

The MOAC Doctoral Training Centre is a community of multidisciplinary researchers working at the physical/life sciences interface. Students thriving at MOAC typically have a very good degree in a science subject, a passion for multidisciplinary ideas, an ability to assimilate knowledge quickly, and the willingness and skill to transfer ideas between related disciplines.

MOAC academics are based in departments across the Faculties of Science and Medicine, providing a dynamic multi-disciplinary community to support the training and research of our students. MOAC's central location on campus and its well-designed facilities make it the ideal venue for fostering cross-discipline interactions including lunch-time discussions, meetings, conferences, and workshops. The Centre forms part of a local, national and international network which connects with researchers in many parts of the world. There are strong links with other EPSRC-doctoral training centres and related research centres in Europe and elsewhere. Most of our students have research links with industry via their PhD projects.

RESEARCH DEGREES

DOCTOR OF PHILOSOPHY (PhD) IN MATHEMATICAL BIOLOGY AND BIOPHYSICAL CHEMISTRY

TAUGHT MASTER'S DEGREES

MSc IN MATHEMATICAL BIOLOGY AND BIOPHYSICAL CHEMISTRY (MBBC)

MSc IN CHEMISTRY WITH SCIENTIFIC WRITING (CSW)

MSc IN SCIENTIFIC RESEARCH AND COMMUNICATION (SRC)

MSc IN COMMUNICATING MULTIDISCIPLINARY SCIENCE (CMS)

POSTGRADUATE AWARD

PGA IN SCIENTIFIC RESEARCH AND COMMUNICATION

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RESEARCH GROUPS

MOAC's research programme develops physical sciences tools to enable us to solve biological sciences problems that are currently intractable. To this end, both the physical sciences and biological sciences areas we cover are diverse, but the underlying thought processes are common so the MOAC community can profitably interact, share ideas and research expertise. The unifying theme of all of our activities is to make progress by combining development in both physical and life sciences.

The skills set for biomolecular assembly research includes:

Mathematical and computational modelling; Sensors, interfaces and imaging; Spectroscopy; Data analysis; Instrument design and development.

The biomolecular assembly application areas of particular interest to MOAC are:

Nucleic acid-protein interactions; Membrane proteins; Fibres, fibrils and tubules – the structural architecture of the cell; Analytical neuroscience.

MOLECULAR ORGANISATION AND ASSEMBLY IN CELLS DOCTORAL TRAINING CENTRE (MOAC DTC)

www.warwick.ac.uk/go/moac

RESEARCH DEGREES

DOCTOR OF PHILOSOPHY (PhD) IN MATHEMATICAL BIOLOGY AND BIOPHYSICAL CHEMISTRY

Standard Duration: 3 years full-time

This is an interdisciplinary programme which is usually offered as a four-year MSc + PhD programme at the interface between Mathematics, Chemistry, Life Sciences, Physics and Computing.

MOAC students have a good track record in internal and external competitions relating to communicating their science. We expect all of our students to publish a number of papers during their PhD and to continue on to exciting science-based careers when they leave MOAC. Our alumni community is growing and is of great benefit to current students.

APPLICATION FACT FILE (RESEARCH DEGREES)

Entry Requirements

Students with a first or 2:1 degree in mathematics or physical sciences or biological sciences are invited to apply. It is essential that applicants have the motivation to develop research programmes across the scientific disciplines.

English Language Requirements

IELTS 6.5, TOEFL (iBT) 92 or equivalent

Application

All applications are made online at www.warwick.ac.uk/go/pgapply

Application Deadline

Applications are welcomed throughout the year

Tuition Fees

(2011/12 fees. Please note fees for 2012/13 will be published online in spring 2012.)

