

The University  
of Manchester

MANCHESTER  
1824

undergraduate  
brochure 2012



# materials science

engineering and physical sciences

[www.manchester.ac.uk/materials](http://www.manchester.ac.uk/materials)

# the facts

# contents



- The largest and most widely based university materials activity in the western world
- 80% of research activity in materials rated as "world-leading" or "internationally excellent"
- Access to state-of-the-art research facilities during practical laboratory sessions
- MATSOC, our active students' Materials Society, organises diverse social and sporting events
- 4 million books in one of the UK's best university libraries
- Best careers service in the UK
- Guaranteed accommodation for all first-years
- The UK's largest students' union



The University	2
Materials Science at Manchester	4
Course details	8
Find out more	18
Contact details	21

'Manchester is a place for individuals, brilliant kids who like to do their own thing... and if you are ready it will release you to do the same...'

The Virgin Guide to British Universities

With a distinguished history of academic achievement and an ambitious agenda for the future, The University of Manchester offers you a learning experience rooted in a rich educational heritage and boosted by cutting-edge research and innovation – all at the heart of one of the world's most vibrant cities.

# the university

Part of the prestigious Russell Group of universities, Manchester has much to offer you. As well as the outstanding facilities, resources and opportunities found within an institution of this calibre, the University is highly respected amongst academic and business communities alike – a respect that is conferred upon its graduates.

## Innovative

Our tradition of success in learning and research stretches back over 180 years, encompassing the birth of the modern computer, the splitting of the atom and the founding principles of present-day economics. All these and many more world-changing innovations have their roots here, at The University of Manchester.

Rated third in the UK in terms of 'research power' in the last Research Assessment Exercise, today we enjoy a global reputation for our pioneering research, which informs our problem-based approach to undergraduate learning.

## Internationally renowned

Since 2005, the University has risen in the influential Academic Ranking of World Universities Survey conducted by Shanghai Jiao-Tong University, from 53rd to 44th in the world, and ninth in Europe – confirming us as a progressive and world-class teaching and research institution.

Our campus is home to more than 37,000 students from around 150 countries, creating a diverse and inclusive multicultural community.

## Ambitious

Our mission is to become one of the top 25 universities in the world by 2015 and the preferred destination for the best teachers, researchers and students.

It's a goal that we're well on the way to achieving, backed by a multimillion-pound investment programme in facilities, staff and buildings. This includes a virtual learning environment that offers you flexible access to study resources 24/7, and the Alan Gilbert Learning Commons, a new £30 million resource centre for students opening in 2012.

## Distinguished

More than 5,600 academic and research staff – many leaders in their fields, with international reputations – provide stimulating learning environments and excellent standards of teaching.

As a Manchester graduate, you will join a prestigious hall of fame, including 25 Nobel Prize winners among our current and former staff and students. We have more Nobel Prize winners on our current staff than any other UK university.

## Sought after by employers

Employers actively target University of Manchester graduates, giving you excellent job prospects.

Our worldwide community of 240,000 graduates can be found in top positions in every imaginable field, including Sir Terry Leahy, former chief executive of Tesco; former Secretary General of Amnesty International Irene Khan; writer/performer Meera Syal and author Louis de Bernieres.

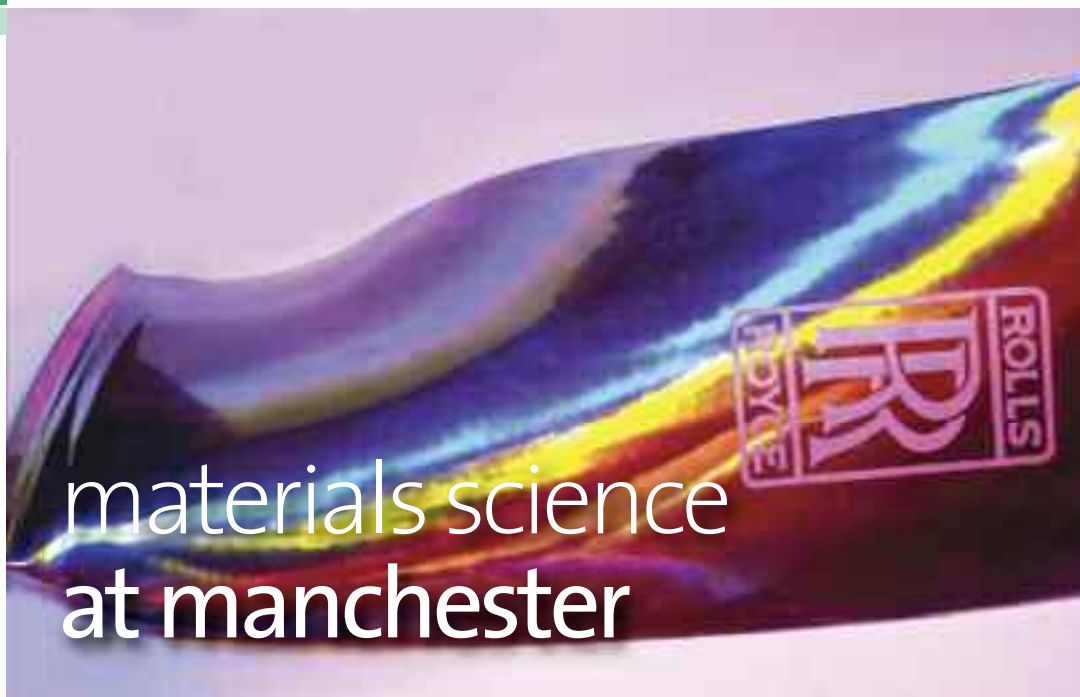
## Full of opportunity

You can take advantage of countless exciting personal development opportunities at Manchester, including career development programmes run by a university careers service that has consistently been voted the best in the UK by graduate recruiters.

