Dear Reader - Michaelmas 2014

This fourth issue of the record for Wolfson Engineers includes news of the 2014 intake and of the 2015 deferred offers to undergraduates and Part 1 supervisors. The Wolfson College website already includes download links to Wolfson Engineer (Vol 1, 2 & 3) to provide some insight into those people already involved here to readers intending to apply for mature undergraduate engineering places.

New students

These biographies, shown in order of receipt at Wolfson, use the words of the students themselves.

Andreas Theodosiou writes: Hello, I am Andreas and I will be starting Engineering Part 1A in autumn 2014. I am from Cyprus and for the last two years I have been serving in the Armed Forces of my country, so coming to university will be a big change for me. My passion for physics and problem solving lead me to pursue a degree in Engineering and as I am yet to decide in which discipline I would like to specialise, the Cambridge course is ideal. I spent my free time building small Arduino based devices and writing my own computers programs. I am very excited to be attending Cambridge as it will provide me with the opportunity to pursue my interest in engineering further, widen my knowledge and meet new people.

Hi! My name is Ioannis Menikou. I am 21 years old, from Larnaca, Cyprus. I will be starting my undergraduate engineering course at Wolfson College in October. At the moment I am completing 2-years of obligatory service in the Cyprus National Guard. I served my duty from the position of the officer following a four-month training session in Greece. Concerning my studies at university I am mostly interested in mechanical engineering as also intrigued by aspects of aeronautical engineering. During my course I hope to explore all areas of engineering before deciding which field best suits me and thus specialise in it. During my free time I enjoy a variety of genres of music and I play the piano. I am an avid sportsman; more specifically I play tennis and love watching football and basketball.
Hello everyone. My name is Shauna Greenidge and I am twenty years old. Although I grew up on the Caribbean island of Saint Lucia, England should not be a complete culture shock as I have quite a mixed background (my paternal granny is Australian/British, my maternal one was Scottish/English and both my grandpas were West Indian ‘Mulattoes’). Furthermore, my elder sister and I spent our first few years in Scotland since my parents were completing their medical specializations in Glasgow when I was born. I expect I will be homesick at first as I have a large and tight-knit family. We spend most weekends at the nearby beach, swimming in the pool and having family lunches by my tranny or in the south of the island where there are so many natural sites to explore on foot. This year I have been working as a teaching assistant at my alma mater as well as a fitness instructor at my neighbourhood gym. In my free time I practice my kitchen skills, read, watch Suits and count down the days until October! Of course I’ve recently started devoting afternoons to our prep work and it’s been a welcome challenge after a year of being out of it. I choose to embark on engineering studies because I’m a creative, hands-on person, and I find Maths and Physics exhilarating subjects. My dream is to make a positive impact on the world, and I see engineers as perfectly placed to do that. I can’t wait to start University, Cambridge and Wolfson; to learn from expert lecturers, take up a new sport or two, make friends with students from around the globe, and experience all the things I don’t even know are in store.

That’s it for 2014: “freshers” do face tough entry and Part 1 exam standards.

Wolfson, as a college for mature (21+) undergraduate students, may offer several deferred places to suitable applicants. These students may not have completed their A-levels or equivalents when they are interviewed and examined for conditional places at Wolfson. The “gap” year can be spent doing a work placement to help satisfy the requirements of the Cambridge Engineering degree or to gain further academic expertise ready for the start of the 1A course. Others often choose to take a break. Whatever the route taken, to be admitted to Cambridge requires meeting the entry level standards, irrespective of whether a college has offered a conditional place. The overall level of applications to Cambridge for Engineering has an entry success level of only 1 in 7 in recent years, although here at Wolfson the success level is closer to 2 in 5 because unfortunately we get far fewer applicants.

No more students offered places at Wolfson were able to meet the very high entry requirements for Engineering at Cambridge University this year. This was a great disappointment to them and to the College, but it emphasises the very competitive environment for high quality places on their courses. Students will experience very high workloads across a range of topics so have to be near top of class. Co-incidentally last year’s Freshers were accepted at a slightly reduced entry level (A*A not A*A*A) but several found the first year very hard and for the first time here Freshers failed Tripos 1A exams. Under the Cambridge system, only those students passing their Tripos can proceed to the next year. Nobody here wants this outcome as our supervisors and Directors of Studies work to help students.
MET Report
Name: Jonathan Godden DOB: 19/10/1987 (26yrs)
Course: Manufacturing Engineering Tripos (Third Year completed)

I first heard about the MET course during my first year as an undergraduate engineer here at Cambridge University. Knowing the exact route I wanted to take in my studies was quite difficult for me and it was this that drew me to the Cambridge course. I researched MET on the university website and found the course structure and content to be very attractive. Throughout the duration of my first year I fell in and out of love with various topics however I always enjoyed the group work and practical projects. I found the second year to be quite tough. While the mathematical content was enjoyable, I excelled more in practical tasks such as presentations and projects like the IDP; which I thoroughly enjoyed. This, along with the MET open day I went to, finalised my decision to apply for MET and I am very happy I did!