Home/EU: Full-time £3,900, Part-time £2,340

Overseas: (band 2 lab-based)

Full-time £15,460, Part-time £9,276

Funding

Stipends: Students following the 1 year MSc + 3 year PhD route may apply for funding from the EPSRC via the University postgraduate admissions process. UK students may apply for full funding (tuition fees and stipend) and EU students may apply for part funding (tuition fees only) if this route of study is followed. Some support is also available to other students from The Carl Blakey Scholarships (£1000) funded by MOAC graduates. Details of the Chancellor's Scholarships and other funding opportunities are available from:

www.warwick.ac.uk/go/graduateschool

TAUGHT MASTER'S DEGREES

MSc IN MATHEMATICAL BIOLOGY AND BIOPHYSICAL CHEMISTRY (MBBC)

Standard Duration: 1 year (October start)

Places: 10 EPSRC-funded (available for 1-year MSc + 3-year PhD route only). Self-funding students are also encouraged to apply.

The MSc in Mathematical Biology and Biophysical Chemistry will provide you with a working knowledge across several disciplines: chemistry, biology, physics, statistics and mathematics, which will help you to become a key player in numerous multi-disciplinary teams. The MSc may be taken as a stand-alone degree to prepare you for work at the interface between disciplines. Alternatively, you may continue on to take a PhD. The MSc and PhD aim to bridge the gap between the life sciences, the physical sciences and mathematical sciences.

MOAC alumni have gone on to a range of jobs in academia, industry and related fields, including post-doctoral researcher positions, roles in science communication, jobs in industry, and teaching.

MSc IN CHEMISTRY WITH SCIENTIFIC WRITING (CSW)

Standard Duration: full-time: 1 year, part-time: variable

The MSc provides an excellent learning environment in which to advance personal scholarship through the study of chemistry with particular emphasis on scientific writing for different target audiences. It will enable you to advance your knowledge and develop a broad range of key skills, transferable to a wide range of career destinations. You will develop and demonstrate your capacity to communicate science concepts and results, and to interpret these. The MSc allows you to contribute to emerging areas in cutting-edge chemical research with an emphasis on writing effectively about these advances.

This MSc will prepare you for a career in research, scientific writing, education or science communication with particular emphasis on preparing for careers relating to chemistry.

MSc IN SCIENTIFIC RESEARCH AND COMMUNICATION (SRC) and MSc IN COMMUNICATING MULTIDISCIPLINARY SCIENCE (CMS)

Standard Duration: full-time: 1 year, part-time: variable

These programmes provide an excellent learning environment in which to advance your personal scholarship through the study of a diverse range of scientific disciplines. Particular emphasis is placed on gaining research skills and communicating the results of your science. This is achieved by providing you with an advanced knowledge in a number of areas of science together with the ability to write coherently about these areas. The Master's will allow you to develop a broad range of key skills which are transferable to a wide range of career destinations in research, scientific writing, education or science communication.



Nigel Dyer
PhD candidate
MOAC

“After spending 25 years working in the telecommunications industry, I was fortunate enough to be accepted onto the combined MSc and PhD programme offered by the MOAC Doctoral Training Centre and funded by the EPSRC. The MSc in Mathematical Biology and Biophysical Chemistry was an excellent opportunity to acquire the skills I needed to make the dramatic career shift into interdisciplinary biological research.

I have enjoyed working with research groups covering a wide variety of different fields, both within Warwick and at universities elsewhere in the UK, making use of the extensive network of collaborations between research groups at Warwick and at other universities. This has been of great benefit to my research, and has enabled me to become a co-author on four published papers while only part way through my PhD.

There are already signs that the course is helping me to achieve my long-term goals, in that a successful research grant application has provided funds so that I can contribute to the work of a research group at Warwick after I have completed my PhD in Interdisciplinary Bioinformatics.”

APPLICATION FACT FILE (TAUGHT MASTER'S DEGREES)

Entry Requirements

MSc in Mathematical Biology and Biophysical Chemistry (MBBC): You are expected to have a first or 2:i degree in mathematical sciences, physical sciences or biological sciences. Also, an A level or equivalent in mathematics and at least one of biology, chemistry, computing or physics and the motivation to develop research programmes across the scientific disciplines are essential. Progression to the PhD programme requires you to achieve an average of 60% on both the MSc taught modules and also the MSc research projects.