Choose The University of Manchester and you will join one of Britain's most forward-thinking universities, which builds on its success year on year – and invites you to do the same.

## Find out more...

[www.manchester.ac.uk/aboutus](http://www.manchester.ac.uk/aboutus)



# materials science at manchester



Have you ever thought about the range of materials used in applications as diverse as aerospace, motor vehicles, pharmaceutical drugs, foodstuffs, bridges and biomedical implants? All of these have relied on knowledge of materials science and engineering principles.

Ever since the Stone Age, improvements to the quality of life have been linked to developments in materials technology, as new processing skills are developed and new materials invented. This same situation applies today: materials technology is the fundamental building block on which modern industry has developed and will continue to develop in, for example, areas such as computer hardware and aerospace.

## What you could learn

Materials science and biomaterials science and tissue engineering are exciting and rapidly expanding subjects that are directly focused to the needs of industry, teaching you to handle the world's physical and technological resources in ways that are creative and responsible.

**Materials science** is based on the physics and chemistry of solids. It extends from the extraction of ores from their mineral sources to their refining and fabrication into finished products. It examines their chemical, crystal, molecular and electronic structure, because this influences not only a material's magnetic and electrical characteristics, but also its mechanical properties, such as strength and toughness. It studies the degradation of materials in service by wear, corrosion and oxidation and is concerned with developing methods of combating these. It considers the proper selection of materials for particular applications and the development of new materials for today's sophisticated technology.

**Biomaterials science and tissue engineering** is the study of the interaction of materials with the human body. It covers a wide range of biological processes and aims to use a range of materials (polymers, ceramics, metals) as implants for repairing the body and substrates onto which cells can be grown to generate new materials for transplantation. The biomedical materials industry is one of the key growth areas in the world, and employers now seek graduates with knowledge of both materials and how they interact with the human body.

As a materials or biomaterials scientist, you will be skilled in the design and use of metals, ceramics, polymers, semiconductors and composites with new properties, or combinations of properties, for novel application.

## Manchester offers you...

- One of the largest and most diverse university materials activities in the world, bringing together excellence in teaching and research
- Strong links with relevant industrial and clinical units, ensuring that your degree will be highly valued by employers
- Self-contained, purpose-built Materials Science Centre exploiting a full range of well-equipped laboratories, lecture rooms and advanced research equipment
- Professional accreditation by IOM3 on all our courses, fulfilling the academic requirement for the award of chartered engineer (CEng) status



### Why study at Manchester?

Manchester has the largest and most widely based university materials activity in the western world, bringing together a large number of staff and expertise in a number of disciplines. The Materials Science Centre at Manchester has a long history of the development of real materials in an ever-expanding industry. Our graduates go on to work with some of the largest companies in the world, in a wide range of careers.

#### Taught by leading researchers

Our School is internationally reputed as one of the academic leaders in materials teaching and research, with excellent ratings in the recent Research Assessment Exercise. This means you will be taught by international leaders in their fields and get to use state-of-the-art equipment during your studies.

The quality of teaching you will receive at Manchester is evidenced by the prestigious awards that our students have won in recent years. For example, the Science, Engineering and Technology Student of the Year Award for Best Materials Student was won by University of Manchester undergraduate students in 2002, 2003 and 2006.

#### Support and social activities

We are also well known for our congenial atmosphere, with a high level of staff-to-student contact. You will be allocated a tutor to whom you can turn for advice on any matter. Tutor groups of no more than six students meet with their tutor on a weekly basis to discuss progress, questions arising from coursework, lectures, and any other matters. There is also a staff-student committee, which provides a channel for you to advise, comment and input on the organisation and conduct of your course and other aspects of departmental life.

The Materials Society (MATSOC), run by our students, is the hub of our flourishing social and sporting activities. The society organises many social and sporting activities, as well as the annual ball and excursions to places of interest.

#### Contemporary resources and facilities

Since the Materials discipline has been taught at Manchester for several decades, our library resources are extensive and continually being updated and expanded. For studying, we offer a large communal area that you can use to meet together at any time in the day to discuss your courses and to complete assignments.

The Materials Science Centre is equipped with state-of-the-art research facilities, including an electron microscopy suite, advanced mechanical testing equipment, metal processing laboratories, nanofabrication equipment and cell culture laboratories. You will use these facilities during practical laboratory sessions throughout the degree and you will find them particularly invaluable during your final-year research project.

Computers are available within our own self-housed computer suite (30 terminals) in the Materials Science Centre, which gives you access to databases, library catalogues, email and the internet. You also have access to many other computer clusters on campus, including several with 24-hour access.



