Loughborough University

9TH FOR CHEMISTRY
THE GUARDIAN UNIVERSITY GUIDE 2021

RESEARCH AND INNOVATION
PART OF €13M EUROPEAN COMMISSION HORIZON 2020 RESEARCH PROJECT

UNIVERSITY OF THE YEAR
WHATUNI STUDENT CHOICE AWARDS 2020

Chemistry

Postgraduate programmes

Contents

Welcome

Welcome to the Department of Chemistry at Loughborough University. Our department is internationally renowned for its teaching and research excellence, attracting staff who are committed to delivering high quality training and support for postgraduate students.

With a £6 million investment in newly refurbished laboratory space within the department and the recent opening of our state-of-the-art £17m STEM teaching lab facility, our taught master's programmes in chemistry offer access to excellent facilities and resources, as well as providing opportunities to deepen your knowledge and progress your career or research aspirations.

We also offer a range of opportunities for postgraduate research. We encourage applications from passionate researchers looking to join a department active in high-profile, high-impact research projects. Our research is wide-ranging and continues to address real-world problems in vital areas such as energy and the environment, defence and security, and health and medicine – including cutting-edge research into disease detection.

UNIVERSITY RANKED 6TH
THE COMPLETE UNIVERSITY GUIDE 2021

UNIVERSITY RANKED 7TH
THE GUARDIAN UNIVERSITY GUIDE 2021

UNIVERSITY RANKED 5TH
THE 'TABLE OF TABLES 2020' TIMES HIGHER EDUCATION

Why choose Loughborough University?

As a Loughborough University student, you will benefit from state-of-the-art facilities, enhanced by the University's £17m STEMLab and a recent £6m investment in newly refurbished chemistry laboratories. Our research labs and study areas enable you to gain first-hand experience of the latest techniques in analytical, environmental, inorganic, organic and physical chemistry.

Excellent facilities

The Department of Chemistry has a range of laboratories for physical and analytical chemistry, synthesis and biological science, enabling access to a broad range of scientific instrumentation including 400 MHz, 500 MHz, solid-state and benchtop NMR spectrometers, single crystal and powder X-ray diffractometers, a high resolution inductively-coupled plasma mass spectrometer, GC-MS and linear ion trap LC-mass spectrometers, ion mobility spectrometers, gas and liquid chromatographs and tunable nanopore sensors.

As a Loughborough student you will also enjoy access to the full range of first-class University resources, including our extensive campus library, the one-to-one support of our Mathematics Learning Support Centre, and the student support services and amenities across our superb 440-acre campus, including our renowned facilities for sport.

Equality and diversity in STEM

The School of Science is committed to creating a diverse and inclusive working, learning, social and living environment that enables students to achieve their potential and which celebrates and encourages diversity. Our aim is to maximise opportunities for all.

£17M INVESTMENT IN STEMLAB

£6M INVESTMENT IN REFURBISHED CHEMISTRY LABS

"Loughborough has a great record of interdisciplinary collaboration between its schools and I've had no problem accessing the outstanding facilities found across its departments, from 3D printer centres to materials characterisation labs."

Sarah
PhD student

Maximising your career prospects

Our taught MSc programmes extend the knowledge gained at undergraduate level and develop professional skills in a range of specialist chemical sciences.

Through their postgraduate studies MSc graduates can expect to develop their careers in the pharmaceutical and food industries, analytical and environmental laboratories, public and regulatory utilities, and industrial laboratories. They may also go on to study a PhD.

The Department of Chemistry is committed to helping you develop the skills and attributes you need to progress successfully in your chosen career. The MSc programme will equip you with industry-relevant knowledge and skills but also with the ability to apply that knowledge in the manner appropriate to a professional scientist. As such, you will also build skills, knowledge and abilities in health and safety, problem-solving and planning, observation measurement and statistical techniques, and the use of information technology, computational and data-processing skills for the analysis and presentation of chemical information and data. There will also be opportunities to grow in team-working, organisational skills, time management and presentation.