MSc in Chemistry with Scientific Writing (CSW): You are expected to have at least a 2:i degree in Chemistry or a chemistry-related subject.

MSc in Scientific Research and Communication (SRC) and MSc in Communicating Multidisciplinary Science (CMS): You are usually expected to have at least 2:i degree in a science subject.

All candidates are required to provide degree transcripts.

English Language Requirements

IELTS 6.5, TOEFL (iBT) 92 or equivalent

Application

All applications are made online at www.warwick.ac.uk/go/pgapply

Tuition Fees

(2011/12 fees. Please note fees for 2012/13 will be published online in spring 2012.)

Home/EU: Full-time £6,080, Part-time £3,040

Overseas: (band 2 lab-based)

Full-time £16,000, Part-time £8,000

Funding

MSc in Mathematical Biology and Biophysical Chemistry: Students may apply for funding from the EPSRC via the University postgraduate admissions process if they intend to complete the MOAC MSc+PhD programme. UK students may apply for full funding (tuition fees and stipend) and EU students may apply for part funding (tuition fees only). Some support is also available to other students from The Carl Blakey Scholarships (£1,000) funded by MOAC graduates. Details of other funding opportunities are available from: www.warwick.ac.uk/go/graduateschool

POSTGRADUATE AWARD (PGA)

PGA IN SCIENTIFIC RESEARCH AND COMMUNICATION (SRC)

Standard Duration: 8 weeks

There are four main learning outcomes of this PGA, namely understanding the scientific background to a research area; planning a project; presenting your work; and working with colleagues.

Successful completion of this 8-week summer programme leads to the award of a Postgraduate Award in Scientific Research and Communication from the University of Warwick.

The first half of the programme is delivered by the Centre for Applied Linguistics (CAL) and focuses on English for specific purposes as well as study skills such as searching for information, synthesising source texts and referencing.

The second half of the programme will be delivered by the MOAC Doctoral Training Centre and will focus on training you in transferable scientific research skills, including how to produce and communicate first class research. You will also have a unique opportunity to shadow current postdoctoral researchers or senior postgraduate researchers from departments across the Faculties of Science and Medicine.

For more information please go to www.warwick.ac.uk/go/moacsummerprogramme

APPLICATION FACT FILE POSTGRADUATE AWARD (PGA)

Entry Requirements

You are expected to have a minimum of three years of a bachelor's degree in a science-related subject from a recognised institution.

English Language Requirements

IELTS 5.5 (minimum 5.5 should be achieved on all elements), TOEFL 87 (iBT) or equivalent.