# course details

Biomaterials Science and Tissue Engineering  
MEng 4yrs  
UCAS Code BJ82

Biomaterials Science and Tissue Engineering  
with Industrial Experience MEng 4yrs  
UCAS Code J2B8

Materials Science and Engineering MEng 4yrs  
UCAS Code J501

Materials Science and Engineering with  
Industrial Experience MEng 4yrs  
UCAS Code J503

Biomaterials Science and Tissue Engineering  
BSc 3yrs  
UCAS Code J2BV

Materials Science and Engineering BSc 3yrs  
UCAS Code J500

## Typical offer

A-level: AAA-AAB  
IB: 37-35

For full entry requirements, see:  
[www.manchester.ac.uk/ugcourses](http://www.manchester.ac.uk/ugcourses)

## BSc/ MEng in Materials Science and Engineering

The Materials Science and Engineering degree at Manchester provides an in-depth exploration of the structure, characterisation, properties and selection of the full range of materials used in industry today. Teaching is delivered by research-active lecturers who have international reputations in their fields.

A strong focus on industrial relevance and application is common across the units. All our courses are accredited by the Institute of Mining, Minerals and Materials, enabling our graduates to go on to achieve professional Chartered Engineering (CEng) status.

### What is materials science?

Materials science is a synthesis of physics, chemistry, and engineering. It is integral to major industrial sectors, from aerospace and power generation, to electronics and telecommunications; advances in materials science drive the technology developments in all these fields.

Materials scientists have unique combinations of skills, which make our graduates highly sought after by prospective employees. Because they are trained in a unique combination of subjects, materials scientists are versatile and ideally suited to manage the multidisciplinary research teams usually found in industrial research and development.

Our BSc and MEng Materials Science and Engineering courses follow the same syllabus for the first two years, which means that your final choice of degree may be deferred until the end of your second year.

At that point, subject to satisfactory performance and attendance, you can move from a three-year BSc to a four-year MEng.

### What you study

The first two years of the course are designed to provide you with a thorough grounding in the scientific principles governing the physical, chemical and mechanical properties of all solid materials. You will learn how the structure of a material, from the nano-scale to the micro-scale, determines its behaviour.

Through course units like Crystallography and Diffraction, you will be introduced to the techniques and methods that scientists use to study the structure of materials. In Processing and Production, you will learn how advanced materials are made. You will also discover how the structure of materials can be manipulated to give materials the remarkable properties that make jet engines, nuclear power plants and microelectronic devices possible.

#### Year 1

Your year begins with the Materials Science course unit. This gives an overview of the full range of engineering materials used today and the key principles of materials science and engineering that will be used throughout the course. This provides an opportunity to get to know both your tutors and fellow tutees right at the start of the course.

Other units – such as Principles of Functioning Materials, and Principles of Structural Materials – provide an understanding of materials fundamentals that are built on in later years. In addition, units in essential scientific skills – such as computing and analytical methods – are also undertaken to give you the supporting skills required by materials scientists and engineers.

#### Year 2

You build on your first-year foundations by focusing more on the processing, design, selection and application of different material types in real industrial situations. Course units include: Characterisation and Materials Physics, Control of Microstructure and Functional Materials.



#### Year 3

From the start of this year, you will be able to choose from a variety of higher-level lecture course units covering cutting-edge topics such as functional ceramics and polymers, advanced engineering alloys and nano biomaterials. You will also have the opportunity to become familiar with state-of-the-art analysis techniques, such as electron microscopy and synchrotron and neutron diffraction through lectures and practical laboratories.

In the BSc course you are offered core topics, along with the opportunity to specialise through a choice of options. Core units covering advanced materials topics – such as Composite Materials, Phase Transformations, and Joining of Materials – are complemented by optional units that cover emerging topics in materials science and engineering, such as Nanotechnology, or Cellular Materials.

An important part of your final year is the individual research project. Working as part of one of the established research groups in the School, you will have the opportunity to use your initiative and imagination to work on actual research problems in a materials science topic of your choice. During your project – which makes up one-quarter of your final year – you will develop essential practical and analytical skills and gain real experience of materials research that prospective employers are looking for. In the past, such projects have led to students presenting their work at international scientific conferences, as well as winning prestigious national awards.

If you are on the MEng 'with Industrial Experience' course, you will undertake your year placement in industry during your third year (for details, see the section on Industrial Training).

Students on the MEng (without industrial experience) undertake a course structure similar to final-year BSc students, with additional units on advanced topics such as Materials Research, an in-depth design unit and high-level transferable skills units (eg Organisational Behaviour).

# course details

## Year 4 (MEng students)

Students on the MEng course undertake a number of core research-level units on technical topics covering the full range of materials technologies – such as Light Alloys, Chemical Processing of Materials, and Polymer Physics – along with further management units, such as Human Resource Management. Alongside superior research skills, our MEng graduates also boast an enhanced understanding of the principles of business management and administration.

For students on the full-time MEng course, you undertake a major research project (twice the length of the BSc research project). This enables you to gain in-depth experience of working in a research team conducting a cutting-edge project. For students interested in higher-level study (eg leading towards a PhD), the research project provides an ideal experience of the research environment and methodologies. For students on the MEng 'with Industrial Experience' course, a shorter research project is undertaken (equivalent to the third-year BSc project), along with additional taught units.

