FUTURES ABROAD
BUILDING SUCCESSFUL CAREERS

BE FUTURE READY!

Learn how Medicine, Science, Research and Technology come together

Nov 7–18, 2026



With
Dr. Sophia E. Hodgkinson
MD | MEDICINE & SCIENCE MENTOR

Research experience at

HARVARD MEDICAL SCHOOL

KING'S College LONDON

01 — OVERVIEW

Programme Overview

Students will work through real patient cases, develop clinical reasoning skills, and gain insights into how modern medicine works beyond the classroom.



DATES
7–11 & **14–18**
November 2026

TIME
4:30 PM – 6:30 PM
(GST)

FORMAT
Live Online

ELIGIBILITY
Grades 8–12

PROGRAMME FEE
USD 600 + VAT

02 — CURRICULUM

What Will Students Learn?

Eight core areas that reflect how modern medicine is practised, researched and transformed.

- Clinical Reasoning & Diagnostic Thinking
- Genetics & Genomics
- Neurology & Neuroscience
- Medical Research & Evidence Evaluation
- Patient Communication
- Medical Ethics
- Artificial Intelligence in Healthcare
- Scientific Presentation & Communication Skills

No prior medical knowledge required. CURIOSITY IS ENOUGH



03 — THE ADVANTAGE

Why Join This Programme?

Six reasons ambitious students choose to spend two weeks thinking like doctors.

01

Think Like a Doctor

Learn how clinicians evaluate symptoms, analyse evidence, and reach diagnoses.

02

Work on a Real Clinical Case

Apply learning by investigating a patient case step-by-step.

03

Explore Cutting-Edge Medicine

Discover DNA sequencing , genomics, neuroscience, polygenic risk scores, and modern medical science.

04

Understand Medical Research

Learn how research papers are evaluated and how evidence informs treatment decisions.

05

AI & The Future of Healthcare

Explore how artificial intelligence is transforming hospitals, diagnostics, and patient care.

06

Develop Key Academic Skills

Strengthen criticalthinking, teamwork, leadership, communication, and presentation skills.

04 — TIMELINE

The Learning Journey

Two weeks. One pathway from the patient in front of you to the genome inside them, and back to the decisions that change lives.

PATIENT — GENOME — EVIDENCE — DECISION

WEEK 1

From Patient to Genome and Back

1 Saturday, November 7

Welcome & Project Launch

- Meet the mentor and fellow students
- Understand how the two-week programme will work
- Introduction to the clinical case project
- Choose a case and begin identifying the key medical questions
- Understand how the final presentation combines clinical reasoning with independent treatment research
- Introduction to pathways across clinical medicine, academic research and emerging medical technology.

2 Sunday, November 8

Discovering & Understanding DNA

- DNA structure
- Replication
- Transcription and translation
- Types of genetic mutations
- Sanger sequencing
- Short-read sequencing
- Nanopore sequencing
- Sequencing reads and depth of coverage
- Pathogenic and benign variants
- Variants of uncertain significance
- Computational prediction of genetic variant effects
- The changing cost of genome sequencing

3 Monday, November 9

Academic Interview Skills

- Academic interview structure
- Effective preparation
- Common question types
- Live interview practice
- Responding when you don't know an answer
- Explaining a research project clearly
- Describing research methods without overstating your contribution
- Communicating complex scientific ideas concisely

4 Tuesday, November 10

Human Genetics & Genomics

- Penetrance and expressivity
- Why carrying a genetic variant does not necessarily mean developing a disease
- Patterns of inheritance
- Understanding pedigrees
- Polygenic risk scores
- Limitations of genetic risk prediction across populations
- Genetic counselling
- Predictive genetic testing
- Huntington's disease
- APOE and understanding genetic risk

5 Wednesday, November 11

Neurology Case Study

Using **lateral medullary syndrome**, also known as **Wallenberg syndrome**, students examine findings including:

- Crossed sensory loss
- Horner's syndrome
- Dysphagia
- Preserved motor power

Clinical information is revealed progressively, allowing students to narrow their differential diagnosis as a doctor would.