MET is a great course for people who aren’t necessarily interested in a specific area of engineering but would rather have a broader view or the process that brings a product to market. Throughout the year I have learned about product innovation and design, materials selection and production processes, running an organisation, and even finance and economics. From being unsure about my future after Cambridge, I now feel fully prepared to make a smooth transition into industry which is a great feeling to have. The projects that run throughout the year are really fun and organised by great people. The lecturers are all enthusiastic about their subject and they deal with you on a personal level which is very helpful.

The best part about MET however is the social atmosphere. I hardly knew any of the 37 other METers but the structure of the course and the great people that MET attracts makes it impossible to not make friends! The whole group has bonded really well which makes the learning experience much better.
Francis Godden, a new graduate from Wolfson College, reports on his time here.

Course: Information and Computer Engineering

As a frequent ‘tinkerer’ and all-round electronics hobbyist, I grew tired of feeling frustrated when reaching my engineering limits, limits imposed mainly by a lack of formal training. After deciding that a University degree at Cambridge would be my next life pursuit, I quit my job as a lifeguard and enrolled for A Levels at a local further education college in London.

Being a mature student, I had prepared to be quizzed at interview on what exactly I had been doing since leaving school, and my reasons for not attending University earlier. This however was certainly not the case; the interviewer spent about thirty seconds asking about my past (which I felt was only out of genuine interest), before treating me like any other (younger) applicant. He was only interested in my understanding of engineering topics and if I were able to solve the relevant problems. This is exactly what I needed; a fair chance to prove myself!

This was just my introduction to the general mentality here at Cambridge; people are treated with fairness and equality. The focus is the subject at hand, not anything else. Speaking of subjects, there is a fantastic choice available when reading Engineering at Cambridge. Even though I had originally applied for, and was largely set on obtaining a degree in electronic engineering, I was able to change to ‘Information and Computer Engineering’ as my interests were expanded.

Looking back over the four years, Cambridge has given me lots of experience in almost everything engineering related: Building bridges and other weight bearing structures, programming with many different languages on all kinds of platforms, hammering things frozen with liquid nitrogen, stripping and rebuilding engines, designing microprocessors, driving robots... the list goes on and on. I’m not sure how else one would obtain all of these skills in such a short period of time without studying at Cambridge! It did mean for a very challenging workload and extremely tight deadlines, but this was a good thing! I got used to it very quickly, becoming a much better thinker, problem solver, and learnt to utilise my free time more efficiently.

When I leave Cambridge I’m planning to go travelling abroad to relax and unwind, before returning to the UK to create my own software start-up company.
**New (Part 2) Director of Studies**

Dr Antonio Lombardo received a Laurea Magistralis (equivalent to BSc + MSc) in electronic engineering from Universita’ degli Studi di Palermo (Italy). He continued his studies at the University of Cambridge, where he was awarded a PhD in Engineering. He is now senior research associate at the Department of Engineering, Cambridge Graphene Centre (CGC) and research fellow of Wolfson College. Antonio is also teaching fellow of the EPSRC Centre for Doctoral Training in Graphene Technology and new director of studies in Engineering (part II) of Wolfson College. His research is focused on graphene and two-dimensional materials electronics and optoelectronics, with particular focus on high-frequency applications. He has published over 25 papers in the field of graphene science and technology, with over 2,200 citations, H-index 16, i-10 index 17 and over 750 citations per annum.

**New Supervisors (2014-2015)**

**Di Hu** received his BEng degree with first class from University of Birmingham and starts his PhD at Cambridge in October 2012. He gets the Pochobradsky studentship in Cambridge. His final year undergraduate project involves in designing and establishing small intelligent control system for AC motor drive without sensor. It is the combination of mechanical and electrical engineering. He is currently in the Bulk Superconductivity Group, following Prof. David Cardwell (supervisor) and Dr. Mark Ainslie (advisor). His PhD project is focused on the design and optimisation of Axial Gap-Type High Temperature Superconducting (HTS) motor. It includes theoretical analysis, finite element method modelling and experimental measurement. Di will supervise the Part 1B Mechanics Course.