## Teaching and learning

The course contains a balance of lectures and practical work, accompanied by regular tutorials that will help you with your learning through guided practice and instant feedback. Practical work and tutorials are often carried out in teams, which not only aids your learning, but also helps to you develop valuable intra-personal skills. You will also benefit from weekly small-group tutorials, during which you can discuss any course-related matters and others like career choice, or how to improve your attractiveness to employers.

Alongside the dedicated materials science teaching, we also provide formal teaching in communication and transferable skills, including management, organisational behaviour, computing and presentation techniques.

## Assessment

You are assessed by a combination of coursework and examination. The topic is, by nature, practical and this is reflected in the teaching methods and assessment. All units contain a significant coursework element (at least 20%) made up of laboratories, problems classes, computing exercises, team projects, case studies, or essays. This greatly enhances your understanding of the subject and your learning experience. A large part of the final year is devoted to a project. For those on the MEng 'with Industrial Experience' pathway, the placement year contributes 30% towards your final degree classification.

## Career opportunities

Materials Science and Engineering graduates are highly sought after by employers, and all of our graduates either find employment in industry, or go on to higher-level study at the end of their degree.

Careers include research and development, management positions and technical roles within both large multinationals and smaller businesses. Companies that our recent graduates have gone onto work for include Rolls Royce, Airbus, Jaguar, 3M, Alcoa, and Corus.

Other graduates choose to apply their technical and analytical skills in fields such as patent law, or accountancy.

A Materials Science and Engineering degree also provides an ideal springboard for higher-level study (eg towards a PhD), and approximately one-third of our graduates follow this route.

## BSc/ MEng in Biomaterials Science and Tissue Engineering

If you are interested in a career that combines biology and physical sciences, this course is well worth considering. Our dedicated teaching staff lead internationally renowned research teams, and you will work with state-of-the-art facilities and equipment.

### What is biomaterials science and tissue engineering?

Biomaterials science and tissue engineering is concerned with the use of materials in biomedical applications, principally for the treatment of a wide range of diseases and/or disabilities. It is a rapidly expanding, applied interdisciplinary subject that is in great demand both in industry and in university-led research environments. It covers many areas of biology, biochemistry, anatomy, cytology and materials science.

The BSc and MEng Biomaterials Science and Tissue Engineering courses follow the same syllabus for the first two years, which means that your final choice of degree may be deferred until the end of year two. At that point, subject to satisfactory performance and attendance, you can move from BSc to MEng.

### What you study

During your course, you will gain an understanding of the interactions that occur between differing classes of material and the many tissues of the human body. This knowledge is the key to the development of new materials for implants and prosthetics, scaffolds for tissue engineering, stem cell differentiation, drug delivery and many other biomedical applications.

You will gain an understanding of the interactions that occur between different classes of materials and the many tissues of the human body, in particular, the interface between the two. Biomaterials science contributes to the design of new materials for the manufacture of orthopaedic implants, contact lenses, artificial implantable lenses for the eye (intra-ocular lenses), heart pacemakers, artificial skin for the treatment of burns, and novel drug delivery systems.



Some students choose the more advanced Masters of Engineering degree (MEng), which is a four-year course, and there is the option of spending the third year in industry with a suitable company. Alternatively, you could choose the four-year MEng pathway, which allows you to take additional taught units and undertake further advanced research.

### Year 1

You will learn what controls the properties of materials. This provides you with a strong foundation for the study of biomaterials. At the same time, we will introduce you to the fundamentals of biomedicine, with lecture course units on anatomy and physiology, biochemistry and cell biology. Mathematics, computing and communication skills are also covered.

### Year 2

As you progress, you will learn the implications of applying synthetic materials for clinical applications in detail. This year, there are lecture courses on oral and craniofacial biomaterials science, biomechanics and tissue interactions and biocompatibility. The focus is on cell and tissue interactions. The biocompatibility of materials in the body is considered in detail and you will learn about tissue repair and regenerative medicine, including the use of stem cells. You will also continue to develop as a materials scientist and engineer, with course units on materials processing and materials degradation, alongside team-based engineering design projects.

Laboratory and factory visits to some of our industrial partners provide you with an interesting insight into application of materials in industry and the medical environment.

# course details

## Year 3

For those on the three-year course, this is the final year and leads to graduation with BSc (Hons). You will be able to choose from a variety of higher-level lecture courses covering new emerging areas, such as nano biomaterials, tissue engineering and advanced biopolymers and colloids.

An important part of your final year is made up of an individual research project. Working as part of an established research team in one of the UK's leading centres for biomaterials, you will have the opportunity to use your initiative and imagination to work on cutting-edge problems in biomedical materials science. During your project – which makes up one quarter of the final year – you will develop essential practical and analytical skills that are highly sought after by employers.

If you are on the MEng 'with Industrial Experience' course, you will undertake your year placement in industry during your third year (for details, see the section on Industrial Training).

Students on the MEng (without industrial experience) undertake a course structure similar to final-year BSc students, with additional taught units and further enhanced research.

