Department of Science
and Technology Studies

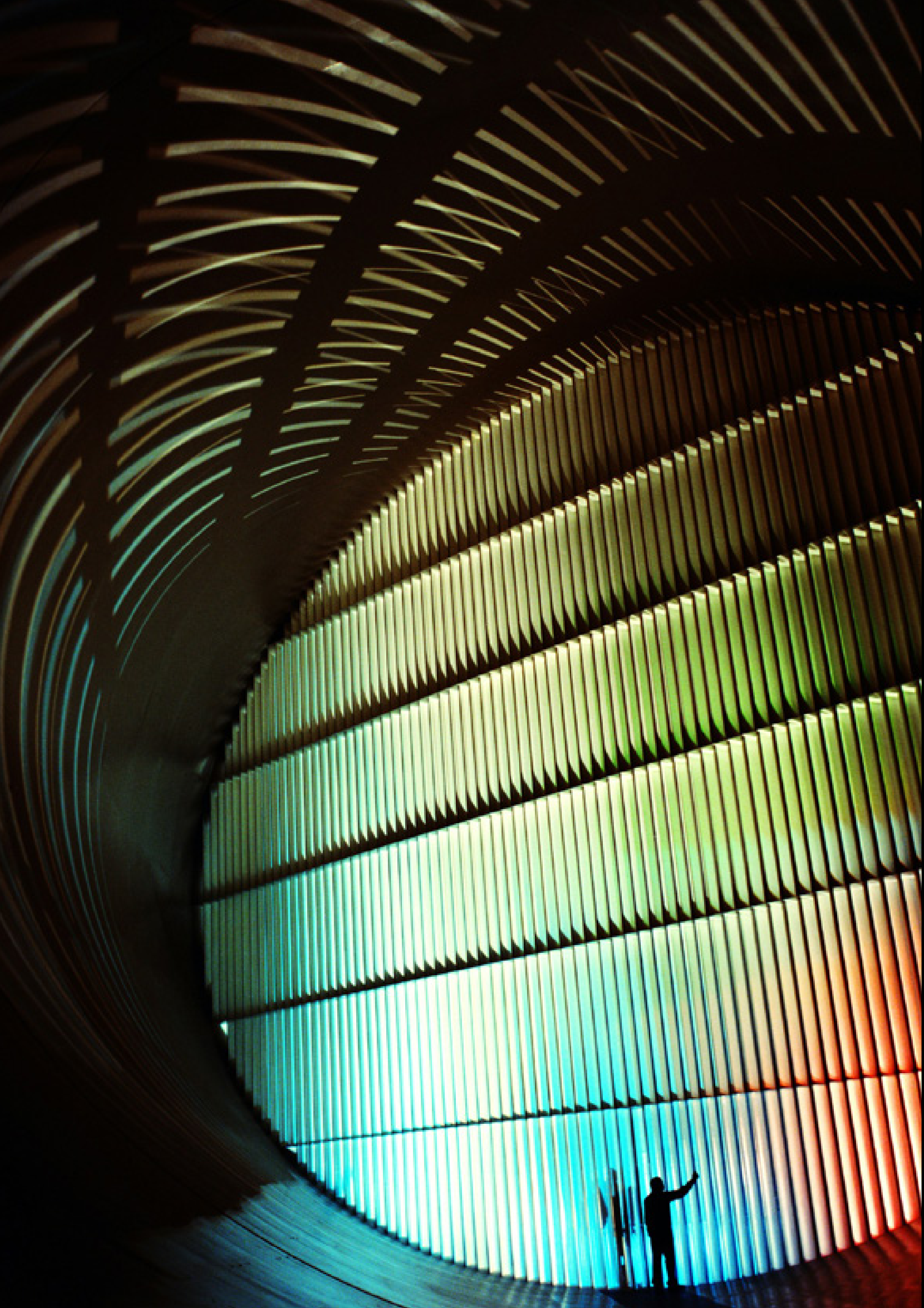
What is Science and Technology Studies?

