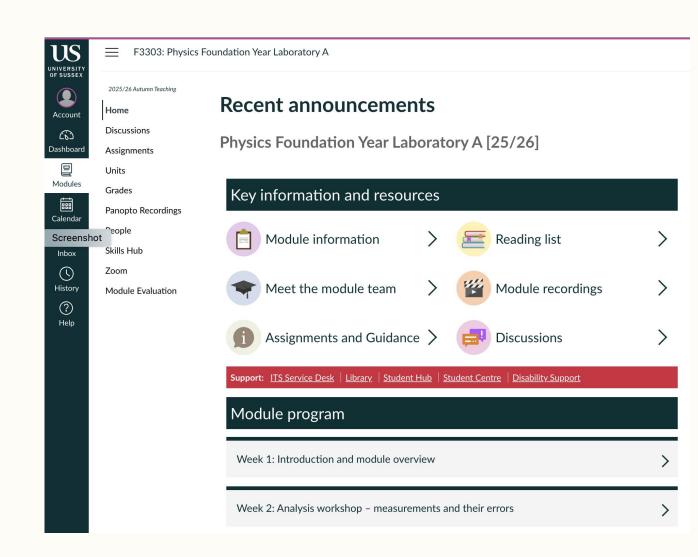


·Citil	n Autumn Semester				
	Monday 29 Sep	Tuesday 30 Sep	Wednesday 1 Oct	Thursday 2 Oct	Friday 3 Oct
08:00					
08:30					
09:00	Foundations of Data Analysis				
09:30	(Lecture 1) Fulton Building FULTON B				
10:00		Maths Methods 1 (Lecture 1) Arts A A01	Mechanics (Workshop 2) Pevensey 1 1B4		
10:30					
11:00				Foundations of Data Analysis (Lecture 1) Fulton Building FULTON A	Maths Methods 1 (Workshop 1) Arts A A02
11:30					
12:00				Maths Methods 1 (Lecture 1) Fulton Building FULTON A	Maths Methods 1 (Lecture 1) Fulton Building FULTON B
12:30					
13:00					
13:30					
14:00		Mechanics (Lecture 1) Pevensey 1 1A7			Maths Methods 1 (Lecture 1) Arts A A01
14:30					
15:00		Foundations of Data Analysis			
15:30		(Workshop 1) Pevensey 1 1B4 (15:00-17:00) Foundations of Data Analysis (Workshop 1) Pevensey 1 1B5 (15:00-17:00)			
16:00				Mechanics (Lecture 1) Pevensey 1 1A7	
16:30					
17:00					
17:30					
18:00		Mechanics (Lecture 1)		Foundations of Data Analysis (Seminar 1) Pevensey 1 1B5 (18:00-20:00)	
18:30		Pevensey 1 1A7			
19:00					
19:30			Foundations of Data Analysis (Seminar 1) Pevensey 1 1B4 (18:00-20:00)		

Essentials | Canvas

Canvas is the **Virtual Learning Environment** for all of your modules

- each module has a Canvas page
- try it out: https://canvas.sussex.ac.uk/
 - not all of your modules will be accessible yet...
 - all should be available by the end of the week
- access module information, study materials, lecture video capture, problem sets...
- most coursework will be submitted via Canvas



Essentials | Attendance monitoring

- Attendance is recorded in all teaching sessions (lectures, workshops, seminars, labs...)
 - o unless notified by module convenor
- The lecturer/tutor will give you a 4 digit PIN in each session
- Enter the PIN in the <u>SussexMobile app</u> to record your attendance
 - or you can also use a web browser via https://sussex.ac.uk/mobile

Consistent attendance is a huge factor in having a successful degree!

Don't fall into these traps:

- "no point turning up to the workshop as I missed the lecture"
- "I need to catch-up on the material before I start attending again"

Learning is non-linear: just by attending will be beneficial (picking up words, getting back into routine, being around peers, access to lecturers)

Even more dangerous: "I'm struggling with this module so I stop attending" - each time there is a new topic there is an opportunity for reset.

Essentials | understand

The **Department of Physics & Astronomy** is part of the **School of Mathematical Physical Science (MPS). MPS** is itself one of the constituent schools of the **Faculty of Science, Engineering and Medicine (FoSEM).**

Various things are organised at the Department, School, and Faculty level!