## Year 4 (MEng students)

Students on the MEng course undertake further research-level units on technical topics, along with further management units. Alongside superior research skills, our MEng graduates also boast an enhanced understanding of the principles of business management and administration.

For students on the full-time MEng course, you undertake a major research project (twice the length of the BSc research project). This enables you to gain in-depth experience of working in a research team conducting a cutting-edge project. For students interested in higher-level study (eg leading towards a PhD), the research project provides an ideal experience of the research environment and methodologies. For students on the MEng 'with Industrial Experience' course, a shorter research project is undertaken (equivalent to the third-year BSc project), along with additional taught units.

## Teaching and learning

The course contains a balance of lectures and practical work, accompanied by regular tutorials that will help you with your learning through guided practice and instant feedback. Practical work and tutorials are often carried out in teams, which not only aids learning, but also helps you to develop valuable intra-personal skills. You will also benefit from weekly small-group tutorials, during which you can discuss any course-related matters and other matters like career choice, or how to improve your attractiveness to employers.

Alongside the dedicated biomedical materials science teaching, we also provide formal teaching in communication and transferable skills, including management, organisational behaviour, computing and presentation techniques.

## Assessment

You are assessed by a combination of coursework and examination. The topic is, by nature, practical and this is reflected in the teaching methods and assessment.

All units contain a significant coursework element (at least 20%), including laboratories, problems classes, computing exercises, team projects, case studies and essays. This greatly enhances your understanding of the subject and your learning experience. A large part of your final year is devoted to the research project. The industrial placement year accounts for 30% of your final degree weighting.



## Career opportunities

Biomaterial scientists are in demand, both in the research environment and in technical areas, as companies expand their opportunities in a developing healthcare sector. In addition, pharmaceutical and medical device industries seek graduates with key skills in this area.

Companies that our recent graduates have gone to work for include GlaxoSmithKline, Systagenix and Biocompatibles UK.

# course details

## All courses

### Industrial training

To prepare you in terms of experience and training in the industrial sector, we offer you the opportunity to spend your third year working for a company on projects related to materials, or to biomedical materials. The MEng Materials Science and Engineering and Biomaterials Science and Tissue Engineering degree courses are both offered with the option of industrial experience. This degree option also integrates a Financial Accounting course unit, so that you may learn skills required for the world of business, as well as that of science and engineering.

Industrial experience is very useful in helping you to understand the relevance of the course material and perhaps to decide upon future career objectives, as well as providing you with an opportunity to earn some money.

The teaching part of the 'with Industrial Experience' degree is an enhanced version of the three-year courses, offering more opportunity for specialisation in your final year. Your 'year out' is spent in industry, or in a research establishment within the UK or abroad. Through their teaching and global research activities, our academic staff have a wide range of contacts throughout the world, which they use to help place students.

In conjunction with the Institute of Materials, these courses also offer you the opportunity to gain credits towards Chartered Engineer status during your year in industry.

If you want to gain industrial experience during vacations to enhance your CV, we have contacts at more than 80 industrial companies who can provide appropriate work and training, including establishments in Sweden and Belgium. There are also opportunities to undertake placements in many other countries, or during the summer vacation period.

## Funding

### International Excellence undergraduate scholarships

The Faculty of Engineering and Physical Sciences offers up to ten scholarships of £2,000 per year for well-qualified international undergraduate students. The awards will take the form of a scholarship against the tuition fees. All international students who are holding an offer of a place within the Faculty will be automatically considered for a scholarship.

For details of eligibility, see:

[www.manchester.ac.uk/eps/intschol](http://www.manchester.ac.uk/eps/intschol)

### All other scholarships and bursaries

At the time of going to press, the University is unable to announce its full fees and scholarship package until we receive formal approval by the Office of Fair Access (Ofa). However, we are committed to providing everyone with the opportunity to study via a range of scholarships and bursaries, information about which will be on our website over the summer.

We therefore encourage you to keep checking online prior to submitting your UCAS application for sources of funding that may be available to you:

[www.manchester.ac.uk/studentfinance](http://www.manchester.ac.uk/studentfinance)

## Research excellence

The School of Materials is the largest academic materials focus in Europe, with over 60 academic staff and around 1,000 students. Comprising the Materials Science Centre, the Corrosion and Protection Centre and Textiles and Paper, the School encompasses an exceptional breadth of research and training in materials, from design and development, to performance and protection and management and marketing.

We were assessed in the 2008 RAE as having the highest level of research power (quality multiplied by volume) of any university materials activity in the country. The RAE also showed that 80% of our research activity is internationally rated.



The School's research is organised into ten research groups, although research projects often involve researchers in other groups, other schools, other universities and industry. Research in the school of materials covers a wide range of subjects, from bio materials, through metallic and nano structured materials all the way to textile science and technology.

The School's state-of-the art research facilities are used by members of the School and researchers in other groups, other schools, other universities and industry. Most of our research is carried out in collaboration with industry, with emphasis on the nuclear materials, energy and aerospace sectors.