Recent graduate destinations have included:

- Alliance Boots, Process Technologist
- British Gypsum, Project Technologist
- CRF Health, Project Assistant
- GlaxoSmithKline, Analytical Scientist
- Institute of Quality Inspection and Technical Research – China, Analyst
- King Abdullah International Medical Research Centre, Research Associate
- Minerva Scientific, Senior Analyst
- Nemaura Pharma Ltd, Development Scientist
- Quotient Clinical, Manufacturing Scientist
- Reckitt Benckiser, Analytical Assistant
- University of Cambridge, Scientific Officer

Supporting you

Studying a postgraduate qualification is not just about your academic programme or area of research. It is also about developing the right skills and experiences to reach your future career goals.

Our University Careers Network can help you with one-to-one advice and drop-ins with professional careers consultants, workshops on career planning and job hunting, links to thousands of job vacancies and internships, practice job interviews and assessment centres, and access to specialist support for international students.

For more information: lboro.ac.uk/careers

Our international students

Loughborough University has a community of more than 3,600 international students from all over the world. In the Department of Chemistry you will join a diverse team of postgraduate students from outside of the UK and EU.

The Department of Chemistry attracts students from across the globe, including from Europe, Asia, the Middle East and Africa. International students at Loughborough can expect to receive excellent support services from the University, International Office and Loughborough's award-winning Students' Union.

Supporting your application

Loughborough University has a dedicated International Office to give you support and advice on applying to us. This can be done by email, telephone, or even in person – our International Office staff visit more than 30 countries each year. Further information about these visits can be found at lboro.ac.uk/international/visits

Additionally, we have a number of international advisers and representatives in many countries around the world, details of which can be found at lboro.ac.uk/international/agents

English language, study skills and orientation

Loughborough University has its own Student Advice and Support Service (SASS), which runs a number of courses designed to help you improve your English. So, whether you wish to boost your confidence in using the language, improve your study skills, or want an introduction to living and learning at Loughborough, the SASS offers bespoke courses to help you.

The university's International Office holds a residential induction week for international students immediately before the start of the academic year. It provides practical information about living and studying in Loughborough, and allows you to meet fellow students and settle into your new environment before starting your studies.

More information can be found at lboro.ac.uk/international

Pre-sessional English language courses

The Pre-Sessional Courses are for international students who have not yet reached the required level of English for their chosen academic course at Loughborough University.

If you have an offer for a Loughborough University degree programme but have not yet achieved the minimum English language requirements, you may be eligible to join one of our pre-sessional courses.

We also deliver programmes that are suitable for students who may have achieved the minimum English language requirements but who wish to prepare more fully for their studies. Please contact our team for advice on the best course for you.
lboro.ac.uk/services/alss/pre-sessional-courses

Supporting international students

Loughborough Students' Union strives to provide the very best experience for international students and encourages you to get involved by engaging with their Global Development Officer and Global Committee.

Throughout the year the Students' Union puts on a number of social and cultural events for international students to get involved in, including trips to popular tourist destinations in the UK and abroad, sporting activities, cultural celebrations, opportunities to teach local communities about international cultures and an annual International Day.

The Global Development Officer and the Global Committee are there for you to voice your ideas and opinions to both the University and the Students' Union.

Web chats for prospective students

We also understand that studying in a foreign country away from your family and friends can be a daunting, yet exciting experience. Online web chats provide you with the opportunity to have your questions answered by staff and students. For a full list of scheduled web chats visit:
lboro.ac.uk/international/web-chat

4000 POSTGRADUATE STUDENTS FROM AROUND 130 COUNTRIES

FREE AIRPORT COACH SERVICE FROM LONDON HEATHROW TO THE UNIVERSITY

INTERNATIONAL QS STARS SCHEME 2020
FIVE-STAR PLUS RATING

Sam

MSc Analytical and Pharmaceutical Science

"I want to use chemistry to help people, basically. I hope one day to have a foundation to help the less privileged."

Analytical and Pharmaceutical Science

MSc/Diploma/PG Certificate

Full-time length: 1 year
Part-time length: 2-5 years

Entry requirements
A 2:2 honours degree or equivalent international qualification in chemistry, biochemistry or a closely related subject.

