UNIVERSITY OF BIRMINGHAM

College of Engineering and Physical Sciences

What do Birmingham postgraduates do?

School of Computer Science

First destinations of postgraduates

- Analysis of first employment destinations for the College of Engineering and Physical Sciences
- Employability data for Computer Science postgraduates, 2009–13
- Illustration of the range of occupations undertaken by our postgraduates

www.cs.bham.ac.uk

Foreword

I AM DELIGHTED TO INTRODUCE 'WHAT DO BIRMINGHAM POSTGRADUATES DO?' WHICH LOOKS IN DETAIL AT THE FIRST DESTINATIONS OF OUR COMPUTER SCIENCE POSTGRADUATES AND AT EMPLOYMENT PROSPECTS FOR ALL POSTGRADUATES WITHIN THE WIDER COLLEGE OF ENGINEERING AND PHYSICAL SCIENCES.

In addition to providing accessible information on employment destinations, this publication is also designed to give an insight into the kinds of employment sectors and jobs for which a postgraduate degree at Birmingham can prepare you.

Pursuing a postgraduate degree offers you the opportunity to explore your chosen area of interest in depth, as well as developing your knowledge and understanding in a subject area about which you are truly passionate. Beyond the transferable skills that you will take with you into the workplace, your postgraduate qualification will give you the chance to engage in critical enquiry, to grow as a scholar and even to become an expert in your field.

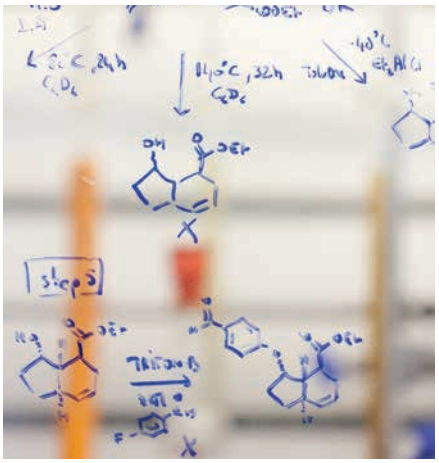
Here, we show you how your postgraduate qualification can help you make that knowledge and expertise work for you after graduation. For the school that is most relevant to you in the College (Chemical Engineering; Chemistry; Civil Engineering; Computer Science; Electrical, Electronic and Systems Engineering; Mathematics; Mechanical Engineering; Metallurgy and Materials; or Physics and Astronomy) you will see a snapshot of the achievements of our postgraduates six months after graduation. All data is taken from the results of a 'Destinations of Leavers' survey issued to our postgraduates after this time.

You will be able to see, by school, how many of the postgraduates who replied to this survey successfully entered employment and/or further study within just six months, along with a range of the diverse and exciting career opportunities that will be open to you after studying for a postgraduate degree in the College of Engineering and Physical Sciences.

Accompanying the data are case studies in which recent postgraduate alumni share their experiences of postgraduate study at Birmingham. Here, our alumni talk about the value inherent in postgraduate study, the knowledge and skills they developed during their degrees and where their qualifications have taken them since graduation.

I hope you find the information presented here useful and our alumni stories inspiring. We very much look forward to welcoming you to our campus soon.

Professor Mark Sterling
Director of Postgraduate Programmes
College of Engineering and Physical Sciences



College of Engineering and Physical Sciences

Employability

The College of Engineering and Physical Sciences is at the leading edge of modern science and engineering, transforming our understanding of the world to make life easier, healthier and more sustainable.

The College covers a broad range of world-leading research, from developing micro-engines to particle physics research at CERN. With a century of excellence in research and teaching, the College offers exciting initiatives in new fields of study and spearheads activities in strategically important STEM subjects – Science, Technology, Engineering and Mathematics.

The College of Engineering and Physical Sciences plays a significant role in creating new knowledge, training new generations of engineers and scientists, and interfacing with industry.

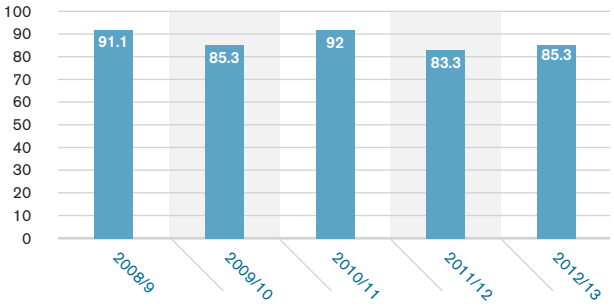
The College consists of the following nine schools:

- Chemical Engineering
- Chemistry
- Civil Engineering
- Computer Science
- Electronic, Electrical and Systems Engineering
- Mathematics
- Mechanical Engineering
- Metallurgy and Materials
- Physics and Astronomy