Students also explore:

- Neurological localisation
- How clinical findings guide diagnosis
- Why an initial CT scan may appear normal
- How imaging results should be interpreted
- Which findings can change immediate clinical management

WEEK 2

Communication, Ethics & The Future of Medicine

6 Saturday, November 14

The Future of Medicine

- Imaging triage
- Diabetic retinal screening
- Ambient clinical documentation
- How medical AI systems are trained
- Why an AI model may perform differently between hospitals
- Medical device regulation
- Challenges surrounding continuously learning algorithms
- Clinical validation
- Retrospective studies versus patient outcome trials
- Foundation models in healthcare
- Drug-development modelling
- Translational neuroimaging
- How medical AI moves from research into a real product

7 Sunday, November 15

Day in the Life: Guest Q&A

An interactive guest session giving students an opportunity to ask questions and gain first-hand insights into medical, academic and professional pathways.

8 Monday, November 16

Communication & Ethics

Students explore one of the most important aspects of medicine: communicating difficult information while navigating ethical responsibilities.

Communication topics include:

- Structured patient communication
- Consent
- Communicating uncertainty
- Breaking bad news
- First-seizure scenarios
- Communicating a new diagnosis of multiple sclerosis

Ethics topics include:

- Capacity
- Best interests
- Confidentiality
- Ownership of medical and genetic information
- Predictive genetic information
- Responsibilities towards patients and their relatives

Students work through real-world scenarios rather than studying ethical principles only in the abstract.

9 Tuesday, November 17

Careers & Research

Students explore both the realities of clinical medicine and the opportunities available beyond conventional medical practice.

Topics include:

- Medical training in the UK
- The realities of working as a doctor
- Clinical hierarchies and working environments
- Academic medicine
- How medical research projects begin
- How scientific papers are written and reviewed
- Finding research supervisors
- Working in industry
- Healthcare startups
- Practising medicine internationally
- Translational research
- Building a career that combines medicine and research

10 Wednesday, November 18

Final Presentations & Certificates

Students present their chosen clinical cases, demonstrating how they reasoned from the patient's story towards a diagnosis before presenting their independent research into an aspect of treatment.

Students are encouraged to consider:

- Quality of clinical reasoning
- Use of scientific evidence
- Handling of uncertainty
- Research methodology
- Trial phases
- Comparators
- Study sample sizes
- Clinical endpoints
- Whether research outcomes are genuinely meaningful for patients

The programme concludes with feedback, reflections and certificates.

Meet Your Mentor



Dr. Sophia E. Hodgkinson

Physician-Researcher
Neurology, Neurosurgery & AI

Dr. Sophia E. Hodgkinson grew up across five countries before earning her MD, with research undertaken at Harvard Medical School and King's College London spanning neurology, neurosurgery and AI.

Her work has covered areas including motor-eloquent glioma surgery, neuroimaging and artificial intelligence. Most recently, she worked as a Clinical Researcher at Hologen, a UCL/KCL neuro-AI startup, focusing on drug-development modelling and translational neuroimaging.

She has more than 3,000 hours of teaching and mentoring experience, including designing and leading her own two-week medicine course for seven cohorts at Oxford summer programmes.
A TEDx speaker, EAN Fellowship winner and former EdTech founder, she has been accepted to Stanford's 2027 M-TRAM programme and will continue her research alongside neurology training in Switzerland.

She particularly enjoys teaching students who are curious about medicine, science and where both fields are heading.

RESEARCH
Medical Doctor with research experience at Harvard Medical School and King’s College London

INDUSTRY
Former Clinical Researcher at Hologen, a Neuro-AI startup

TEACHING
3,000+ hours of teaching and mentoring experience

SPEAKER
TEDx Speaker

AWARD
EAN Fellowship Winner

STANFORD
Accepted to Stanford University’s 2027 M-TRAM Programme

07 — AUDIENCE

Who Should Join?

This programme is ideal for students in Grades 8–12 who are:



- Exploring medicine or healthcare careers
- Interested in biology, genetics, neuroscience, or AI
- Looking to go beyond school-level science
- Interested in medical research
- Preparing for competitive university applications
- Seeking strong academic and presentation skills



08 — VISION

Future Ready. Healthcare Focused. Globally Relevant.

Apply now and experience how medicine, science, research, and technology come together to improve lives.

Start Your Journey into Modern Medicine

Join ambitious students from around the world and explore the future of medicine, research, healthcare, and technology.



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