See full entry requirements online.
The School reserves the right to vary the list of all modules.

As the demand for new pharmaceutical solutions to medical needs continues to grow, so does the demand for skilled chemists with the ability to contribute to drug development and analysis. Our popular and industry relevant pharmaceutical science degree is designed for graduates in chemistry or closely related disciplines who wish to work in this fascinating and important field.

This programme aims to deliver high quality training in analytical and pharmaceutical chemistry that will be of direct benefit to industry and the UK science base.

Across the programme you will undertake core modules in separation techniques, pharmacokinetics and drug metabolism, spectroscopy and structural analysis, and research methods. There is also the flexibility to tailor your studies through optional modules in mass spectrometry, drug targets, drug design and drug synthesis, sensors, and innovations in analytical science and medicinal chemistry.

This will enable you to build essential multidisciplinary skills and deepen your understanding of key pharmaceutical concepts, whilst developing vital research and professional skills.

Modules

Compulsory modules:
Research Methods; Separation Techniques; Pharmacokinetics and Drug Metabolism; Spectroscopy and Structural Analysis; Professional Skills and Dissertation; Research Project.

Optional modules (choose two):
Mass Spectroscopy and Associated Techniques; Drug Targets, Drug Design and Drug Synthesis; Sensors; Innovations in Analytical Science; Innovations in Medicinal Chemistry.

Learning, teaching and assessment

You will be assessed by a combination of exams, coursework and class presentations, as well as a dissertation on an agreed topic. You will study through a range of lectures, seminars, practical sessions, tutorials and group work.