That’s the only change this year as all the other Wolfson supervisors are continuing for 2014-2015. Wolfson Engineer Vol3 contains the short form bios and photos for most of this year’s supervisors.

**Part 1 Supervisors**

**Part 1A** (1st year): Mr Di Hu (mechanics, vibrations); Mr Marco Zaccaria (structures); Dr Rafa Castrejón-Pita (maths, dimensional analysis, electromagnetics, computing); Mr Medhi Baghdadi (AC circuits); Miss Thilini Daranagama (linear circuits); Mr Kiran Auchoybur (thermofluids), Dr Kun Li (physical basis of electronics, Michaelmas); Mr Ed Flaherty (digital processing); Miss Rasha Rezk (materials) and Dr Steve Hoath (physical basis of electronics, Easter 2015);

**Part 1B** (2nd year): Mr Di Hu (mechanics); Dr Claire Barlow (materials); Miss Emily Woodhouse (structures); Mr Medhi Baghdadi (electrical power); Mr M. Faizan Ahmad (linear systems & control); Dr Rafa Castrejón-Pita (vector calculus, probability); Mr Xuefeng Li (PDE, Linear algebra, electromagnetics); Mr Salman Abdi (Linear circuits); and Miss Diana Sher (thermodynamics).

Part 2 supervisors are arranged by the Department of Engineering rather than by the Part 2 DoS.
Goodbyes & Hellos
Dr Tariq Masood (1A mechanics, vibrations) and Mr Malcolm Morgan (1B vibrations) completed their Part 1 supervision work for Wolfson last year and we wish them every success in the future. We welcome Mr Di Hu (1A mechanics, vibrations) and (1B mechanics) to our supervision team.

News
Dr Claire Barlow (Newnham) became the Director of Undergraduate Educations at CUED.
Dr Rafa Castrejón-Pita became an Isaac Newton Time-Limited Teaching Fellow at Wolfson.
Dr Steve Hoath (DoS) was promoted to Senior Research Associate from January 2014 at IfM, and for 12 months starting in July 2014 holds an EPSRC Knowledge Transfer Fellowship.
Dr Alice Moncaster (Newnham DoS) was appointed to a University Lectureship in CUED.
Dr Antonio Lombardo (Wolfson Junior Research Fellow) becomes DoS for Part 2 at Wolfson.
Dr Rasha Rezk (Wolfson postdoc) helps launch Wolfson Interdisciplinary Research Group.

Library Resources
Meg Westbury is the Librarian at Wolfson College and is happy to receive suggestions for additions to the Library’s collection and to help students with their information needs in any way she can. To contact Meg please email library@wolfson.cam.ac.uk.

Undergraduate Students
Last year
General Admission on June 28th 2014
Erik Rosén MEng (Hons with Distinction); Ke Chen and Francis Godden MEng (Hons with Merit); Zhuoyo Zhu MEng (Hons)

Wolfson’s 2B graduands - Zhuoyo Zhu, Erik Rosén, Francis Godden and Ke Chen – at the Reception. The heavens opened when a thunderstorm broke immediately after they were formally graduated!
Erik Rosén after receiving his Jennings prize cheque from the President Professor Sir Richard Evans.
General Admission on July 17th 2014
Sze-Xian Lim BEng (Hons).

Steve Hoath with Sze-Xian Lim and his graduation certificate outside the Senate House
University Prizes and Tripos Achievements

Wolfson engineering students have traditionally performed well in their Tripos exams and in 2014, between 20 of them, 5 achieved at distinction/class I, 9 at class IIi, 4 at class IIii and 2 at class III.

Francis Godden (2B) won £200 for his final project presentation success in Engineering Division F.

Sze-Xian Lim (2A) won 2 prizes for his 3rd year Tripos project work on Microfluids and Atom Force Microscope.

Luechao Wen (1B) was in the top 1% of the year, which is the most outstanding Tripos result ever by a Wolfson Engineer. Our congratulations to him on continuing and exceeding his 1A Tripos success.

Jack Kelleher (1A) and Sam Willis (1A) jointly won the Mott MacDonald structures design award.

Wolfson College Jennings Prizes for First Class or Distinctions in University Exams

Distinctions: Erik Rosén (2B)
Firsts: Sze-Xian Lim (2A), Luechao Wen (1B), Changwei Zhou (1B) and Claudio Ravasio (1A)

Leavers
Sze-Xian Lim remains in Singapore after his graduation, and is applying for PhD research after a year with his sponsoring institute; Shee Han Ng has switched to Law, remaining at Wolfson College. Jack Kelleher and Jamiel Thomas are seeking new challenges after contributing to our largest 1A cohort.

