

# Elena Houghton

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A Biochemistry student at Imperial College London currently undertaking a Year in Industry at AstraZeneca. My work with *in vitro* models of glomerular disease has fuelled my enthusiasm for a career in research.

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## Experience

### AstraZeneca, Cambridge | University Industrial Placement Student

September 2024 – August 2025

12-month University Industrial Placement in the Bioscience Renal team at AstraZeneca under the supervision of Dr. Jack Tuffin:

- Independently made and cultured a spheroid model of glomerular disease
- Selected and optimised end point assays
- Designed new methodologies for spheroid culture
- Created new hypotheses and experiment designs based on published literature
- Developed an R Script to automate qPCR data analysis
- Presented my research to departments within AZ

### Beacon for Rare Diseases, Cambridge | Volunteer

September 2024 – August 2025

12-month volunteering placement supervised by Blayne Baker:

- Researched and produced an online learning guide about non-genetic rare diseases
  - Gained experience in summarising research outside of my area of expertise
  - Learnt to design material for a lay audience
  - Helped strategically promote the Resources Hub by linking posts and guides to an awareness day calendar
  - Represented the charity at the Kidney Research UK Symposium 2025
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## Education

### Imperial College London, London | Biochemistry with Year in Industry BSc

October 2022 – June 2026

Second year | 2023 - 2024

- First class honours (73.19%)
- Modules: Bioinformatics, Programming and Statistics, Challenges in Cell Biology, Genes and Genomics, Integrative Cell Biology, Protein Science, Structural Biology, Italian level 2
- Tored Dissertation: Unsaturated fatty acids and 2-alkynoic fatty acids as strategies to control conjugative transmission of antimicrobial resistance genes

First year | 2022 - 2023

- First class honours (72.78%)
- Modules: Biological Chemistry, Cell Biology, Enzymes and Metabolism, Molecular Biology, Italian level 1

### Extracurriculars

- Biochemistry Society Events Officer 2023-2024
- Yoga Society Social Media Officer 2023-2024
- Women's hockey 3rd XI
- Kickboxing

## Churcher's College, Petersfield | Sixth Form

September 2020 – July 2022

- 3 A\*s for A level Biology, Chemistry, Physics
- Academic Scholar

### Awards and Extracurriculars:

- Vice Captain of College
  - President and founder of Physics Society
  - Gold medal in 2021 British Chemistry Olympiad
  - Silver medal in 2021 British Biology Olympiad
  - Winner of Churcher's College Biology prize (2020)
  - Regional finalist for English Speaking Union 2020
  - Winner of 2020 SATRO engineering challenge
  - Science Auntie Volunteer
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## Skills

**Programming:** Proficient in R and Python programming languages with a focus on developing scripts for data analysis.

**Wet Lab Techniques:** Experienced in Cell culture, qPCR, Western blot, RNA and protein extraction and Immunofluorescence staining. Confident with various types of microscopy including confocal microscopy, automated microscopy and light microscopy.

**Bioinformatics and Molecular Visualisation skills:** Skilled at producing high-quality, publication-worthy structural images in PyMOL Adept at using automated molecular docking tools such as SwissDock and AutoDock. Experienced with extracting meaningful information from genomic data through BLAST sequence alignments and ENSEMBL genome annotations.

**Languages:** English, intermediate Italian, basic Spanish