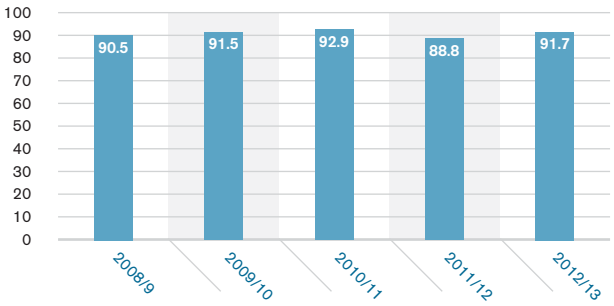
Over the last five years, 90.9% of taught postgraduates and 92.5% of research postgraduates from the College of Engineering and Physical Sciences have been in work and/or further study just six months after graduating.

The two charts to the right show the breakdown of these statistics for each year, for taught postgraduate and research postgraduate respondents.

Percentage of Engineering and Physical Sciences taught postgraduate respondents in work and/or further study six months after graduation



Percentage of Engineering and Physical Sciences research postgraduate respondents in work and/or further study six months after graduation



SOURCE: *Destinations of Leavers from Higher Education Institutions*, Higher Education Statistics Agency, 2009–13

'My time as a doctoral researcher in Computer Science at the University of Birmingham was a life-changing experience. When I first arrived I was highly motivated to carry out research in artificial intelligence and felt that I had the best chance to do this at Birmingham. Immediately, I found myself in an environment that fostered my creativity and independent thinking whilst also providing support and guidance.

'During my time at Birmingham I grew intellectually in ways I could have not foreseen. I learnt and gained inspiration from the senior academics around me. I struggled at times, but always knew I had the best tools at my disposal. The way I now deal with challenges, the way I see and interpret the ever-changing world of science and life is incommensurably sharper and more effective thanks to my years at Birmingham. Having worked and studied at universities in six different countries, I rank Birmingham at the top without hesitation.'

Andrea Soltoggio, PhD Computer Science, graduated 2008
Andrea is now a Researcher and EU Project Technical Co-ordinator at the Research Institute for Cognition and Robotics (CoR-Lab), Bielefeld University (Germany).

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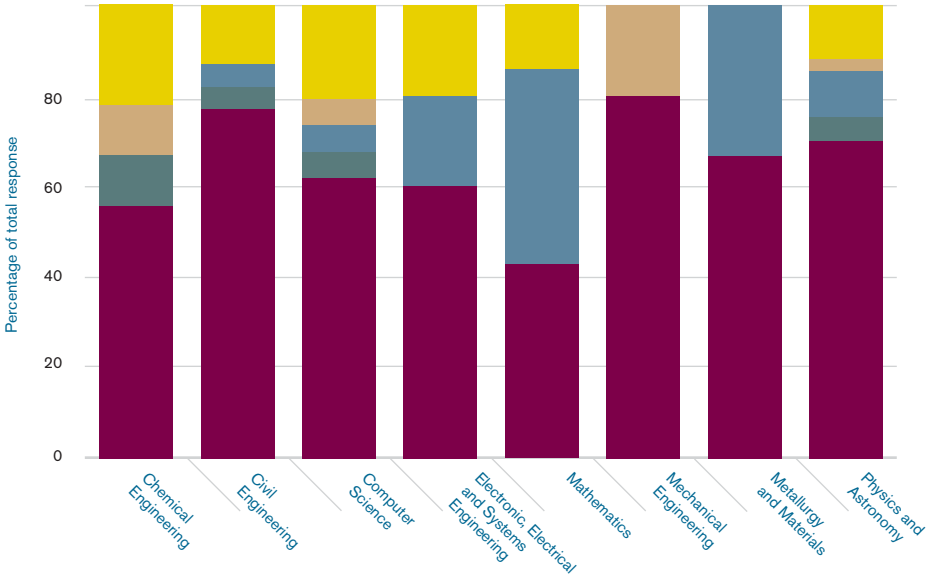
College of Engineering and Physical Sciences

Postgraduate destinations

Taught postgraduate destinations

The chart to the right summarises the destinations of Engineering and Physical Sciences taught postgraduates from the 2012/13 academic year, six months after graduation:

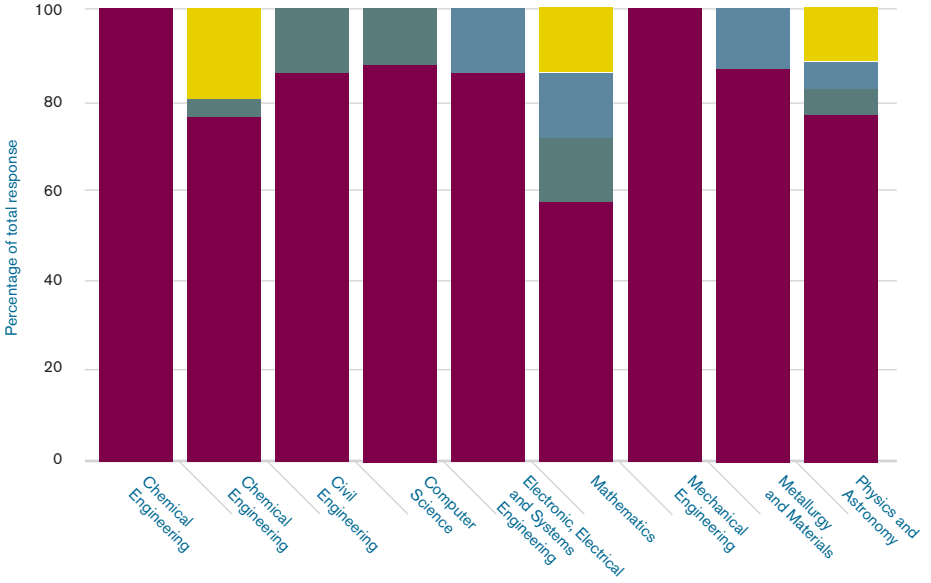
- Working
- Working and studying
- Studying
- Other
- Unemployed



Research postgraduate destinations

The chart to the right summarises the destinations of Engineering and Physical Sciences research postgraduates from the 2012/13 academic year, six months after graduation:

- Working
- Working and studying
- Studying
- Unemployed



'We value postgraduate research because it equips students with the problem solving skills and domain expertise to understand our customers and to create innovative solutions to their most complex technical challenges. Over half of our employees have PhDs.'

Neil Barrett, Recruitment and HR Executive, Tessella (international analytics, software services and consulting).

'The University of Birmingham has an excellent reputation among employers. The faculty and the infrastructure are world-class, fostering research and analytical skills in their graduates. After graduating with an MSc in Natural Computation I was offered a research position in another university. It was my responsibility to integrate and apply the concepts of evolutionary computation to their design process. I was involved in the complete life-cycle of the project starting from gathering functional requirements, right up to application development and testing. After successful completion of the project I have now moved to a world-renowned research organisation working on a cutting-edge genomics project (computationally aiding the process of annotating the functional role of genes). The ability to relate the field of natural computation and its application to various domains including genomics has helped me to succeed in this field.'

Bhuvan Sharma, MSc Natural Computation*
Bhuvan is now a Software Developer for the Wellcome Trust Sanger Institute.

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**Note: The MSc in Natural Computation has now been replaced by an MRes, combining taught modules with two research projects.*

School of Computer Science

EMPLOYABILITY

Computer Science provides specialist teaching and conducts world-leading research in many areas of computing. We deliver outstanding education that offers a range of exciting career opportunities for students from around the world.

Highlights

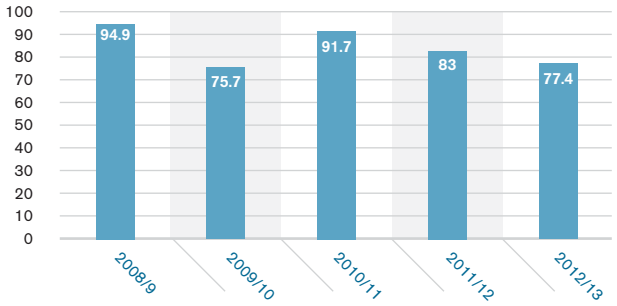
Over the past five years:

- 84.5 % of taught postgraduate respondents were in work or further study six months after graduation
- 100% of research postgraduate respondents had successfully found work or further study six months after graduating

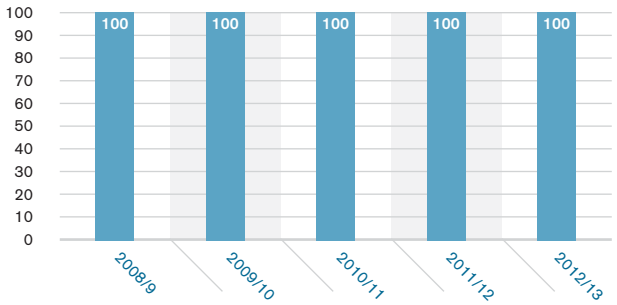
It is becoming increasingly common for Computer Science graduates to undertake specialist postgraduate study after an undergraduate degree. When entering work, many Birmingham Computer Science postgraduates choose careers with a wide variety of companies, including IT, web development, electronics, aeronautics, military technology, telecommunications, film production and broadcasting companies; consultancies; banks; and local government and government-supported scientific establishments. Some of our research postgraduates stay in academia for careers in research and teaching.

The two charts to the right show results from 'Destinations of Leavers' surveys for our Computer Science postgraduates over the past five years.