Contents

www.ucl.ac.uk/sts
sts-admissions@ucl.ac.uk

0207 679 1328

You can also find us on LinkedIn, Instagram, and YouTube



We produce experts in science and technology

Science and Technology Studies (STS) has been dubbed “PPE for the 21st Century”. It equips future leaders to handle the major issues and questions of tomorrow, where science, technology and medicine will play an increasingly prominent role.

In STS, we ask important questions of science and technology - Should we edit human genes? What are the risks of AI? Which experts should we trust? How can science be made publicly accountable? To answer these questions, and others, we bring together philosophers, historians, and sociologists of science and technology, and experts in innovation, policy, and communication.

UCL STS is the largest community of academics in Europe studying the relationship of science and society from such diverse perspectives. We investigate the past and the present of science and try to envision its future. We advise the British government on the deployment of AI, the UN on biological weapons, the WHO on the emergency roll out of new drugs during a pandemic, and governments around the world on how to deal with environmental hazards.

We are unique in the UK in taking students straight from Sixth-Form to study STS. We offer two degrees: a BSc in Sociology and Politics of Science (SPS) and a BSc in History and Philosophy of Science (HPS). We also run three MSc programmes in Science Communication, History and Philosophy of Science, and Science, Technology, and Society. For graduates of these programmes, the choice of careers is wide.

STS graduates have gone on to become scientific advisers for the British government, or for NGOs. Some have been hired by international organisations like UNESCO to work on the ethics of science and technology. Others have developed a career in media relations for various institutions and commercial companies. Still others now work as media producers or have become senior associates in big accounting or consultancy firms. Any professional domain where science, technology and medicine need to enter into a dialogue with society, industry, culture, or politics is open to STS graduates. From government, to media, to finance, or NGOs, the breadth of futures open to our students is limitless.

STS is for the leaders of tomorrow who seek to maximise the benefits of science, technology, and medicine while minimising their risks. At UCL STS, we produce the expertise and the experts required to do this.

Prof Jean-Baptiste Gouyon
Head of Department

What is Science and Technology Studies?

Understanding the past, present, and future of science, technology, and medicine to address the world's biggest challenges

Have science and technology really improved our lives?
Science and Technology Studies (STS) looks closely at the ways that science and technology have shaped the world we live in and asks: is this the best that we can do?

The staff in our department explore how science, technology, and medicine have changed societies in the past (e.g., the Industrial Revolution, antibiotics, nuclear weapons), how they are influencing our lives today (e.g., social media, AI, gene editing), and how they might shape the future (e.g., quantum computing, geoengineering, brain-computer interfaces).

We find that science and technology bring harms and benefits. Alongside vaccines, computers, nuclear energy, and the internet we have environmental pollution, surveillance, nuclear weapons, and misinformation. As an STS student, you will be encouraged to consider how some of the biggest challenges we currently face, like climate change, cybersecurity, vaccine hesitancy, and global conflicts, are closely tied to science and technology.

STS brings together historians, social scientists, and philosophers to understand these challenges and to try to figure out some solutions. This involves asking a lot of questions. Will AI make the world a more or less equal place? Is it ethical for biotech companies to patent living organisms? How can scientists build public trust? Does brain science tell us anything about what it means to be human? We draw from the following subjects to answer these questions.

Sociology of Science
The sociology of science asks how science and technology organise, govern, and make sense of our lives and the world around us.

We think, for example, about how neuroscience influences our understanding of free will and how this impacts legal definitions of guilt and responsibility, how emerging innovations like AI should be controlled, how technologies like quantum computers pose risks for security infrastructures, how online platforms create new forms of expression and connection through humour, irony, and memes, and where scientific knowledge should sit alongside other kinds of meaning-making like religion, ethics, and indigenous knowledge systems.

Science Communication
Some of the biggest challenges that we face when it comes to science and technology relate to communication. Vaccine hesitancy, conspiracy theories, mistrust of scientists, and legacies of harm and injustice put a huge strain on the relationship between scientists, innovators, and the

What is Science and Technology Studies?

public. Science communication seeks to understand these relationships so that they can be developed in ways that are mutually beneficial for scientists and society.