Advice and Support

Q-Soc Physics Society

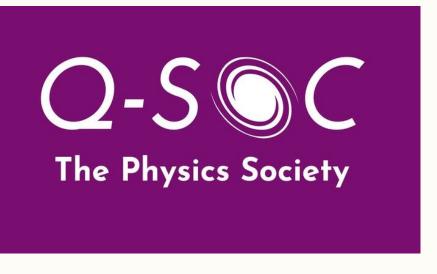
Q-Soc Instagram: physicsq_sussex

Please follow for updates on events or message any queries

Please find us at the Freshers Fair in Sports Hall 2

We welcome all physics enthusiasts and pride ourselves on having a strong and

welcoming community







Advice and support

At times you will find yourself needing help or advice. Depending on the situation there are various people who can help:

- Student Hub / Student Centre all aspects of university life (disability support, health and wellbeing, finances, general study skills)
- Course Coordinator administrative / technical support for your course
- Student Experience Coordinator attendance and engagement, signposting for any queries affecting your experience
- Module Convenor first point of contact for module queries
- Academic Personal Tutor (APT) broader queries about your course
 - More complex issues may be referred to the Academic Senior Tutor (AST)
- You are always welcome to speak directly with any of the AST, Head of Teaching, or Head of Department about any academic issue!
- Student Reps keep your Rep informed of any issues affecting your cohort

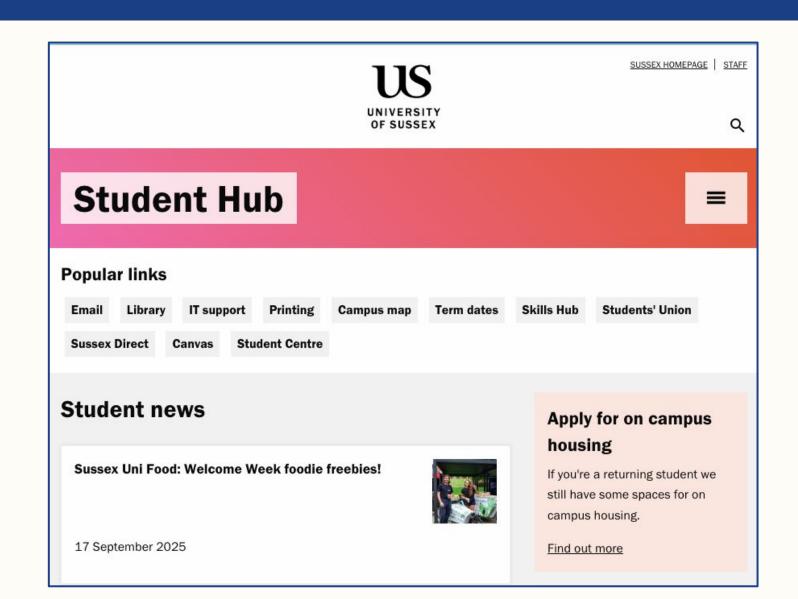
Urgent/Emergency situations - always call Security 01273 873333 when on campus

Student Hub

https://student.sussex.ac.uk/

The Student Hub covers everything...

- from your studies to wellbeing
- student news
- direct links to Sussex Direct, the Library or IT support.



Student Hub: Disability Support

https://student.sussex.ac.uk/disability/

Drop-in every Monday and Wednesday between 2pm-4pm in the Student Centre during term-time.

- Reasonable adjustment support
- Accessibility

If you are a disabled student, have a learning difficulty or ongoing physical or mental health condition please register with the Disability Support team as soon as you can so that we can help put support in place for you.

You can make an appointment to meet with a Disability Advisor via My Sussex: https://mysussex.sussex.ac.uk/

Take note!

- Registering disability is first step towards extra exam time, late penalty waivers...
- If you had support in your A levels it doesn't automatically transfer!
- If you run into problems getting a disability registered talk to Clark

Student Hub: Health and Wellbeing

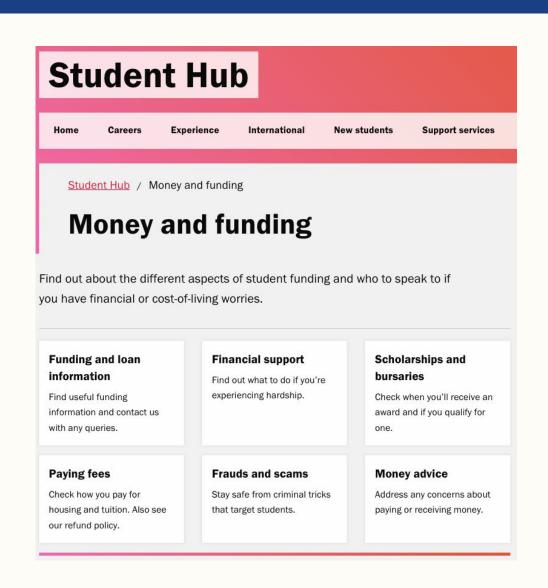
Student Hub resources to support your health and wellbeing

