

Research studentships are offered to students wishing to undertake a PhD programme. All studentships are highly competitive and you should ensure (and demonstrate) that there is a good match between your own qualifications and interests and those being sought for the particular studentship.

Research Centre where studentship will be held	Chemical Sciences Research Centre, Faculty of Natural Sciences, Keele University.
Studentship reference	FNS GS 2017-14
Web link to any further information (e.g. Research Institute)	Chemical Sciences Research Centre - https://www.keele.ac.uk/chemistry/research/ Miller Group Webpage – http://www.millertime.co.uk
Research topic or field - title	Design, Chemical Synthesis and Evaluation of Mimetic Nucleoside Analogues
Research topic or field – full description (or attach document)	See below
Available from (date)	Available now
Funding support available – Fees, stipend, duration	Open to fully self-funded students only. Please note that self-funded applicants must provide funding for both tuition fees and living expenses for the 3 year duration of the research.
Source of funding	Opportunity for self-funded applications only
Eligibility criteria	See below
Terms and conditions of studentship	As per the University Code of Practice
Number of studentships available	N/A
Application details	go to http://www.keele.ac.uk/pgresearch/studentships/ and click on the "Apply online here" button in this studentship.
Closing date for applications	N/A
Contact for further information and to whom applications will be sent	Informal enquiries about the project should be made to the Project Lead [g.j.miller@keele.ac.uk] and should include a CV. Full applications to: http://www.keele.ac.uk/pgresearch/studentships/

Candidate profile

	Essential	Desirable
Qualifications, Experience and Skills	<p>A BSc/MChem degree in Chemistry – minimum 2i classification or equivalent.</p> <p>An interest in synthetic organic and carbohydrate chemistry. Full training will be provided.</p>	<p>A relevant Masters level qualification</p> <p>Previous experience in synthetic organic/carbohydrate chemistry and an interest in medicinal chemistry.</p>
Attitude and Personality	<p>Excellent communication, interpersonal, organizational and time management skills.</p> <p>Ability, willingness and motivation to undertake advanced research study at PhD level.</p> <p>The ability to work both independently and as part of a team</p> <p>Natural inquisitiveness and a flair for problem solving</p>	<p>Evidence of organizational ability</p> <p>Enthusiasm and motivation to ensure progress</p>

Design, Chemical Synthesis and Evaluation of Mimetic Nucleoside Analogues

Applications are invited for self-funded students wishing to perform research towards a PhD in synthetic carbohydrate chemistry.

All viruses, irrespective of the disease they cause, have to replicate in order to survive. Drugs that block viral RNA or DNA replication by mimicking the natural building blocks of RNA and DNA (A, C, G, T/U) are known as nucleoside analogues. There are three distinct features of nucleosides that make them the preferred treatment for an infectious disease where a nucleoside is available: high barrier to resistance, broad spectrum of activity and high efficacy. This can be observed in the treatments of HSV (Aciclovir and Ganciclovir), HIV (Tenofovir, Zidovudine, Abacavir Emtricitabine and Lamivudine), HBV (Entecavir, Tenofovi, Adefovir, Lamivudine and Telbivudine) and HCV (Sofosbuvir). Your PhD project will involve the design and chemical synthesis of a new class of nucleoside analogue, focusing on mimetic modifications to the ribose ring. You will also be involved in applying the mimetic nucleoside within the synthesis of current anti-viral drugs. We have a successful collaboration with Riboscience LLC (<https://www.riboscience.com>), a US Biotech, concerning the chemical synthesis and medicinal chemistry of a variety of new nucleoside analogues.

Students will receive training in organic synthesis, carbohydrate chemistry and in the design and development of complex, multi-step routes to important glyco-targets. Transferable skills such as reporting of results orally and in writing, time management, project planning and management will be developed.

Qualifications

Applicants should have or expect a good I or II(i) honours degree (or an equivalent degree) in Chemistry. Applications are particularly welcome from students with experience in organic synthesis and/or carbohydrate/medicinal chemistry.

Contact for further Information

Please contact Dr Gavin J. Miller (g.j.miller@keele.ac.uk) for further information and to discuss potential projects. Applicants should provide details of their qualifications, including a CV and a personal statement. A formal application must be submitted to be considered.

For more information on the Miller group, visit:

<http://www.millertime.co.uk>

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Funding Notes

Applications are invited for self-funded students. For EU/UK 2017/18 tuition fees are £4195 per annum and overseas are £18,900