This means giving voice to public fears about new technologies while also creating space for society's hopes and dreams. What kind of world do we actually want to live in? Many don't get their say – especially those who are marginalised. Science communication uses a wide range of engagement and communication techniques such as journalism, film-making, social media production, citizen science, and community engagement to amplify diverse societal voices to help keep science and technology publicly accountable.

History of Science

Why do some ideas change the world, while others never get off the ground? Why do some policies transform lives for the better, while others only cause more harm? What if future generations had a way to identify problems before damage is done or before great ideas are wasted? Critical studies of the history of science, its successes and its failures, can provide the answers, and make sense of our present to help develop better futures.

In History of Science, we explore the development of science, technology, and medicine from their origins to the present, and look critically at the different ways in which past societies understood the world and how it works. We study the complicated relations between scientific, popular, and religious views of the world; and we explore how social movements have been fundamental in advancing scientific progress while other ideologies have driven exclusion, misinformation, and abuse.

Philosophy of Science

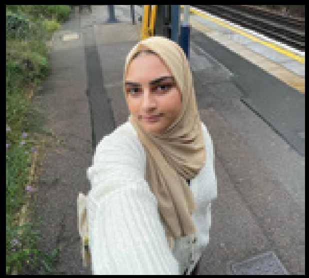
Philosophers ask fundamental questions about science and technology. Often difficult and complex, some of them have remained unresolved for hundreds of years. How do we distinguish between belief and knowledge? Which experts should we rely on? What are the moral responsibilities of scientists? What is the role of beauty in science?

The work of philosophy is to carefully and rigorously reflect on these questions by developing arguments through reading, writing, discussion, and debate. Our students are trained to develop insights that are rich and profound, and essential for making reasoned and justified decisions about the role of science and technology in the world.

Interdisciplinary
STS covers a wide range of subjects - but we value the insights and perspectives that come from other departments at UCL. As an STS student, you can take modules from other departments to widen your knowledge, and other students join us on our modules. You may be discussing human cloning with a medical student or the viewpoints of Plato with a psychologist.

The department
Science and Technology Studies is UCL's teaching and research centre for history of science, philosophy of science, sociology of science, and science communication. The department was founded in 1921 and has seen massive growth in recent years as science and technology become increasingly relevant to modern society. We pride ourselves on providing a welcoming and inclusive space for our growing community.

The department was awarded a second Athena Swan Bronze Award in 2023, which recognises our continued commitment to advancing gender equality. Staff and students have continued to win UCL-wide awards such as academic representative of the year award and faculty awards for education, openness, and Inclusion.



Student Profile:
Malikah Zarah

"I love the flexibility of my degree - I am able to choose modules from other departments to help me address today's challenges. The selection of modules caters to my concerns about today's world. There is also never a wrong answer, my peers and professors always extend and discuss intellectual concerns in seminars and lectures."

Student Profile:
Stephanie Iyala

"The teaching made me feel comfortable as a woman of colour within academia by addressing relevant social issues within science, for example who are we including when we talk about 'the public' or scientists? Many scientific-based subjects ignore this crucial aspect, which is essential to the development of future sciences."

Student Profile:
Emilie Xie

"Anyone curious about how science, technology, and society intersect would thrive in this course. It's great if you're the kind of person who wants a careers that bridge science with society, like working in science policy, research, or even science communication. The lecturers are honestly one of the highlights of the course. They're experts in their fields and incredibly passionate about what they teach, which makes such a difference in how engaged you feel."

Careers in Science and Technology Studies

For people who love science and technology but don't want to *do* science

Not only do graduates find employment more easily and earn more than non-graduates, with a degree from STS they do so while building their dream career at the interface between science, technology and society.