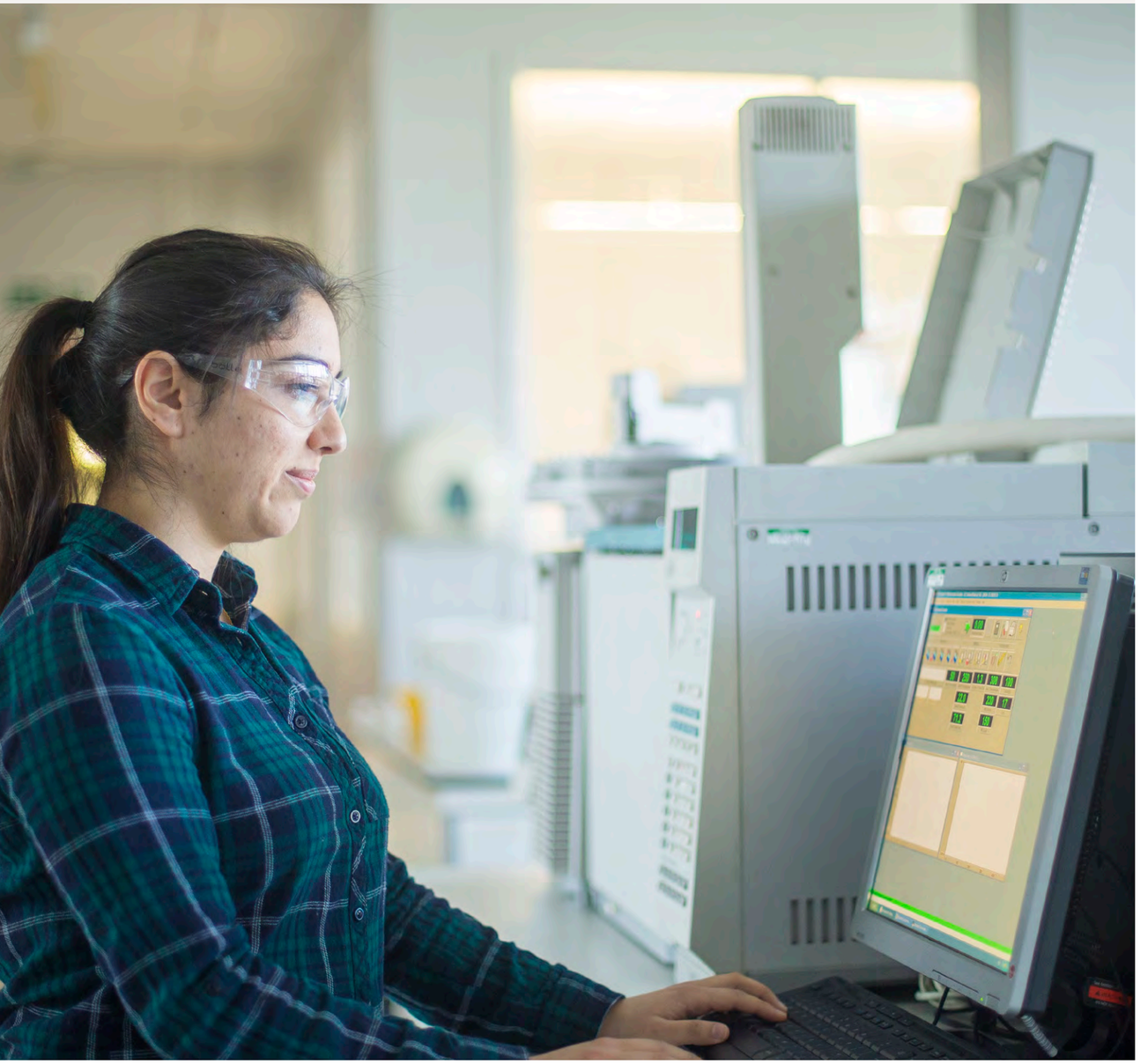
Career prospects

Recent graduate destinations include Alliance Boots (Process Technologist), GlaxoSmithKline (Analytical Scientist), and Quotient Clinical (Manufacturing Scientist).

Richard

MSc Analytical Chemistry

"I like the independent nature of learning adopted by the department and especially working with my project supervisor. I also enjoyed the mass spectrometry lectures."



Analytical Chemistry

MSc/Diploma/PG Certificate

Full-time length: 1 year
Part-time length: 2-5 years

Entry requirements
A 2:2 honours degree or equivalent international qualification in chemistry, biochemistry or a closely related subject.

See full entry requirements online.
The School reserves the right to vary the list of all modules.

Our MSc Analytical Chemistry is designed to provide comprehensive training in the subject and its implementation in a variety of fields, including biomedical, pharmaceutical, food and environmental analysis.

Analytical chemists assess the chemical structure and nature of substances using a range of techniques, such as electro-chromatography, high performance liquid chromatography, and spectroscopy; skills which are needed for a variety of purposes including drug development, forensic analysis and toxicology. They are employed by a variety of public and private sector organisations and can specialise in areas such as toxicology, pharmaceuticals, quality control or forensics.

Our Analytical Chemistry master's degree comprises a broad range of modules that cover all the major analytical techniques, complemented by studies in transferable and professional skills, and with the option to study aspects of medicinal and pharmaceutical chemistry if desired.

Across the programme you will undertake core modules in separation techniques, spectroscopy and structural analysis, and research methods. You can choose two options from pharmacokinetics and drug metabolism, sensors, drug targets, drug design and drug sythesis, and innovations in analytical science.

Modules

Compulsory modules:
Research Methods; Separation Techniques; Mass Spectroscopy and Associated Techniques; Spectroscopy and Structural Analysis; Professional Skills and Dissertation; Research Project.

Optional modules (choose two):
Pharmacokinetics and Drug Metabolism; Drug Targets, Drug Design and Drug Synthesis; Sensors; and Innovations in Analytical Science.

Learning, teaching and assessment

You will be assessed by a combination of exams, coursework and class presentations, as well as a dissertation on an agreed topic. You will study through a range of lectures, seminars, tutorials and practical sessions, allowing you to gain experience in nanopore technologies, separation science and the latest techniques in mass spectrometry.

Career prospects

Recent graduate destinations include Novartis (Bioanalytical Scientist), Sanofi Genzyme (Analytical Chemist) and PhD projects in medical breath analysis and novel energy applications at Loughborough University.