Research quality:

[www.manchester.ac.uk/materials/research/quality](http://www.manchester.ac.uk/materials/research/quality)

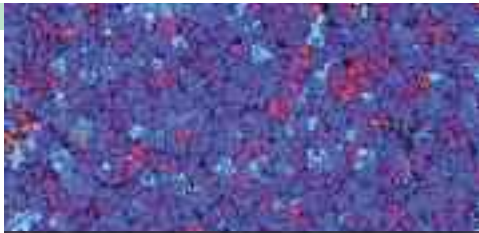
Research groups:

[www.manchester.ac.uk/materials/research/groups](http://www.manchester.ac.uk/materials/research/groups)

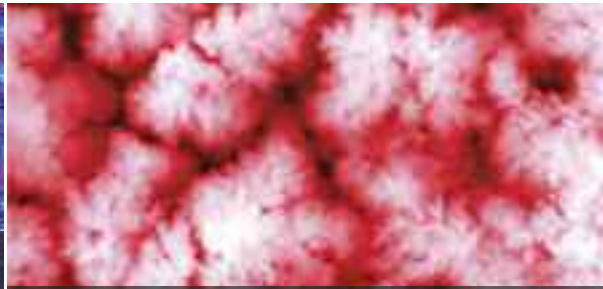
Research facilities:

[www.manchester.ac.uk/materials/research/facilities](http://www.manchester.ac.uk/materials/research/facilities)

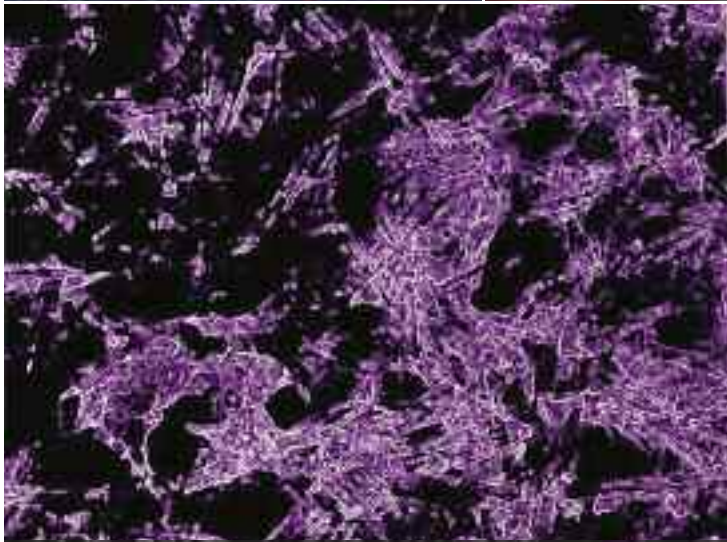
# what our students say



Optical micrograph of the as-cast Al-4%Cu-0.2%Zr alloy, showing a cellular-dendritic microstructure including relatively coarse Al<sub>2</sub>Cu particles



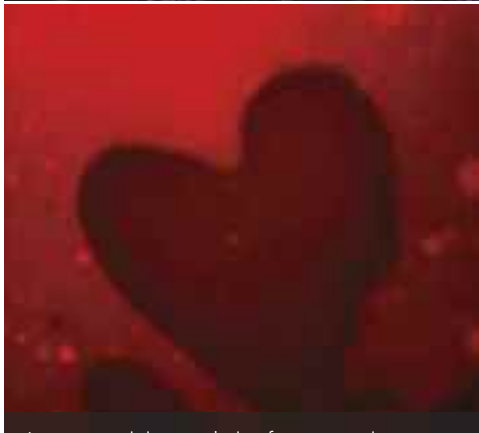
Morphology of a localized corrosion on AA2024 aluminium alloy surface after accelerating corrosion testing



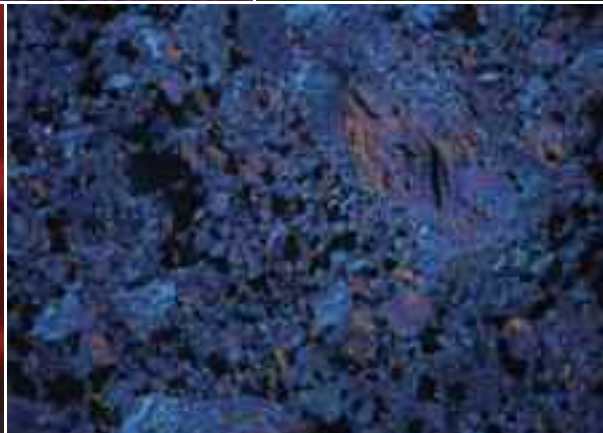
TEM image of cellulose nanowhiskers extracted from cotton linter



Nodes of Ranvier in myelinated nerve fibers



Immunostaining analysis of nerve sections, using a fluorescence microscope



Polarised optical image of irradiated graphite



**Giovanni Offeddu**  
MEng Materials Science and Engineering

"Since I always had a keen interest in materials, I found this course very appealing, as it offers me the chance to experience both the scientific/theoretical and the engineering/practical aspects of the field. It allowed me to explore areas of interest and to gain new skills – and I also had the chance to meet lots of friendly people, both classmates and staff."