STS graduates are frequently found in management, media, journalism, the civil service, business and finance, public relations, marketing, museums and archives, and tech start-ups. You can hear from some of them yourself on our Talking Jobs and Careers web page: ucl.ac.uk/sts/sts-careers/talking-jobs-and-careers

Our students find that their degree in HPS or SPS was super helpful in getting a job. In management, civil service and the public sector, our students use their research and analytical skills to support decision-making. Students who land in the private sector tell us that they are sought after for their ability to think creatively and reimagine situations that others take-for-granted.

Job titles of recent graduates:

- Video Producer at New Scientist
- Policy Adviser in Space Policy
- Senior Associate, PwC Sustainability
- Strategist, Innovation, Foresight, AI
- Political Adviser at Green Alliance
- Head of Research and Community Knowledge at Love Tank
- Journalist and Television Presenter at BBC

Employers want to see results. STS students create products which show skills applicable in real world settings. Combined with creativity, critical thinking, and problem-solving, our graduates are highly valued.

Graduate Profile:

Hania Tayara

(Graduated 2022)

Hania Tayara is Programme Lead at Native Scientists. Her work connects Arabic-speaking migrant children and scientists through science outreach activities in the Arabic language, with a particular focus on refugee and asylum-seeking communities.

Prior to working at Native Scientists, Hania was Public Engagement Specialist at the Royal Society of Chemistry where she led and delivered flagship public engagement projects and developed the 'Diverse Engagement for Diverse Publics' programme.

Hania says that STS "broadened my worldview and allowed me to think more critically about the complex relationship between science and society. The course gave me the tools and confidence to pursue a career in public/community engagement, while always keeping principles of social justice and equity at the core of my work."

Graduate Profile:

Charlie Norell

(Graduated 2019)

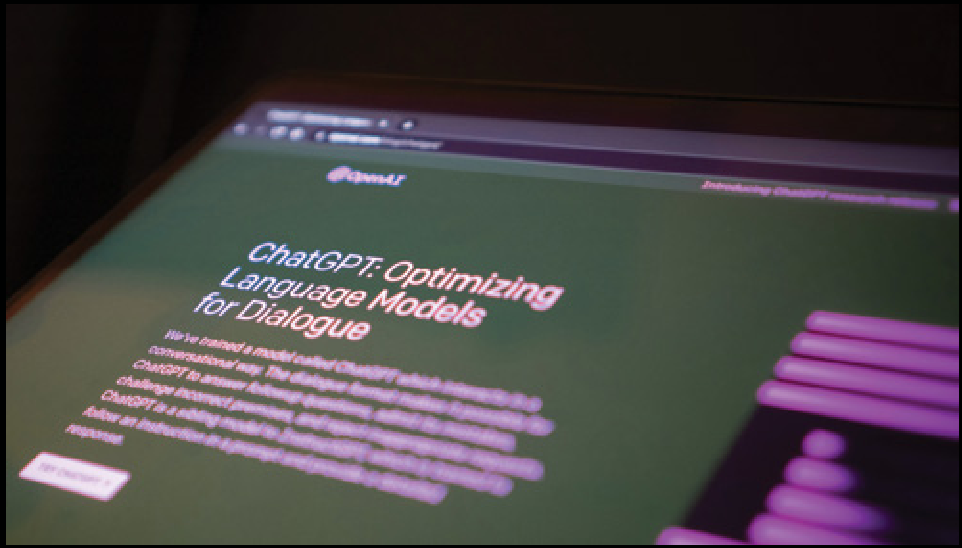
Charlie Norell is a senior associate at Global Counsel, a consultancy that advises life sciences, healthcare, and investor clients on how to navigate political, policy, and regulatory challenges and seize strategic opportunities.

Before that, Charlie worked in the public sector, at the UK Government's Department for Health and Social Care. He has also worked in the charity sector at Cancer Research UK where he conducted international research.

Charlie says that his STS degree, "provided the right balance of breadth and specialism, and a dual ability to deeply understand complex topics whilst also operating at the interface of different knowledge boundaries. It taught me to embrace complexity and uncertainty, to apply theories from one discipline to another where others might not."

