

Gatsby Plant Science Summer School 2024

30th June - 4th July 2024

The Hawkhills, Easingwold, York

For those who haven't explored the world of plant science but are curious about it. Join us for an immersive experience that will spark your interest in the green world.

- **Hear from the UK's top scientists on global challenges and science's biggest questions**
- **Develop your skills for research, study & work**
- **Get inspiration and insight into future careers**

***"It was one of the most enriching things I've done,
and it was wonderful to learn for the sake of learning without exam pressure",
GPSSS 2017 student attendee***

At the Gatsby Plant Science Summer School (GPSSS), each morning begins with a talk by a distinguished scientist, sharing how their research tackles the world's big questions and challenges. You'll discuss the lecture in small groups, led by an experienced academic tutor, before returning to question the speaker. After lunch, you'll take part in science practicals designed to give you insights into new developments in the field. These include using confocal microscopes to see live cell development, seeing how pathologists are tackling the spread of disease, and how computer modelling shapes our understanding of developmental biology.

Over the week, you'll also learn how to put inspiration into action. You'll develop your careers skills, being coached by expert mentors on topics such as how to find work experience, how to get bursaries and studentships, and how to make connections with scientists.

***"Making connections with people happened so naturally, and the talks were fascinating
- everyone is sad having to leave",
GPSSS 2023 student attendee***

The social side definitely isn't forgotten - you'll meet fellow biosciences students from across the UK, making new friends in a lively but relaxed environment.

***"Life changing. If you're not sure about what you want to do this experience will be amazing for you,
so enjoyable, it will shape the rest of my degree and academic career",
GPSSS 2019 student attendee***

Grants and how to apply

This opportunity is entirely funded by the Gatsby Charitable Foundation, including all science teaching and equipment, all accommodation, and all food for the week - you only need to cover the cost of your travel. Accommodation is in single occupancy en suite rooms. Grants towards travel costs are available for students on low incomes.

If you'd like to be considered for a place, contact the lecturer at your university known as your Gatsby Mentor, and let them know you're interested (see www.gatsbysummerschool.org.uk for the name of your Mentor). There are 80 student places, selected from 30 UK Universities. Your mentor will select the most suitable first year (or second year for Scottish universities) undergraduate students from your university. Don't be put off that it's competitive; it's worth telling your mentor if you're interested, as they may be able to put other local opportunities your way too.

The 2024 Programme

Lectures and tutorials

'Evolution and development of pollinator attracting floral traits' Professor Beverley Glover, University of Cambridge & Cambridge University Botanic Garden

'Uncovering the secrets of wheat: are three genes better than one?' Dr Philippa Borrill, John Innes Centre

'Uncovering the secret world of the rhizosphere microbiome - the plant's second genome' Professor Gary Bending, University of Warwick

'From cereal carbon storage to harmful algal blooms – sugars and natural products' Professor Robert Field, Manchester Institute of Biotechnology, University of Manchester

'Title TBC' Dr Jennifer Bromley, Vertical Future

See selected past years' lectures on our YouTube channel:

<https://www.youtube.com/c/GatsbyPlantScienceEducationProgramme>

Practicals

Cell Biology

Live-cell imaging using fluorescent reporter proteins is one of the central techniques in modern cell biology. In this workshop, you'll get your hands on a top-end research quality confocal microscope, followed by computer-based image analysis techniques. You'll meet young researchers working in this fast-moving area and find out what excites them.

Development

This workshop introduces you to the importance of computer modelling as a research tool for biologists. Designed for both total beginners and more experienced programmers, you'll relate patterns in living organisms to the underlying biological development processes.

Pathology

Find out how the UK protects the health of our forests, crops and environment by preventing the spread of pests and pathogens. You'll go out into the field to collect specimens of potentially invasive pests, before using high-tech kit for DNA testing. During the workshop, you'll speak to people working in the area about their experiences and what the work is really like.

Plant ID & Systematics

Whether you're a skilled ecologist or you can't tell a dandelion from a daffodil, the Plant ID & Systematics practical will get you looking at plant families in new ways. Using a specially designed method, we'll do away with the traditional difficulties of using keys for taxonomy. By the end of the workshop, you'll be confident in using a key to identify families and you'll have tested your new skills in the field.

Careers

Throughout the GPSSS, you'll have the chance to meet people with a wide variety of careers in science – many of which you may never have heard of. You'll hear from people at all stages of their careers, hear their top tips for success and fulfilment, and get practical support with your next steps.