Rob Scrutton

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Research Interest

- Developing high-throughput microfluidic assays for biophysical data generation
- Leveraging image-based machine learning for characterising bio-molecular states
- Predicting protein co-localisation using natural language processing.

My existing PhD research experience demonstrates an ability to develop novel methods for biophysical characterisation. By working on high-throughput screening methods, coupled with machine learning based data analysis, I have developed a strong understanding of real world data sets and the challenges that come with both generating and analysing them.

Education

PhD in Chemistry — University of Cambridge, UK
St John's College — 2022 - 2026
Supervisor: Prof. T. P. J. Knowles
Topic: Machine Learning and Experimental Physical Chemistry to characterise protein phase separation
Knowles Lab

MChem in Chemistry — University of Oxford, UK
Lady Margaret Hall College — 2018 - 2022
Grade: First Class
Masters Supervisor: Prof. M. Krishnan

Publications

1. Qian, D; Ausserwöger, H; Arter, W. E; **Scrutton, R**; Welsh T. J; Kartanas, T; Ermann, N; Qamar, S; Fischer, C; Šneideris, T; St George-Hyslop, P; Pappu, R. V; Knowles, T; Linking modulation of bio-molecular phase behaviour with collective interactions *bioRxiv*

Employments

Undergraduate Researcher — University of Cambridge, UK
Department of Chemistry — Jun - Oct 2021
Supervisor: Prof. T. P. J. Knowles
Topic: Sequence based prediction of *in vivo* protein condensation

Undergraduate Researcher — University of Sheffield, UK
Department of Chemistry — Jun- Sep 2020
Supervisors: Prof. Julia Weinstein, Prof. Anthony Meijer.
Topic: Density functional theory modelling of excited electronic states in platinum complexes

Coding Skills

Languages: Python
Libraries: PyTorch, TensorFlow, scikit-learn

Awards, Grants and Honors

Lady Margaret Hall, Oxford Christopher Dobson Prize for Finals examination results — 2023

TEACHING

Masters Level Teaching — University of Cambridge, UK

Natural Sciences - Soft Matter — 2022-2024
Systems Biology - Project supervisor — 2022-2023

Undergraduate Level Teaching — University of Cambridge, UK

Natural Sciences - Thermodynamics — 2022-2023
Natural Sciences - Chemical Kinetics — 2022-2023
Natural Sciences - Laboratory Demonstrating — 2022-2023

Other — Online Tutoring

AS Level (UK, 16-17 years old) - Chemistry — 2020-2021
GCSE Level (UK, 15-16 years old) - Chemistry, Maths — 2018-2020