Degrees in Science and Technology Studies

Learn about the Sociology and Politics of Science or the History and Philosophy of science



STS brings together a range of subjects to give you an extensive understanding of the world of science and technology. We offer two distinct degrees, which lead to two separate qualifications—BSc History and Philosophy of Science (HPS) and BSc Sociology and Politics of Science (SPS).

BSc Sociology and Politics of Science
SPS graduates work for technology start-ups and blue-chip firms. They host shows on national TV and radio and work on problems of science and technology at the heart of government and at NGOs. And they work at world-leading cultural institutes and museums.

Science and technology is vital for tackling problems big and small: cooling our climate, curing cancer, and making sure our take-away pizzas find the quickest route to our homes every night of the week. The politics of science is about the conflicts and controversies that arise when different groups of people have different views about which kinds of research we should prioritise or which technologies we should develop. We'll debate whether these decisions should be left up to government experts and technology billionaires, or whether members of the public should be involved So if you're interested in how science influences the modern world, or how to communicate ideas about science to diverse audiences, this degree is the choice for you.

BSc History and Philosophy of Science
Graduates of this degree are equipped with critical thinking, analytical, and communication skills, making them valuable in diverse fields such as law, education, and public policy, where they can help draft regulations around emerging technologies like CRISPR gene editing, or in tech companies, where they might work as ethicists ensuring responsible AI development.

A degree in the History and Philosophy of Science and Technology is increasingly valuable in our technologically-driven and ethically complex world. It delves into the origins, development, and societal impacts of scientific and technological advancements, providing a nuanced perspective that combines historical analysis with philosophical inquiry. For example, students might explore the ethical implications of artificial intelligence (AI), studying both its historical evolution and its philosophical challenges related to privacy, autonomy, and employment.

Other options
These aren't the only ways to study STS at UCL. The Department of Natural Sciences offers two streams in the BSc and MSci programmes. You can choose to study History and Philosophy of Science, or Policy, Communication and Ethics, as half of your course along with any of their other streams. For more details, visit the UCL Natural Sciences website. Medical School students can also take STS as part of their studies, with the Medical School Integrated BSc (iBSc). Again, more details can be found via the UCL Medical School website.

Year abroad
UCL has long running exchange agreements with over 250 institutions in 40 countries across 5 continents. Whilst here, we offer our BSc students the opportunity to apply for a BSc with a Year Abroad which takes four years, as opposed to the standard three - with the third year spent overseas in an exchange department.

We currently have opportunities for our students to study in multiple universities across Europe and North America/Canada. You can find more information on the UCL Go Abroad page

The Department offers Affiliate Study, where students from overseas universities visit the department for a semester or two to take our modules. This gives students a chance to bring STS approaches into their degrees, and introduces a wider range of ideas and practices to their home degree subjects.

Is AI going to kill us all?

How science and technology studies can help us to think realistically about emerging technologies like AI

