



UNIVERSITY OF
Southampton



DISCOVER
THE
ELEMENTS
OF SUCCESS

CHEMISTRY

POSTGRADUATE COURSES 2020

FOUNDING
MEMBER OF THE
**RUSSELL
GROUP**

CHOOSE SOUTHAMPTON



Top 100

global university*

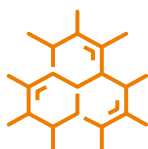


Top 20

UK university**



Chemistry is
joint 1st
in the UK for
research intensity**



We're home to
the UK's only
**National
Crystallography
Service**

94%

of our research
portfolio is rated
as world leading
or internationally
excellent***



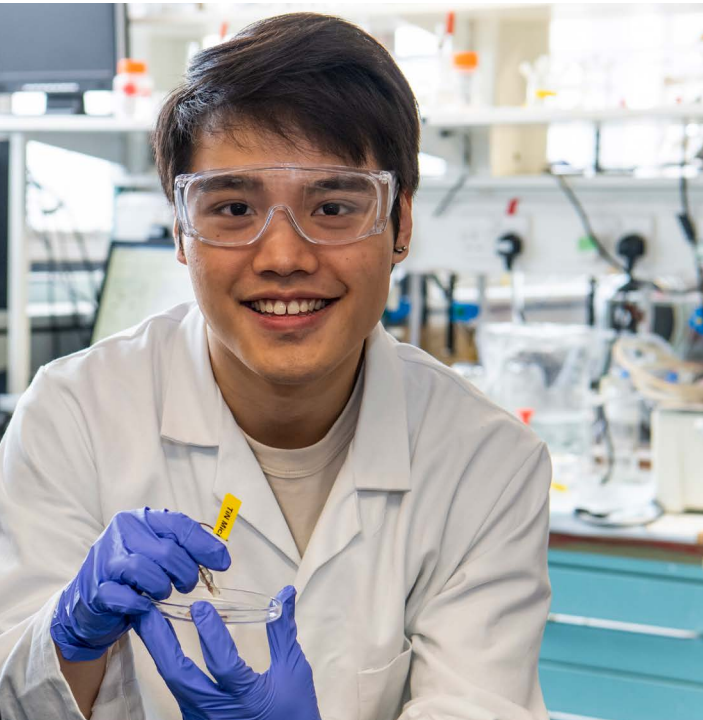
Our **Athena SWAN
Silver Award**
recognises our
efforts to improve
opportunities for all

* QS World University Rankings, 2020 ** Complete University Guide, 2020 *** Latest REF, 2014

“I'm currently applying for a PhD at Southampton as I enjoy the high-quality lectures, laboratories and research environment here. There are no limits restraining your ideas, and there are always chances to implement your research. Everyone can and is making a contribution to their field.”

Christopher Yi

MSc Chemistry by Research, 2019



RESEARCH EXCELLENCE

Chemistry at Southampton has a national and international reputation for excellence. We provide unique services such as the UK's National X-ray Crystallography Service which supports and develops world-leading research in chemistry, biochemistry and the physical sciences.

We are committed to providing the best environment for innovative, high-quality research and teaching in chemistry and are proud of our achievements. We have research expertise in:

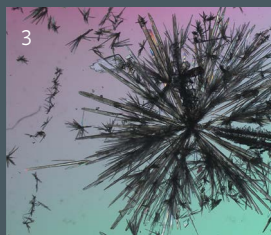
- Characterisation and Analytics
- Chemical Biology
- Computational Systems Chemistry
- Electrochemistry and Battery Technologies
- Flow Chemistry
- Magnetic Resonance
- Materials
- Organic and Inorganic Synthesis
- Supramolecular Chemistry



1



We are a founding member of the Faraday Institute, which is central to the UK's industrial strategy for electrochemical energy storage



3

Our globally recognised Magnetic Resonance Research Centre is expanding its facilities with a £2m upgrade

We are developing and applying new computational methods to chemical, biological and materials problems



2



Our scientists are mapping molecules to help revolutionise the way we search for, design and produce new materials



4

1 Developing new treatments for cancer

2 World-leading research

3 UK National Crystallography Service

4 Our Chemistry staff include Fellows of the Royal Society

TAUGHT PROGRAMMES

Key facts

Unless otherwise stated

Entry requirements: a UK bachelors degree with upper second-class honours or higher in chemistry or a subject related to chemistry e.g. biochemistry, physics, polymer science, mathematics or environmental sciences. See international equivalent qualifications www.southampton.ac.uk/pg/entry