- Physical health
- Mental wellbeing including mental health support and services
- Wellbeing events
 - Canine Cuddles look out for this term's FoSEM specific dates!.
 - Wellbeing Cafe: Thursdays 12pm 2pm, Student Centre atrium
 - Wellbeing Canvas site: https://canvas.sussex.ac.uk/enroll/JG7KR4 for lots of information and resources, including up to date event listings.

Student Hub: Funding and Finance Advice

https://student.sussex.ac.uk/money/

- General financial advice and information
- What to do if you are in financial hardship
- How to pay tuition and housing fees
- Funding and loan information



Student Hub: Study support

https://student.sussex.ac.uk/your-studies/

Lots of information including:

- Term and exam period <u>dates</u>
- <u>Exceptional Circumstances</u> (EC) and submitting claims for these
- Appeals
- Skills Hub study skills, writing advice, referencing...
- Short language courses



Student Hub: My Sussex

https://mysussex.sussex.ac.uk/

- Information portal including searchable FAQs
- Raise enquiries
- Make appointments with central support teams
- Book onto events



My Sussex

Student Centre

https://student.sussex.ac.uk/centre/

If you can't find what you need on the Student Hub you can visit the Student Centre Welcome Desk in person 8:30am - 5pm Monday to Friday.

The Student Centre is open every day for students to meet, study and use the facilities.





Teaching support office

- FoSEM Education and Students Office
 - FoSEM = Faculty of Science, Engineering and Medicine
 - incorporates schools of MPS (Mathematical and Physical Sciences), Life
 Sciences, Engineering, Psychology, and Medicine
- Chichester 1, Room 002
- Who will you find there:
 - Your course coordinator (**Hannah**)
 - physicsoffice@sussex.ac.uk
 - Student Experience (Amy)
 - <u>FoSEM-StudentExperience@sussex.ac.uk</u>
 - General information and signposting





Academic Personal Tutor (APT)

Your Academic Personal Tutor (APT) will...

- offer guidance and support in terms of study skills, choosing options, and finding out how to get advice for admin or welfare matters, write reference letters.
- meet with you once or twice each term. Typically you will keep the same APT for your entire degree (if you do foundation year, your APT may change in Year 1).

They are not there to help with module content (unless they happen to also be the module convenor) or to provide module support. For that, see your module convenor.

- 3pm today you will meet your APT group
 - Bridge Social Space (above the road between Pevensey I and II)
 - 4-6 students in your year with the same APT
 - you will meet your APT with your group sometime in week 1
 - the meeting will show up in your timetable

Student Reps

Student Reps work on behalf of their cohort to represent their views to the Physics faculty, University, and others.

- Anyone can sign up for this important role through the Student Union
 - https://sussexstudent.com/student-reps
- Representatives are needed from every year group (Foundation, Year1, ...)
- You will need to attend school and department meetings to raise issues and give feedback
- Help improve the experience of your fellow physics students!

Keep in touch with your Student Reps to make sure they are aware of any issues the Department/School/University should know about!