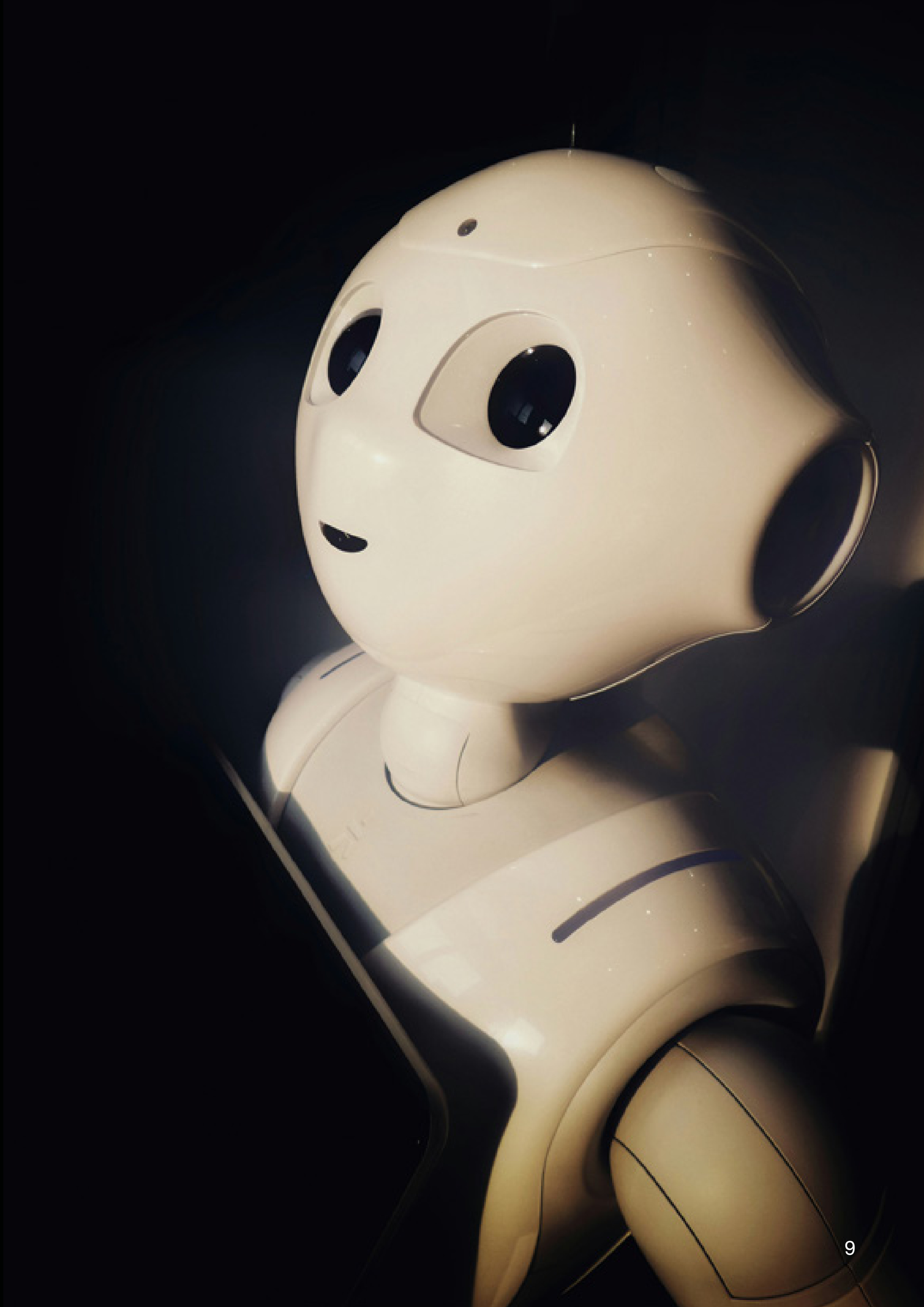
"Our Last Chance to Stop Psycho Killer Robots". This is a headline from the *Daily Star*, a tabloid newspaper in the UK. Is this true? Is an army of Terminator-like killer robots about to take over the world?

It's true that AI is suddenly everywhere and that scientists, governments, and companies are trying to work out how to respond. When new technologies arrive, it is never clear what their risks are. When the car first became popular in the early 20th century, the UK's cleverest people came together and decided that the biggest problem was going to be the amount of dust that they'd kick up. There was no mention of pollution or the million-plus people that would be killed every year by the end of the century. These things were impossible to predict.

Concerns about AI's existential threat have been around since Alan Turing first warned of machines overtaking human intelligence in 1951. Today, some influential experts like Geoff Hinton, winner of the 2024 Nobel prize for physics, have reignited these concerns, describing some pretty apocalyptic scenarios. However, many experts dismiss these kinds of claims, saying we simply can't predict the impacts of AI. Some even say it is irresponsible disinformation.

What STS researchers find interesting is how these apocalyptic narratives benefit technology companies by shifting attention away from more immediate problems with AI such as misinformation, energy consumption, bias, discrimination, and job displacement. Focusing on "killer robots" also makes it seem like AI itself is what we should be concerned with rather than the people behind it.

AI will definitely have a big impact in the coming years. However, we need to be able to think smartly and clearly about its harms and benefits. Our degrees train the technology leaders of tomorrow to see through the hype and to think carefully and critically about the future of AI.