English language: band B, IELTS 6.5 overall, with a minimum of 5.5 in all components. For more information, please visit www.southampton.ac.uk/pg/el

Assessment: written examinations, coursework, assignments, presentations and a research project/dissertation

Duration: one year (full time)

Start date: September

Applying: University application form with transcripts and two references; some courses may require an interview in person or by telephone/Skype

Closing date: 31 July (30 June for funding applications)

Fees and funding: Information about fees and funding can be found online www.southampton.ac.uk/pg/fees



Find out more:

www.southampton.ac.uk/chemistry/pg

Or to have specific questions answered:

T: +44 (0)23 8059 9699

E: enquiry@southampton.ac.uk

Chemistry at Southampton offers unrivalled opportunities to study chemistry masters degrees. Our cutting-edge facilities and world-class academics provide a dynamic environment for graduates who want to continue with their studies.

We offer a range of postgraduate courses, developed over the past 50 years with employers, international collaborators, governments and graduates.

Our taught Master of Science (MSc) programmes combine theory, practical and project work to develop skills that are highly sought after by employers or provide a platform for further research.

MSc Chemistry

Programme Director:
Dr Guy Denuault

This course provides the opportunity to take modules from a wide range of cutting-edge fields in chemistry with sessions on practical skills, scientific writing, communication and presentation, and a three-month summer project. You will study at an advanced level, covering both the traditional core areas of analytical, inorganic, organic and physical chemistry as well as more specialist courses.

You can tailor your choice of modules to specialise in any of the following pathways:

- Organic synthesis
- Inorganic and materials chemistry
- Physical chemistry
- General chemistry
- Electrochemistry
- Instrumental and Analytical Chemistry

MSc Electrochemistry and Battery Technologies

Programme Director:
Dr Guy Denuault

Electrochemistry is an increasingly important area of science and technology, with relevance to energy (batteries, fuel cells and solar cells), corrosion, sensors, waste treatment, metal finishing and the electronics industry. Our exciting programme will give you hands-on experience in electrochemical techniques and battery characterisation methods. You will also study the fundamental principles of electrode reactions with a strong emphasis on batteries, and the electroanalytical techniques used to study electrochemical reactions and battery processes. This course will prepare you for professional employment or doctoral studies, enabling you to pursue a variety of rewarding careers.

MSc Chemistry by Research

Programme Director:
Dr Guy Denuault

The MSc Chemistry by Research degree offers students the opportunity to create a bespoke degree, with a 12-month individual research project and advanced taught modules. Students can choose to specialise in characterisation and analytics, chemical biology, computational systems chemistry, electrochemistry, flow chemistry, magnetic resonance, or organic or inorganic synthesis materials and supramolecular chemistry.

TAUGHT PROGRAMMES

MSc Magnetic Resonance

Programme Director:

Dr Jörn Werner

Nuclear magnetic resonance spectroscopy is a crucial analytical technique, providing invaluable insights for synthetic chemistry, materials science, and biology. In this unique MSc course, you will receive a thorough education in the physical and technical foundations of magnetic resonance, along with hands-on practical experience using cutting-edge magnetic resonance equipment. This will place you in a strong position to pursue a career in industrial or academic research focussed on the development or application of magnetic resonance techniques.

Key facts

(additional information for the MSc Advanced Chemical Engineering programme only)

Entry requirements: a UK bachelors degree with upper second-class honours or higher in chemical engineering or a subject related to chemical engineering e.g. environmental engineering. See international equivalent qualifications www.southampton.ac.uk/pg/entry

Applying: University application form with transcripts and two references

MSc Advanced Chemical Engineering

Programme Director:

Professor Andrea Russell

In the context of climate change and diminishing natural resources, demand is growing for chemical engineers with the skills to design sustainable technologies and processes. Drawing on Southampton's leading research in areas such as low-carbon technologies, fine chemicals, green energy, and water/wastewater engineering, this degree will equip you with the specialist skills needed to meet this demand. Your studies will provide advanced training in process control and reactor design for sustainable technologies, enabling you to solve complex engineering problems.

“I chose to study at Southampton because my programme allowed me to do full-time research, whilst taking taught modules too. I was passionate about the research at the University, so I was very pleased when I was offered to do a PhD here. A very proud moment was when I won the University's Three Minute Thesis (3MT®) competition, where I presented my research project in three minutes to an audience with no background in the area.”