Getting around

Campus Maps

SussexMobile App

Architecture: Sir Basil Spence, 1961

Boundary walk



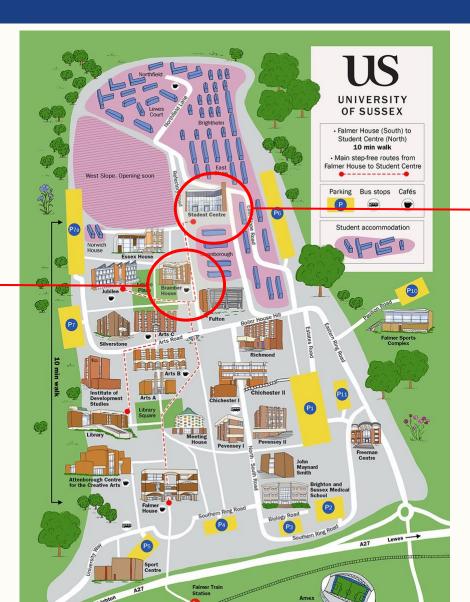


Student Services

Bramber House - **Food!** Co-op, Eat Central

Campus security base





Student Centre - get support and advice for all aspects of campus life



Fulton & Jubilee Buildings



Fulton

Opposite Bramber House Connected to East Slope

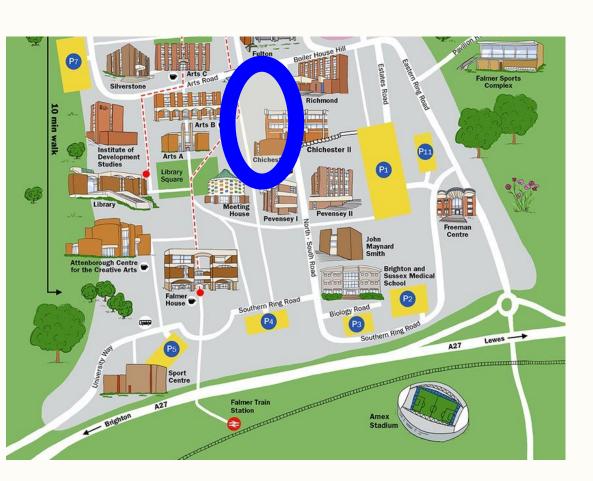
Jubilee

Home of Business School Location of Christmas Lecture (2024)



Shawcross & Chichester

From Bramber House, cross Arts Road (or go under tunnel)





University IT support Shawcross building



Teaching Support
Office
Chichester 1,
Room 002

Instagram Reel: how to find Chichester 1 from Falmer Station

Teaching support office [Reminder]

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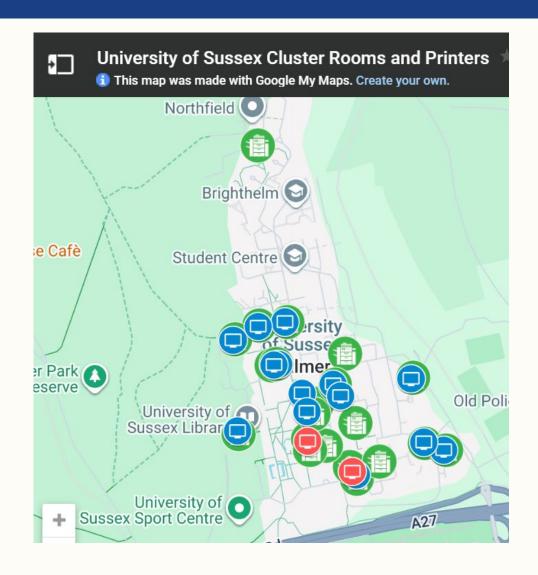
University Library & Computing rooms



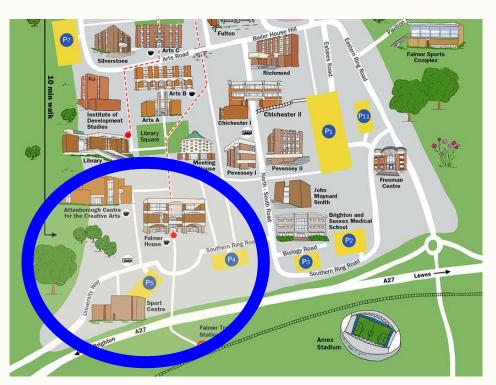
Library Term time opening hours

- Mon Fri, 8am 5pm
- Weekends, 9am 9pm

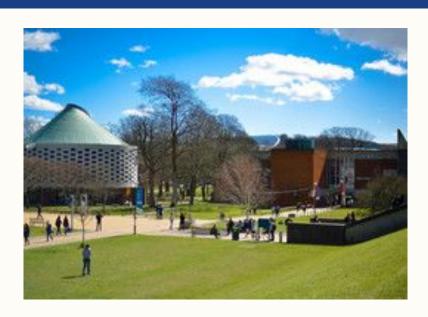
Beside Arts complex (A, B, C)