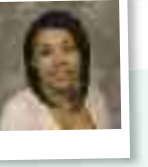
**Kate Thornton**  
MEng Biomedical Materials Science with Industrial Experience

"There are many different aspects to the course, so you can find areas you enjoy and it really opens your eyes to the many applications of biomaterials. Because the courses are small, you get to make friends with people quickly and feel more comfortable in the lectures to ask questions."



**Syed Ahmed**  
BSc Materials Science and Engineering

"The course has been challenging; however, the academic and administrative staff are a great team, readily approachable and have been nothing but supportive. It has also been fantastic being in a community where the main objective is the pursuit of knowledge. The School of Materials boasts a global reputation as one of the leaders in materials teaching and research."



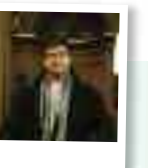
**Zara Sandiford**  
BSc Biomedical Materials Science

"Biomedical Materials Science was the perfect course choice; I was able to expand on my existing knowledge gained at A-level and I enjoyed being able to apply this to innovative ideas and concepts in the medical field. This is a subject where the teaching and learning is at the forefront of technology, combining aspects of engineering and biology within a range of units."



**Omavuyere Emisovwe**  
MEng Materials Science and Engineering with Industrial Experience

"The best thing about the course for me has definitely been the year in industry. I love to travel and was able to incorporate this passion into my degree course by living and working in Belgium for a full year."



**Aamod Mishra**  
MEng Biomedical Materials Science with Industrial Experience

"I did my placement at RegenTec Ltd. I found my year in industry to be a pivotal moment in my understanding of biomaterials. Applying classroom teachings to 'real world' applications is the best way to understand them. The chance to work on 'live' research has also been invaluable. I would unequivocally recommend a year in industry to those considering it."

Our University website holds a wealth of information on the many varied aspects of student life. Below are some of the most popular topics – use the web links for full details...

# find out more

## Accommodation

As long as you apply by our deadline, all first-year students holding an unconditional offer are guaranteed an offer of a place in university accommodation. For international students, this promise is extended to the full duration of your studies. We are proud to offer more spaces in university-managed accommodation than practically any other UK university.

Discover our diverse range of university accommodation, bustling student areas, halls of residence visits, private accommodation options and more:

[www.manchester.ac.uk/accommodation](http://www.manchester.ac.uk/accommodation)  
[www.manchesterstudenthomes.com](http://www.manchesterstudenthomes.com)

## Admissions and applications

We welcome applications from people of all backgrounds, and are fully committed to equality of opportunity. All applications for full-time undergraduate courses in higher education are coordinated by the Universities and Colleges Admissions Service (UCAS). You must apply online at [www.ucas.com](http://www.ucas.com). If you are unable to access the internet, contact the UCAS Customer Service Unit on +44 (0)871 468 0468.

Find out more about the application process, policies, procedures and support:

[www.manchester.ac.uk/ug/howtoapply](http://www.manchester.ac.uk/ug/howtoapply)

## Careers Service

Our award-winning Careers Service will work in partnership with you throughout your degree to improve your employability and prepare you for the competitive jobs market. It will help you find part-time jobs, volunteering and work experience opportunities.

Since Manchester is one of the most targeted universities by graduate recruiters, you will meet many employers on campus. You might also take part in the unique Manchester Leadership Programme, to help you develop skills and boost your CV.

Find out more about careers events, mentoring programmes, accredited course units and a whole range of other services:

[www.manchester.ac.uk/careers](http://www.manchester.ac.uk/careers)  
[www.manchester.ac.uk/mlp](http://www.manchester.ac.uk/mlp)

## Childcare

There are two centres associated with the University for children between six months and five years of age: Dryden Street Nursery and Echoes Nursery. Find out more about funding options, private nurseries, playgroups and schools:

[www.manchester.ac.uk/studentnet/crucial-guide/personal-life/student-parents/student-parents](http://www.manchester.ac.uk/studentnet/crucial-guide/personal-life/student-parents/student-parents)

## City of Manchester

One of the great benefits of being a student at Manchester is that all the joys of Britain's number one student city are right on your doorstep. You'll be spoilt for choice for food, drink, culture, music, history, nightlife, festivals, shopping, sport and much more – with the quiet countryside of two beautiful national parks also within easy reach when you want to get away from it all. Find out what one of our current students has to say about the capital of the North West:

[www.manchester.ac.uk/ug/studentlife/sociallife/manchester](http://www.manchester.ac.uk/ug/studentlife/sociallife/manchester)

## Disability support/applicants with additional support needs

We welcome applications from people with additional support needs and all such applications are considered on exactly the same academic grounds as other applications. If you have additional needs arising from a medical condition, a physical or sensory disability, or a specific learning disability, you are strongly encouraged to contact the University's DSO to discuss your needs, any arrangements that may be necessary and the extent to which appropriate support is available:

[www.manchester.ac.uk/dso](http://www.manchester.ac.uk/dso)

Information is also available from the Students' Union Welfare Officer:

[www.umsu.manchester.ac.uk](http://www.umsu.manchester.ac.uk)

## Funding and finance

The University of Manchester will charge a headline fee of £9,000 per year to UK and EU undergraduates from September 2012, following changes to university tuition fees approved by Parliament in 2010. This fee will enable the University to maintain the quality of a Manchester degree, invest in the wider student experience and offer a range of bursaries and discounts for students from less well-off backgrounds.