Gabriela Sitinova

MSc Chemistry by Research, 2017
PhD Chemistry, second year



RESEARCH PROGRAMMES

Key facts

Unless otherwise stated

Entry requirements: first or upper second-class degree, or equivalent in a subject within an appropriate field for the project

English language: band 1C IELTS 6.5 overall, with a minimum of 5.5 in all components or an equivalent standard in other qualifications approved by the University. For more information visit www.southampton.ac.uk/pg/el

Duration: up to four years (full time) and seven years (part time)

Assessment: annual reports and viva voce determine progression in PhD; viva voce and thesis examination for the final PhD award

Start dates: September, February, May and July

Applying: www.southampton.ac.uk/pgapply

Funding: Full scholarships are available for UK students. International and EU students are encouraged to seek full or partial funding from other sources (e.g. national government scholarships, commonwealth scholarships, self funding etc.)

If you choose to study at PhD at Southampton you will be working alongside world-leading experts in their field who will help you develop into an independent, professional scientist. You will gain an advanced understanding of chemistry and the ability to successfully conduct research in an academic or industrial environment.

PhD opportunities

Our PhD programme allows you to be part of the cutting-edge research taking place in Chemistry. You will be supported by your supervisory team in becoming a professional scientist able to carry out research to a very high standard, make professional presentations, write research proposals and papers, and provide leadership and manage the work of others. We encourage and support our PhD students to achieve the highest standards possible. This is reflected in the fact that the majority of our PhD students go onto successful research careers in academia or industry.

Applicants are invited to look at the area of research that interests them in one of our eight main research groups:

- Computational Systems
- Electrochemistry
- Chemical Biology, Diagnostics and Therapeutics
- Magnetic Resonance
- Organic Chemistry: Synthesis, Catalysis and Flow
- Characterisation and Analytics
- Functional Inorganic, Materials and Supramolecular Chemistry

Theory and Modelling in Chemical Sciences Centre of Doctoral Training (TMCS)

Theory and computer modelling play an increasingly central role in chemical and allied sciences, providing the means to understand, predict and design new molecules and materials. This CDT combines the expertise of groups in the Universities of Southampton, Bristol and Oxford to transform graduate-level training in computational and theoretical chemistry. Students will receive integrated, in-depth training in the core activities of fundamental theory, software development, and application to contemporary research challenges.

“I was drawn to the Magnetic Resonance research group because it’s highly interdisciplinary, combining chemistry with physics, engineering and biology. So far, the highlight of my PhD has been giving a talk at an international conference in California, even though I’m only in my first year!”

Sylwia Ostrowska
PhD, first year



Find out more:

www.southampton.ac.uk/chemistry/research

Or to have specific questions answered:

T: +44 (0)23 8059 3782

E: peps-pgr-apply@southampton.ac.uk

GLOBAL IMPACT

Our researchers are at the cutting edge of knowledge. While much of our research begins with concepts at a fundamental level, we are passionate about using the findings to achieve a more sustainable future.

We're using chemistry to tackle some of the world's biggest problems, from renewable energy to improving the study of disease.

Our REF 2014 success demonstrates that our research has a significant impact on society and industry, and makes a significant contribution to the global understanding of our planet.

- We're ranked 8th in the UK for Research Power
- We're ranked 6th in the UK for Research Intensity
- 94 per cent of our overall submission was judged as world leading or internationally excellent
- Our research environment was rated as being world leading or internationally excellent

WE ARE:



Proud of our **spin-out companies**, with Karus Therapeutics, Ilika, Nanotecture and ATDBio all originating within Chemistry at Southampton

Applying **fundamental electrochemistry** know-how to energy and nanomaterials

Producing a vast library of unique **cyclic compounds** which will help to tackle some of the world's most significant diseases including **cancer and HIV**

Creating a bespoke chemical engineering laboratory alongside a multimillion-pound refurbishment of our Chemistry building

HOW DO I APPLY?

Before applying for postgraduate taught study, you should:

- check you meet the entry requirements
- if applicable, ensure that you meet any special requirements for international students
- identify how you will fund your postgraduate study
- obtain supporting documentation to include as part of your application

APPLY NOW

Apply to Southampton for postgraduate taught degrees and for more information on PhD opportunities

 **Find out more:** www.southampton.ac.uk/pg



Find out more:

[www.southampton.ac.uk/
chemistry](http://www.southampton.ac.uk/chemistry)

UK enquiries:

enquiry@southampton.ac.uk

+44 (0)23 8059 9699

International and EU enquiries:

international@southampton.ac.uk

+44 (0)23 8059 9699



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