How to defeat wicked problems like climate change

How to build a better future through the power of imagination

Some problems are complicated. Like, really, really complicated. Sociologists sometimes call these situations 'wicked problems'.

One definition of a wicked problem is that as soon as you start to fix one bit of it, you create another problem. So, for instance, if we try to make more electric cars to reduce petrol usage, we cause problems due to the mining of lithium for car batteries.

Another definition of a wicked problem is that we only see clearly what the problem was once we have solved it. It's a definition that sounds pretty counterintuitive, if not downright daft. But sociologists of science, including some in UCL's department of Science and Technology, are taking seriously the idea that imagining a better world, and then working backwards from that, is actually a powerful method for addressing climate breakdown.

Creative writers are especially good at imagining better climate futures.
Some famous examples include Octavia Butler's novel *Parable of the Sower* and Kim Stanley Robinson's *Ministry of the Future*. Studying science fiction can be a useful way of thinking outside the box when it comes to science.

There are also real life examples of people mobilising imagination to address climate change. Imagining a better world doesn't just mean one with stable climate, but also one in which people have respectful and equitable relationships – extending to the ecosystem itself. Some examples are ultra-local, such as community allotments or repair cafés. Others are national or international, like the Sunrise Movement. Once imagination is engaged, other things begin to fall into place.

One relatively well-known example is the transition town movement, which aims to help people plan on a local, grass-roots basis to increase their self-sufficiency in energy and food. What's interesting about this movement is that it was originally developed to combat the fear that oil would run out, rather than the damaging consequences of burning fossil fuels. It turned out that a project that was imaginatively focused on social justice had the flexibility to accommodate a shift in scientific emphasis. By contrast, starting by designing purely technological solutions tends to produce a less adaptable response when the science evolves.

In STS we study examples like these to understand how imagination can help to address climate catastrophe. Why not join us, and unleash the power of your imagination?

What kind of modules do we offer?

Learn about Science and Religion Public Engagement with Science or Governing Emerging Technologies

In STS, your first year consists of compulsory modules to give you a thorough grounding in the material we consider to be essential. Our two BSc courses share an identical first year so that you have a solid foundation in all things science and technology.

Once year 2 begins, you'll start to specialise. Perhaps you'll choose to focus on governing emerging technologies, communicating science, or studying science in the medieval age?

In Year 2 and Year 3, students choose optional modules alongside compulsory ones. Some of these must be taken within the department but other modules can be taken from anywhere. You may choose a module from, say, anthropology or physics.

A full list of modules, syllabi, assessments and reading lists, can be found on the STS website – just search for 'STS UCL Modules'.

The following are a list of modules that we teach across our programmes:

Big Problems
This module focuses on some of the "big problems" of our time and the role science and technology plays in their construction and resolution. Each year, we concentrate in depth on one specific "big problem" such as artificial intelligence, climate change, migration and population, and pandemics.

Science Communication and Public Engagement
This module explores the importance of communication and engagement in confronting some of the biggest challenges to science and technology such as mistrust, conspiracy theories, and misinformation.

Philosophy of Science 1
This module tackles some of the biggest questions we can ask about science. If scientific knowledge is always changing, when is it actually true? How can we distinguish between science and pseudoscience?

Science Journalism
This practical module involves communicating science and technology across different media formats such as podcasts, video, blogging, newspapers and magazines. Students interview experts, write science articles, carry out radio interviews, and report to a committee of MPs.

Governing Emerging Technologies
This module explores how technologies shape our future in powerful and largely unaccountable ways. Are they inevitable, or can we control the technologies that we get, prevent hazards and share their benefits?

History of Modern Science
Much of the science around us today has been shaped by historical forces. This module surveys the evolution of science over this period including topics such as war and the development of new disciplines like quantum physics and genetics.

Medicine and Society
This module explores the social aspects of health and illness, focusing on patient experiences and the process of medicalisation. Students will also analyse health inequities, exploring social, economic, and racial disparities.