Chaplaincy, Student Union, ACCA

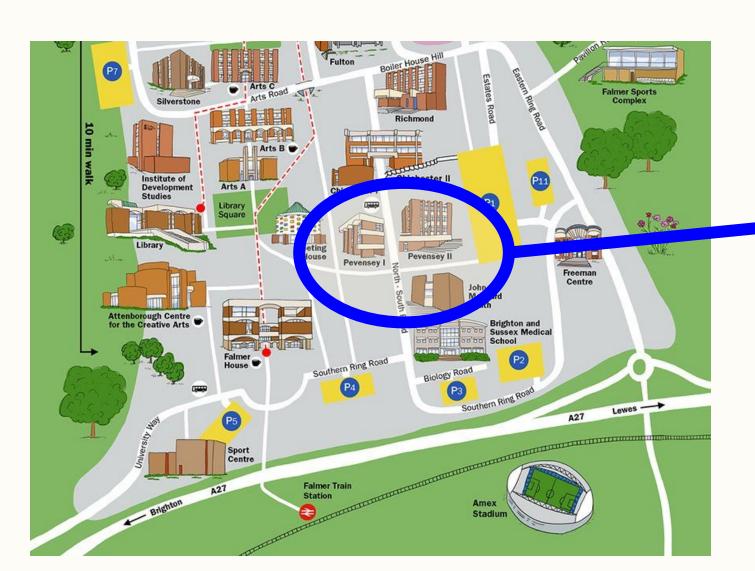








Pevensey I, II and III



You are here: Pev1 1A7

- In Pevensey II and III:
 - Physics teaching labs
 - MPS student spaces
 - Academic faculty offices

Student spaces

In Pevensey II and III:

- Gauss House for group study and general communal space
- Wormhole for quiet study
- Pevensey L3 kitchen for student use
- PCs and study space in Pevensey 2 foyer
- Lockers for MPS students in Pevensey 2 (deposit required).





Physics teaching labs

Found on Level 5 of the Pevensey II building

 In Foundation year you will have labs in Autumn and Spring.

 Year 1 Physics Lab module is in Spring.





Sussex is a <u>research-intensive university</u>, where all of your lecturers split their time between teaching and cutting-edge research in physics and astronomy.

Our key areas of expertise mix fundamental and applied physics and include **astronomy**, **nanomaterials**, **experimental and theoretical particle physics**, and **quantum computing and technology**.

Our **astronomers** specialize in **cosmology and extragalactic astrophysics**, seeking to understand how the Universe as a whole—and the galaxies within it—form and evolve.

We have access to world-leading observational facilities, including the James Webb Space Telescope, the Very Large Telescope (and soon the Extremely Large Telescope), the Simons Observatory, DESI, Euclid, and many others. On the theoretical side, our researchers routinely harness some of the world's most powerful supercomputers to simulate the evolution of entire universes.



In **Materials Physics**, we process and study nanomaterials with emergent functional properties, for real-world applications.

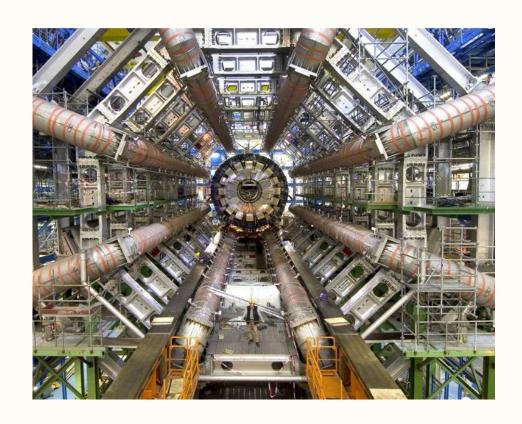
We develop conductive inks for printed RFID tags and absorbing panels, as have been used on NASA's Europa Clipper mission. We are exploring nanomaterial functionalities for energy devices, such as electrochemical energy storage, solar infrared smart windows, and thermoelectric heat capture. We also design nanomaterial structures and sensors for wearable health monitoring and tissue engineering.



Our <u>particle physicists</u> seek to understand the fundamental constituents of nature and their interactions through theoretical and experimental approaches.

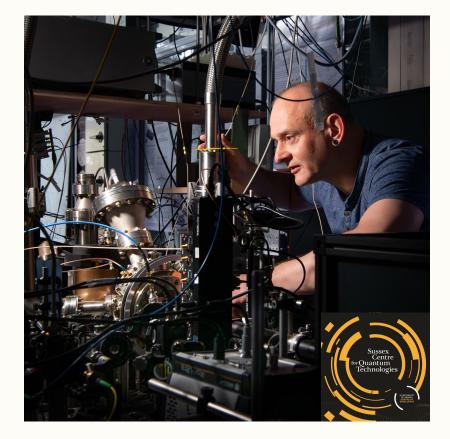
Our **experimental particle physicists** contribute heavily to the ATLAS experiment at the Large Hadron Collider at Cern. We play a leading role in neutrino detector experiments including DUNE, NOvA, SBND, and SNO+. We are developing the next generation of particle detectors for future experiments.