However, more than one-third of all students who successfully apply to study here will receive bursaries of up to £3,000 per year – and many will be offered even more generous support. Students who are eligible will be able to choose how they receive this support – either as a cash bursary, or as a discount on their fees or accommodation bill.

For the most up-to-date details, including information on our proposed bursaries, scholarships and fee discounts, see our website:

[www.manchester.ac.uk/studentfinance](http://www.manchester.ac.uk/studentfinance)

## International students

The University is a multicultural environment and home to more than 9,500 international students from around 160 countries. A range of services is available for international students, to help you both before and during your studies. This includes an airport collection service, orientation courses and specialist student advisers.

Find out more, including information specific to students from your country, such as entry requirements and useful contacts:

[www.manchester.ac.uk/international](http://www.manchester.ac.uk/international)

## IT services

As a student at Manchester, you will have access to a huge range of up-to-date IT services, including: online and mobile learning, PC clusters with a wide range of software, extensive WiFi networks, halls of residence internet service, email and technical help and support.

[www.manchester.ac.uk/its](http://www.manchester.ac.uk/its)

## Library

The John Rylands University Library (JRUL) is one of the best-resourced academic libraries in the UK and is widely recognised as one of the world's great research libraries, with diverse special collections and electronic resources unrivalled within UK universities.



In 2009, the Main Library underwent a large-scale refurbishment to the ground floor, improving access both to the building and to the collections and also introducing new social and learning spaces to cater for a range of learning styles.

Find out more about the information services and resources available to you:

[www.manchester.ac.uk/library](http://www.manchester.ac.uk/library)

### Maps

Get to grips with your future home and take a closer look at our campus, the city and University accommodation by viewing our maps:

[www.manchester.ac.uk/aboutus/travel/maps](http://www.manchester.ac.uk/aboutus/travel/maps)

### Prospectus

Our 2012 undergraduate prospectus offers a comprehensive overview of The University of Manchester. You can view a copy online:

[www.manchester.ac.uk/ug/courses/prospectus](http://www.manchester.ac.uk/ug/courses/prospectus)

### Religious support

There are two chaplaincy centres for the major Christian churches. St Peter's House provides chaplains for the Anglican, Baptist, Methodist and United Reformed Churches, while the Roman Catholic Chaplaincy is at Avila House. Hillel House provides facilities for Jewish worship. There are prayer facilities on campus for Muslim students and student societies for many religions.

### Sport

We have an exciting sport and fitness scene with something for everyone at every level, from complete

beginner to high performance athlete. Discover more than 40 sports clubs; a vibrant 'Campus Sport' programme, allowing you to play in friendly, recreational leagues; a huge variety of health and fitness classes; plus sport volunteering and scholarship opportunities.

Find out more about our superb sport facilities and opportunities to get active in Manchester:

[www.manchester.ac.uk/sport](http://www.manchester.ac.uk/sport)

### Student support

Whatever the issue – financial, academic, personal, or administrative – we have experienced and sympathetic people, support groups and advice centres to help you. Find out about counselling, academic advice and various other student support services:

[www.manchester.ac.uk/studentnet/crucial-guide](http://www.manchester.ac.uk/studentnet/crucial-guide)

### Students' Union

The University of Manchester Students' Union (UMSU) is the largest Students' Union in Europe, offering everything from live bands to welfare advice, cheap stationery to student representation. UMSU has some of the largest and most active student societies in the country, as well as support and welfare services, student media, shops and bars and the famous Manchester Academy. Have a look at the SU website:

[www.umsu.manchester.ac.uk](http://www.umsu.manchester.ac.uk)

### Video library

Watch and listen to our students and staff introducing various aspects of student life and The University of Manchester with our selection of online videos:

[www.manchester.ac.uk/aboutus/video](http://www.manchester.ac.uk/aboutus/video)



For further information about the courses, or about qualifications, please contact:

#### address

Materials Science Centre  
School of Materials  
The University of Manchester  
Manchester  
M13 9PL  
United Kingdom

**tel** +44 (0)161 306 5942

**fax** +44 (0)161 306 3586

**email** [ug-materials@manchester.ac.uk](mailto:ug-materials@manchester.ac.uk)

For the most up-to-date course information, please visit our website:

[www.manchester.ac.uk/materials](http://www.manchester.ac.uk/materials)

#### Disclaimer

This brochure is prepared well in advance of the academic year to which it relates. Consequently, details of courses may vary with staff changes. The University therefore reserves the right to make such alterations to courses as are found to be necessary. If the University makes an offer of a place, it is essential that you are aware of the current terms on which the offer is based. If you are in any doubt, please feel free to ask for confirmation of the precise position for the year in question, before you accept the offer.

Materials Science Centre  
School of Materials  
The University of Manchester  
Manchester  
M13 9PL  
United Kingdom

tel +44 (0)161 306 5942  
fax +44 (0)161 306 3586  
email [ug-materials@manchester.ac.uk](mailto:ug-materials@manchester.ac.uk)  
[www.manchester.ac.uk/materials](http://www.manchester.ac.uk/materials)

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