Andrea

MSc Pharmaceutical Science and Medicinal Chemistry

"If you want to pursue a career in research or work in a R&D lab, this course will give you everything you need starting from the theoretical concepts to the practical skills."

Pharmaceutical Science and Medicinal Chemistry

MSc/Diploma/PG Certificate

Full-time length: 1 year
Part-time length: 2-5 years

Entry requirements
A 2:2 honours degree or equivalent international qualification in chemistry, biochemistry or a closely related subject.

See full entry requirements online.

The School reserves the right to vary the list of all modules.

Society's need for pharmaceutical solutions to health problems ensures the demand for skilled individuals within this area remains high. Our MSc Pharmaceutical Science and Medicinal Chemistry is designed to meet the needs of industry and the UK science base by providing you with training in pharmacokinetics, drug metabolism, drug synthesis, methods to identify potential drug targets and drug candidates, and methods to assess the biological activities of drug compounds.

The programme will give you the opportunity to specialise in this fascinating and vitally important field that focuses on the biochemistry, pharmacology, design, analysis and delivery of pharmaceutical substances, including the development of safe and effective drugs.

Modules

Compulsory modules:
Research Methods; Pharmacokinetics and Drug Metabolism; Drug Targets; Drug Design and Drug Synthesis; Spectroscopy and Structural Analysis; Professional Skills and Dissertation; and a Research Project.

Optional modules (choose two):
Separation Techniques; Mass Spectrometry and Associated Techniques; Innovations in Analytical Science; and Innovations in Medicinal Chemistry.

Learning, teaching and assessment

You will be assessed by a combination of exams, coursework and class presentations, as well as a dissertation on an agreed topic. You will study through a range of lectures, seminars, tutorials and practical sessions enabling you to gain experience in drug synthesis, binding assays and pharmacokinetics.