Our **theoretical particle physicists** seek to answer questions such as: What is the origin of masses of elementary particles? What is the quantum theory of gravity? How did an asymmetry between matter and antimatter develop? How can we test these ideas in experiments?



Our <u>quantum physicists</u> specialise in developing new quantum technologies, and in particular the quantum computers.

Quantum technologies use the special rules of quantum physics—like superposition and entanglement—to create powerful new tools. They include quantum computers (for solving complex problems), quantum communication (for ultra-secure data transfer), and quantum sensors (for extremely precise measurements). These advances could transform areas such as healthcare, materials, finance, and security.



All of you will have the opportunity to **contribute to our research** through your **final year research project**.

It also possible to do paid research in the summer through the **research placement (RP)** or **junior research associate (JRA)** schemes.

The JRA scheme will be advertised early in the new calendar year.

Sussex Universe

Sussex Universe is the flagship public lecture series of the Faculty of Science, Engineering and Medicine (FoSEM).

Through these talks, you can discover the cutting-edge, world-leading research taking place at Sussex — from pioneering discoveries in science and technology to advances in health and medicine.

The series also includes special highlights such as the ever-popular Astronomy Christmas Lecture, which has become a much-anticipated tradition for audiences of all ages.

SUSSEX UNIVERSE

Website: www.sussex.ac.uk/news/events/science-talk
Box office: buytickets.at/sussexuniverse
Contact: universe@sussex.ac.uk

Wednesday 12th February - 6pm Fulton B Emily Thrift

Plastics in the diets of wild mammals

Wednesday 26th February - 6pm Fulton B

Professor **Nicos Georgiou**What is Probability Theory and how to use it properly

Wednesday 12th March - 6pm Fulton B

Dr Rebekka Kesberg Valuing Democracy

Wednesday 26th March - 6pm Fulton B

Professor Julie Weeds
Can you trust Artificial Intelligence?

Wednesday 9th April - 6pm Fulton B Dr **Louisa Rinaldi**

The Unique Sensory World





Institute of Physics (IOP)



The Institute of Physics (IOP) is the professional body and learned society for physics in the UK and Ireland.

The IOP has a number of roles, but crucially **accredits** our degree programmes. This gives you confidence that your course meets nationally recognised standards, is academically rigorous, and equips you with the skills and knowledge valued by employers and the wider scientific community.

You can also join the IOP, giving you access to a variety of benefits. See -

https://www.iop.org/membership/why-join/undergraduate

Outreach and public engagement



Staff and students from the department routinely take part in **outreach and public engagement activities** — for example, visiting schools, contributing to science festivals, and participating in public events. These experiences not only inspire the next generation of scientists but also help participants develop a range of valuable skills, including communication, teamwork, adaptability, and the ability to explain complex ideas to diverse audiences.

Look out for an email from our outreach director in the coming weeks to find out how to get involved.

Next steps

This Week

MPS / FoSEM welcome events:

https://www.sussex.ac.uk/mps/internal/students/timetable



University-wide welcome events:

https://student.sussex.ac.uk/new-students/welcome

Student Union events:

https://sussexstudent.com/freshers

MONDAY 22 SEPTEMBER

3pm: The Bridge Social Space

Academic Personal Tutor information session

Come and meet the students in your advisee group. (Initial meetings with your Academic Personal Tutor will be in week 1).

4pm: Pevensey 2 Foyer

MPS Undergraduate Social

An informal social including refreshments, a great opportunity to meet new students and staff from across the school.

FRIDAY 26 SEPTEMBER

3pm - 4:30pm: Jubilee Lecture Theater

Faculty of Science, Engineering and Medicine Welcome (bookable event)

The University of Sussex's Vice-Chancellor, Professor Sasha Roseneil will host a special event to welcome all new students, with a presentation from a FoSEM alumnus and closing remarks from our Faculty Dean Professpr. Luc Moreau.

After the talks, there will be:

- · Chance to meet Sussex staff and your fellow students
- · Talk to the Spirit of Sussex Team
- Enjoy our photobooth and freshly baked cookies



Next week

- Teaching starts! make sure you are familiar with your <u>timetable</u>
- additional academic induction will be given in your module lectures
- you will meet with your Academic Personal Tutor
- there will be a maths diagnostic exercise
 - not an assessed exam/test!
 - helpful for us to know the cohort's maths level

Have a good start to your physics degree!