

PhD Studentship: Synthetic Organic Chemistry and Chemical Biology

Project Title:

Developing the next generation of antibody-oligonucleotide conjugates using divinylpyridimidine conjugation

Further Particulars

Applications are invited for a 4-year PhD studentship based in the Department of Chemistry, University of Cambridge and the new AstraZeneca Discovery Centre at Cambridge. The student will be working on a collaborative project jointly supervised by Prof David Spring (Cambridge) and Dr Jonathan Bargh (AstraZeneca) and will have opportunity to work across the two sites.

The project will combine the advances in Antibody-Drug Conjugates (ADCs) with antisense oligonucleotides. ADCs have revolutionized targeted cancer therapy by delivering cytotoxic drugs to cancer cells with reduced systemic toxicity. Concurrently, oligonucleotide-based therapies, such as antisense oligonucleotides, have expanded the therapeutic landscape, offering novel approaches for modulating gene expression and protein function. Antibody-Oligonucleotide Conjugates (AOCs) combine the specificity of antibodies with the gene- modulating capabilities of oligonucleotides. This research aims to develop a novel method for conjugating oligonucleotides to antibodies, utilizing divinylpyridine motifs. The project will involve both organic synthesis and chemical biology skills.

We are looking for a highly motivated and enthusiastic individual capable of thinking and working independently. Nevertheless we place major emphasis on the importance of team work and an enjoyable work environment as a foundation for performing internationally leading research. This will allow the student to acquire cutting-edge research methodologies in a supportive environment, where they can focus on making the best possible scientific progress.

Applicants must have (or expect to obtain) at least the equivalent of a UK upper second-class Master's degree in a relevant subject such as Chemistry. Ideally, the candidate will have a strong background in organic chemistry. Practical experience of synthetic organic chemistry in a research environment would be beneficial.

Postgraduate students at Cambridge have access to a wide range of training opportunities and benefit from close supervision provided by a PhD supervisor and a personal mentor. There is no taught or examined coursework, but students are encouraged to attend a wide variety of lectures and training courses available to them across the Department and wider University. This includes courses on experimental techniques, statistics and the University Core Skills Training Programme, which includes sessions on time management, presentation and performance, and scientific writing. In addition, the student can take advantage of

training courses and seminars in therapeutic sciences offered by Cambridge Academy of Therapeutic Sciences.

All students are expected to attend research seminars held within the Department of Chemistry, which offer the opportunity to hear invited lectures from international leaders in their field. Students will also be encouraged to attend and present at the annual AstraZeneca students symposium.

The studentship provides tuition fees at the UK rate and an enhanced maintenance grant (£21,500 in year 1). Overseas students can be considered if they can cover the difference in the cost of overseas fees. Details of how to apply for University scholarships to cover the extra cost can be found at:

<https://www.postgraduate.study.cam.ac.uk/>

To apply, please submit an application for the course "PhD in Chemistry", naming Professor David Spring as potential supervisor, through the University Applicant Portal: <https://www.postgraduate.study.cam.ac.uk/courses/directory/pcchpdpch>

Interviews are likely to be mid December or early January.

For any queries about this studentship, please contact Prof. David Spring by email at: spring@ch.cam.ac.uk

Please quote reference MA43718 on your application and in any correspondence about this vacancy.

The University actively supports equality, diversity and inclusion and encourages applications from all sections of society.