Summer social.
Wolfson & Newnham undergraduate students and their DoS’s organised a BBQ for students and their Part1 supervisors on Friday 13th June 2014, which was eventually held in Wolfson’s Sundial Garden. Robyn Moates (Newnham) ordered and Tim Goh (Computer Science) cooked the food, while the DoS brought far too many drinks. Early sunshine eased off to a pleasant evening BBQ in the Wolfson grounds between 5 and 8pm, enjoyed by our visitors Aurelia Hibbert, Qiuying Lu, Amy Livingstone, Henriette Garmatter, Robyn Moates, Claire Barlow, Luis Garcia-Gancedo, Alice Moncaster, Poppy Moncaster and Isha, Sushen Zhang (Chem Eng via Eng), Jamie Hooper, Jim Woodhouse, Sam Willis, Tom Mullners, Matt Laskey, Jamiel Thomas, Michael Friedman, Kutlo Kebaikanye, Matthew Toseland (Comp Sci), Shee Han Ng and friend, a couple of other postgrads, Kiran Auchoybur, Rasha Rekz, Marco Zaccaria, Rafa Castrejón-Pita and Steve Hoath. The bowls of luscious strawberries and the cool Pimms went down very nicely, thank you Alice!

Undergraduate Students
This year (2014-2015)

First Year: Shauna Greenidge, Ioannis Menikou, and Andreas Theodosiou.
Second Year: Michael Friedman, Kutlo Kebaikanye, Matthew Laskey, Thomas Mullners, Claudio Ravasio, and Samuel Willis.
Third Year: (Bob) Yang Chen, Junyu Wei, Luechao Wen, and Changwei Zhou.
Fourth Year: Lan Xiao, Aik Khim Tan, Xian Jie Tay.
MET2: Jonathan Godden
Aspiring Engineers
The following generic link provides problems that aspiring engineers might wish to attempt. They are a guide to the questions that might be asked in entry interviews or tests at any top-rated University.

http://i-want-to-study-engineering.org/

Wolfson Research Event – Friday 2nd May 2014 – Lee Hall 2.00-7.00pm
College held a series of presentation talks and posters about the research by Wolfson students – postgrads, undergrads, post-docs, Fellows, Emeritus Fellows,...., followed by a reception and Formal Hall for all speakers and their guests. Feedback was provided to every student who had contributed. Students from St Antony’s, our sister college at Oxford contributed to Wolfson’s day of celebration. Rasha Rezk presented her joint idea about a postgraduate network of Engineers and other subjects in a cross-disciplinary initiative at Wolfson. Launched as the Wolfson Interdisciplinary Research Group it will be pursued at Wolfson Research Event 2015 (Friday May 1st to Saturday May 2nd 2015).

Wolfson 50th Anniversary Celebrations
A display of WRE2015 posters will live on at the Lee Library during the July open weekend.

Wolfson Interdisciplinary Research Group
The Wolfson Interdisciplinary Research Group has just been launched by 2 postgraduates (Antonia Symeonidou and our engineering supervisor Rasha Rezk) to provide a forum for sharing multiple discipline ideas. The society aims to serve as a catalyst; an informal environment where Wolfson researchers from the disciplines of Engineering and Medical Sciences in different Departments in Cambridge can communicate their research projects and exchange expertise on theoretical and experimental problems. Participants can seek advice to optimise their work and offer in return their scientific background to help others through a series of structured networking events.

Wolfson Science Society
The Science Society aims to explore various facets of Science, for the benefit of members of the College and of the larger Cambridge community, and encourage new journeys into science. All our talks are accessible to non-initiates – so whether it’s your first trip to the Science world, or you’re a great traveller of those lands, join us in our next journey! Details of the talks are available on the usual Cambridge drums: talks.cam, Agora and at www.wolfson.cam.ac.uk/seminars/science.

Wolfson Engineering Fellows and Emeritus Fellows
Undergraduates (and Postgraduates) are encouraged to make contact with any of Wolfson College’s Senior Members, Junior Research Fellows, Fellows and Emeritus Fellows of the College, including:

Professor John Naughton (Vice-President @ Wolfson & Public Understanding of Technology @ OU);
Professor Steve Evans (IfM Industrial Sustainability); Tom Ridgman (IfM External Education);
Dr José Rafael Castrejón-Pita (IfM Inkjet Research Centre); Dr Ivor Day (Whittle Lab, aeronautics);
Rasha Rezk (IfM International Manufacturing); Dr Antonio Lombardi (Cambridge Graphene Centre)
Simon Pattison (IfM Course Director, ISMM); Dr Stephen Hoath (IfM Inkjet Research Centre)