Percentage of taught postgraduate respondents in work and/or further study six months after graduation



Percentage of research postgraduate respondents in work and/or further study six months after graduation



SOURCE: *Destinations of Leavers from Higher Education Institutions*, Higher Education Statistics Agency, 2009–13

'I completed a BSc in Medical Science in China in 1998. In my final year I decided that I would like to study overseas for a postgraduate qualification. The decision to study in England was very simple, because of the UK's reputation for higher education.

'One of my friends had already graduated from Birmingham and offered me lots of advice. I was impressed from the description of the beautiful campus and lively international community.

'The aim of the Computer Science MSc course at Birmingham is to enable graduates with degrees in disciplines other than computing to gain understanding of computer science and practical software development skills. I chose this area of study as I believed that it would lead to good career options in what is a fast growing industry currently experiencing significant growth in China. The course offered regular opportunities to put what I'd learned in class into practice with assignments which were applied to the real world.

'After graduating I began my career as an Analyst Programmer for Dell. The work was very challenging, developing Dell's global products including new desktop and laptop product releases. Last year I joined HSBC China as an IT Officer and continue in this role to date.

'My department is responsible for the delivery of IT solutions to meet business needs. The most exciting area of my work is having the opportunity to forecast the future growth of a department and being able to design a flexible infrastructure to meet those demands.

'I particularly enjoyed my study at the University of Birmingham as there is a vibrant international community and you can always find friends from your home country as well as others.

The School of Computer Science also provided me with opportunities to attend seminars and events related to business and various other subjects, which enhanced my general knowledge and greatly added to my employability after graduation. I have fond memories of summer weekends spent at the Guild of Students and I value the connections I now have with the alumni community.

'Studying my Masters at Birmingham has opened more opportunities for my future and has given me life-long benefits. The experience has been priceless!'

Kening Zhang, MSc Computer Science, graduated 2001
Kening now works as an IT Officer for HSBC.

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School of Computer Science

RANGE OF OCCUPATIONS

Below is an overview of the kinds of employment sectors, organisations and professions that recent Computer Science postgraduates have entered, based on responses to 'Destinations of Leavers' surveys conducted six months after graduation.

Range of employment sectors

- Computer consultancy
- Computer programming
- Data processing, hosting and related activities; web portals
- Engineering and related technical consultancy
- General public administration
- Information technology and computer service activities
- Manufacture of computers and peripheral equipment
- Motion picture projection activities
- Other information service activities
- Security systems service activities
- Support activities for petroleum and natural gas extraction
- Telecommunications

Range of employers

- Apple
- Arts Alliance Media
- Fidessa (software for financial services)
- Fujitsu
- M*Modal (IT solutions for healthcare)
- Mott Macdonald
- RTC Electronics
- Rullion Solutions Ltd (consultancy and technology)
- Schlumberger Oilfield Services
- Siemens
- SmartStream (software provider)
- Think Interactive (web development and design)
- University of Birmingham
- University of Edinburgh

Range of occupations

- Assistant Professor
- Computer Security Research Associate
- Database Developer
- Graduate Implementer
- IT Systems Engineer
- Lecturer
- Programmer
- Postdoctoral Researcher
- Scheduling and Forecasting Officer
- Security Officer
- Software Developer
- Software Engineer
- Technical Support Engineer
- Web Developer

'I studied a BSc in Computer Science and an MSc in Computer Security at Birmingham. During my undergraduate degree, I developed an interest in computer security which led me down the route of studying for an MSc. I am currently working for CCL Group based in Stratford-Upon-Avon, where I am the Digital Forensic and E-Disclosure Manager, focusing on the provision of digital forensics and electronic disclosure services to civil law firms and corporates.

On graduating from Birmingham I began work at PwC where I was involved in providing digital forensic support to a number of multinational fraud and bribery investigations. I stayed at PwC for four years, then I moved into an 18-month role helping banks and insurers prevent and detect consumer application fraud. I have now been at CCL for two years. I enjoy working at a strategic level and being involved in projects at an early stage, planning and overseeing the deployment of a forensic response.

My advice is to enjoy your studies and be mindful that computer science is an applied subject; as such, the fundamentals that you learn during your time at university are vital. It is very rare in my experience that people are able to foresee exactly what area of computer science they will end up working in, so everything you learn during your studies has the potential to be relevant to your future career.

My time at Birmingham changed my life and undoubtedly helped me to grow as a person. I made some great friends, many of whom I am still in touch with today. I still live in Birmingham and have built my life here.

Robert Savage, MSc Computer Security
Robert now works as Digital Forensic and E-Disclosure Manager for CCL Group, the UK's largest digital forensics laboratory. He studied both his undergraduate and Masters degrees in the School of Computer Science at Birmingham

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