Science and Religion
What is the relation between science and religion in Islam or in China? What was the role of Christianity in the scientific revolution of the 17th century? Examine the relations between science, religion and progress.

Science, Art and Philosophy
Integrating the history and philosophy of scientific and artistic representations, the module questions the nature and role of visual representations in scientific and artistic practice, asking what counts as "objective" and "accurate" representation and when and how images count as "evidence".

Studying at UCL

Benefit from studying at one of the world's top ten universities

There's more to your choice of degree than the department - you want to make sure you choose the right university, and the right city, for you.

UCL is world renowned for both its teaching and research, and prides itself on having a diverse student population. We aim to make sure that every student has access to what they need.

As an undergraduate, if you apply in time you're guaranteed accommodation in either UCL halls, UCL Student Houses, or the University of London Intercollegiate halls, where you would stay alongside students from other London Universities.

There are currently over 250 different student societies, from Anime, Arabic and Artificial Intelligence to Wing Chun, Water Polo and Women in Finance. Wednesday afternoons are left free of lectures to allow students to take part in social activities.

UCL has a wide range of cafés and eateries, libraries and study spaces. There are lots of events, talks and meet-ups taking place each day with something for everyone.

London is full of opportunities for jobs, internships, placements, and networking. It is a global centre for technology, media, finance, art, and social life. It is an amazingly diverse place with people mixing together from all walks of life. The public transport system offers excellent connectivity across the city. There is never a dull moment in London.

London has a wide range of parks and open spaces, many within walking distance of the campus. Added to which, the many transport hubs allow you to visit the countryside within an hour, and reach Paris or Brussels within three.

UCL Open Days

Open Days provide an opportunity to get to know the department

When you apply to one of our courses and are successful, you will also be invited to attend one of our STS Open Days between January and March.

STS Open Days provide an opportunity to get to know the department. You'll have a chance to talk with several members of academic staff about how your interests and skills relate to the subjects we study. We also arrange for applicants to meet current students. We want applicants to hear about the programme directly from those involved.

STS Virtual open days
Sometimes it's impossible to visit UCL in person. We run a number of online live virtual open days that you are welcome to attend. These events are live streamed and you can join at your convenience from home.

Our admissions tutor, head of department and some of our lecturers give you a flavour of our department and teaching. There is also a chat room where you can chat to students and staff and ask any questions that would like answered. If you miss the live presentation, recordings are available to watch in your own time.

We've also prepared a series of sample presentations. You can find these on the STS YouTube Channel. Visit our STS Open Day playlist and you'll find an introduction to the department, plus introductory lectures on Philosophy of Science, History of Science, and Science & Society.

How to apply

We do not require students to have qualifications in science, although they are very welcome.

Our students often have qualifications in a variety of subjects, including History, Philosophy, Sociology, Economics, Media Studies, and Classics.

To find out more about the courses we offer, please visit:

www.ucl.ac.uk/sts/study-here/modules-and-courses

You can find our courses on UCAS using the following codes:

History and Philosophy of Science - V550
Sociology and Politics of Science - L391

As part of UCL's commitment to increasing participation from under-represented groups, students may be eligible for a contextual offer of up to two grades or points lower than the standard UCL offer for any given degree programme under the Access UCL scheme.

International students
Apply to UCL via UCAS, using the same process as UK/EU students. Please take note of the deadlines for applications so you do not miss any opportunities. Further details can be found via the UCL prospective students website.

Scholarships
UCL offers a range of financial awards aimed at assisting prospective and current students with their studies. These range from the Axeinos bursary, for Romanian or Bulgarian nationals, to the Estranged Student bursary, for those studying with no family support. You can explore what financial awards are available via the UCL Prospective Students website.

Questions?
If you have any questions about anything in this booklet, please feel free to contact us by email at sts-admissions@ucl.ac.uk

www.ucl.ac.uk/sts

0207 679 1328

You can also find us on LinkedIn, Instagram, and YouTube

Please note that all information is valid at the time of printing and may change. To stay up to date, please visit our website.