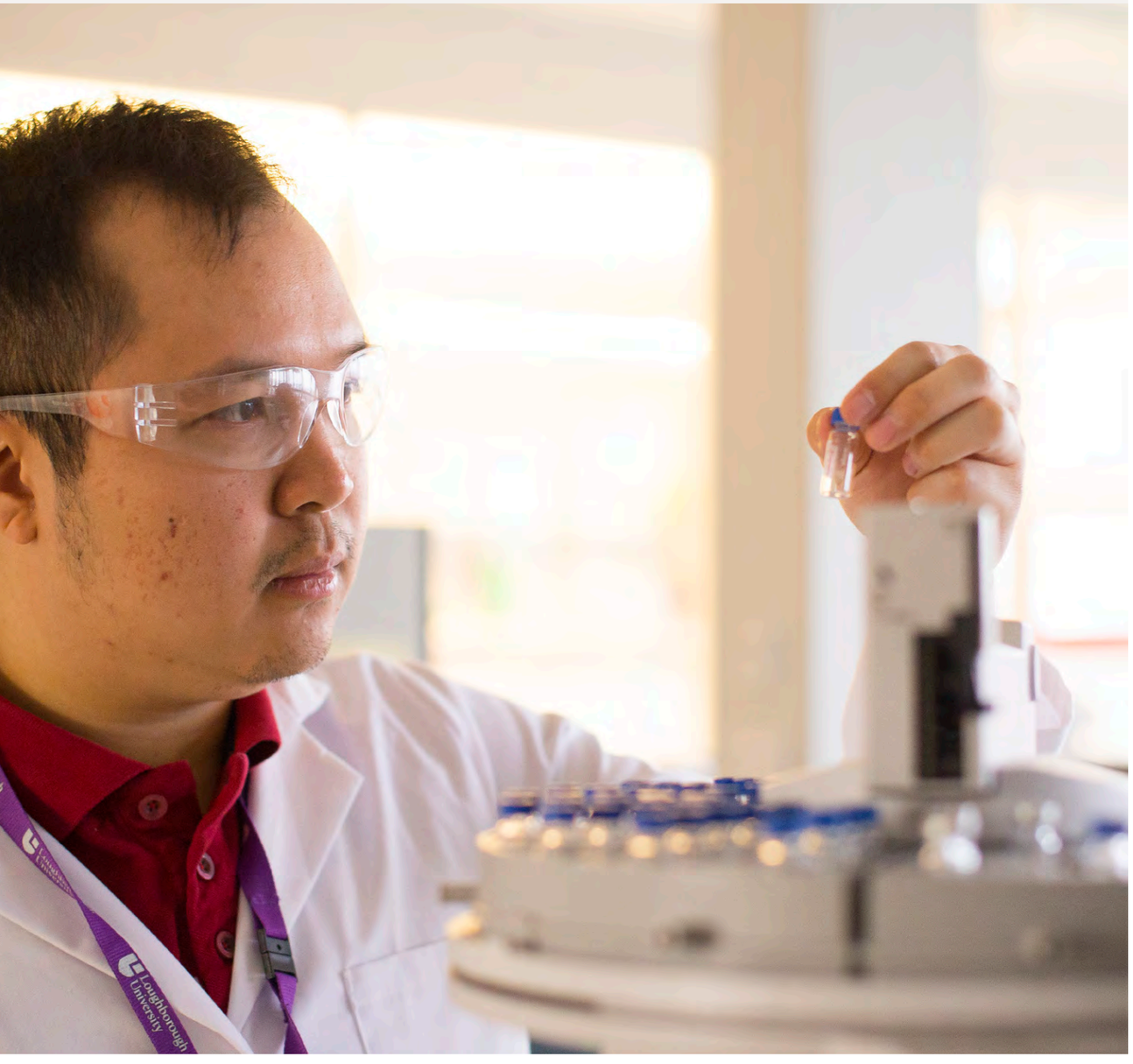
Career prospects

Recent graduate destinations include 3M (Analyst); Leading Edge – Brunei (Marketing Executive); and Pfizer (Materials Scientist).

Liam

PhD student

"My initial study and PhD at Loughborough has helped me gain recognition for my research."



Research degrees

PhD: 3 years full-time, 6 years part-time
MPhil: 2 years full-time, 4 years part-time

Entry requirements
A 2:1 honours degree or equivalent international qualification in chemistry or closely related discipline.

See full entry requirements online.
The School reserves the right to vary the list of all modules.

The Department of Chemistry offers exciting and industry-relevant research opportunities across a range of areas including energy, molecular markers and detection; crime and security; chemical process technologies; and catalysis and functional molecules.

The Department of Chemistry is undergoing an exciting period of development. Our new STEMLab and newly refurbished research laboratories provide an outstanding environment to conduct scientific research.

As a research student in the Department of Chemistry you will become a key part of a lively postgraduate community and have the chance to grow your network by taking part in conferences and presenting your research.

You will benefit from our state-of-the-art facilities, enhanced by the University's £17 million STEMLab and a £6 million investment in newly refurbished chemistry laboratories. Our research labs and study areas provide an excellent environment in which to pursue your research passions while the Department strives to create a stimulating and inclusive academic community.

Skills and experience

A PhD programme will give you the opportunity to develop new and highly sought-after skills which can set you up for a range of careers. It's a chance to make a novel contribution to knowledge, to become a world expert in a particular field, and it can open a range of doors with different employers. You'll also enhance your interpersonal skills, such as networking and relationship building, which will be invaluable in your future career.

The Chemistry seminar series is an excellent way to learn about research ongoing in the department and to pick up new subject knowledge from academic staff. External speakers also deliver interesting sessions.

As a research student in the Department of Chemistry, you will be encouraged to participate in conferences and provided with opportunities to present their research work.

How to apply

Projects which have funding attached are advertised on our online prospectus. For self-funded projects or those funded by third party sponsors you do not have to submit a detailed research proposal but you should indicate which area of research you wish to pursue and/or names of staff members you are keen to work with.

For more information visit our website:
lboro.ac.uk/study/postgraduate/research-degrees

TOP 10 IN EVERY UK UNIVERSITY LEAGUE TABLE

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