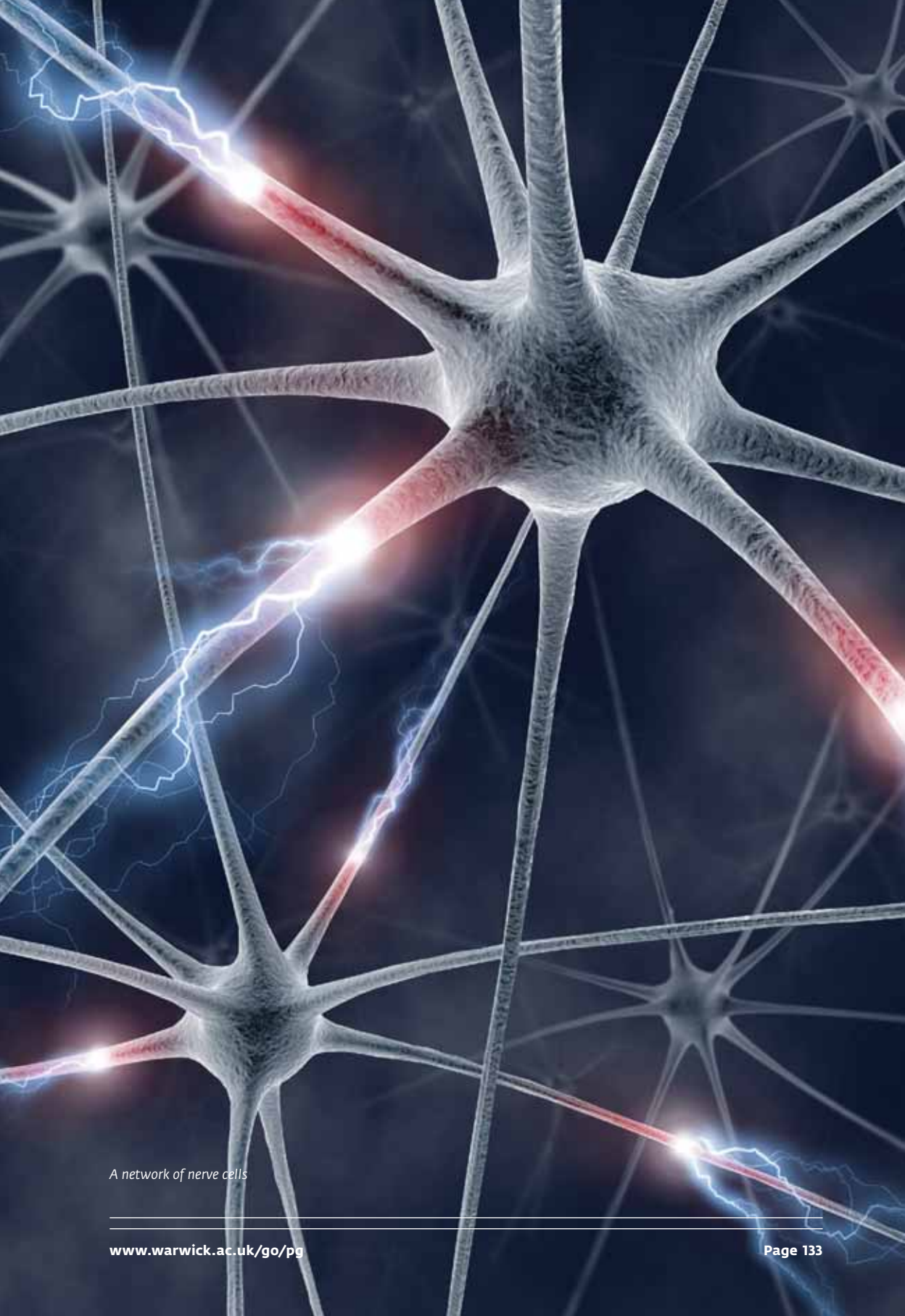
Application

All applications are made online at www.warwick.ac.uk/go/pgapply

Tuition Fees

(2011/12 fees. Please note fees for 2012/13 will be published online in spring 2012.)

£2,500 (excluding accommodation and living costs)



A network of nerve cells



Tung Fai Yu
PhD candidate
Department of Physics

“I started my undergraduate degree in Electronic Engineering at Warwick in 2005. My initial career plan was to go into industry after my undergraduate study, and apply for a research studentship after a few years of work.

During my Electronics degree, I was involved in a summer research project in the Medical Physics group, through which I developed a keen interest in research. I was offered a PhD studentship, fully funded by the EPSRC.

Choosing between entering industry and the PhD was difficult. Working in industry would be financially favourable, but I always wanted to pursue a PhD at some point in my career. I really enjoyed working with the people at Warwick and always loved the stunning campus, so I decided taking the PhD was the right choice.

Now I am in my second year of my Medical Physics PhD study and I am enjoying every moment of it. The University provides a great course structure with plenty of opportunities for extra learning and gaining transferable skills. It also provides great services for all staff and students, from accommodation to career planning. It is a university that I am very proud to be part of.”