Dear Reader - Michaelmas 2016

This sixth volume of the record for Wolfson Engineers includes news of the 2016 intake and of the 2017 deferred offers to undergraduates and our Part 1 supervisors. The Wolfson College website includes download links to the Wolfson Engineer (Issues 1-5) to provide an insight into those people already involved here to readers intending to apply for mature undergraduate engineering places.

New students October 2016

These biographies, shown in order of receipt at Wolfson, were written by the incoming students.

**Andreas Malekos writes:** Hello, my name is Andreas Malekos. I am 21 years old from Nicosia, Cyprus. I will be starting my undergraduate Engineering course at Wolfson College in October 2016. Currently, I am completing my two-year compulsory service in the Armed Forces of my country, so coming to university will be a big change for me, a change I truly anticipate. My passion for Physics and Mathematics, especially mechanics, lead me to pursue a degree in Engineering. Having the opportunity to explore all the different branches of Engineering before deciding in which field to specialise is something I am looking forward to. During my free time I enjoy running, swimming and playing table tennis. I am very excited to be attending Cambridge as it will allow me to pursue my passion and meet new people.

**Karthik Suresh writes:** My name is Karthik Suresh and I will be enrolling in the Undergraduate Engineering program at Cambridge this October. I am ethnically Indian, however I was born and brought up in Singapore. After completing my A-Levels in the UK, I returned to Singapore to complete two years of mandatory Military Service, which I have just finished. I look forward to my time at Wolfson and Cambridge, as I am excited for the opportunity to be exposed to fresh ideas and vibrant individuals. I hope for this course to bring me closer to my ambitions of working with new innovations that make our world smarter. I am keen to learn from individuals around me and look forward to being part of collaborative efforts. I am an avid sportsman (with a particular interest in cricket) and hope to pursue some of my sporting ambitions alongside my studies.
Yue Chen writes: Hello I am Chen Yue! I grew up in a coastal city in southern China and spent a few years living in Hong Kong before I went to Singapore for my education. I grew up speaking Teochew and Cantonese and are always passionate about learning new languages. I hope to learn French or Arabic soon! I love travelling, and Southeast Asia has always been my favourite destination, where a blend of cultural diversity, local hospitality and culinary delicacies always keep me captivated. I am a foodie who loves exploring and trying out different food, and cooking and experimenting with my self-invented recipes. Cooking gives me loads of joy as I can create a multitude of flavours from a combination of different ingredients. This probably resembles what engineering means to me – inventing desired products from the use of different components and techniques – and instils the keen interest for the study of engineering too. I can’t wait to explore more what the engineering course in Cambridge has to offer! With all that devoted love for food, gym and swimming are some of my favourite pastimes to burn off some of those excess calories! Studying in Cambridge would be a thrilling and rewarding experience for me, though I might be desperately missing those sun-bathing days in the east coast of Singapore!

Yuan Han writes: Hello, I am Yuan Han. I am from the little red dot, Singapore and I am excited to be coming to Cambridge to study Chemical Engineering at Wolfson College this year. It is my first trip to Europe and I look forward to having cultural... surprises. I anticipate lots of differences between Singapore and Cambridge not only in culture, but also in the people I have and will meet. In my free time, I enjoy football and computer games like Dota 2. I am also an avid viewer of anime and so here’s to all the otakus out there. I have a great passion for the sciences and mathematics and converting theoretical knowledge to practical value is my dream. With great power comes great responsibility right? All these opportunities given to me, I will make sure to give it back.
Di Fu Zhu writes: Hi everyone! My name is Di Fu (David), an Engineering fresher who will be studying Chemical Engineering from second year onwards. I was born and raised in Singapore but spent most of my school days studying in Shanghai, China. Having experienced the culture of two different Asian countries, I will soon be adapting myself to the English culture. No words can describe how extremely excited and enthusiastic I am to start school and finally pursue a degree of my interest. I have a burning passion for problem-solving and love to play various sports such as basketball and table tennis. I am also a strong advocate for the environment. During my time in Cambridge, I really do hope to pick up a third language such as French or Spanish. Travelling has unarguably been my deepest passion and I look forward to the many travelling opportunities I will have during the long holidays!

Yat Khai Tan writes: Hello, my name is Yat Khai (you can call me Kai) and I come from Singapore. I will be starting my undergraduate studies in Engineering this October at Wolfson College. I have studied in Manchester for the past year and I expect my future experience in Cambridge to be very different and equally fruitful. I have a great interest in new technologies and the possible applications of these technologies in future, and hence my desire to become an engineer. In my free time, I enjoy cooking and exploring new recipes and cooking techniques. Besides my culinary interest, I also enjoy traveling and exploring new things. I hope that this opportunity in Wolfson College will not only allow me to pursue my dream career in the future but also learn from other individuals in the college.
Hello, My name is Raaed Fareed. I am a 21 year old from Sri Lanka; commonly referred to as the pearl of the Indian Ocean, a country that is home to a host of diverse cultures and races. My country has definitely taught me the importance of being able to interact with and live cordially with, people of diverse cultures, which I hope would help me when I am there at Wolfson College. I truly believe that the field of Engineering is one that plays a vital role in shaping up futures and that very fact excites me, as I know that one day I too, will be able to play an active role in designing the future all of us dream of. I am currently completing my training for a Private Pilots License and hope to qualify as a Commercial Pilot, when I achieve the requisite number of flying hours. I am also passionate about Rowing and Archery, which are skills I hope to further in the coming years. I am eagerly looking forward to my experience at Wolfson. I hope to excel in my academic carrier and otherwise while fostering friendships that would hopefully, last a lifetime.

Muhammad Faran Haider writes: Hello everyone! My name is Faran. I was born in USA, but raised mostly in Lahore, Pakistan where I completed my A-Levels. After that, I moved back to USA for undergraduate studies at the Massachusetts Institute of Technology. After my 1st year there I decided to pursue the field of Mechanical Engineering. For my 3rd year I am taking part in a 1 year exchange program at Cambridge. One of my hobbies is traveling and discovering new places, and I look forward to exploring Cambridge along with other parts of the UK and maybe Europe as well, meeting new people along the way. I am really excited to start my year at such a prestigious institution.

EDITOR:
Faran is the first undergraduate Engineer to take an exchange year based at Wolfson College in Cambridge UK. He joins the 3rd year of the Department of Engineering course and we wish him to have a great experience: I’m quite sure he will be kept very busy here too!
That’s our freshers for 2016: after 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 few fewer applicants. Several applicants were interviewed overseas. The students offered places at Wolfson this year were able to meet the very high entry requirements for Engineering at Cambridge University. This emphasises the very competitive environment for high quality places. Students will experience very high workloads across a range of topics so have to be near top of class. Under the Cambridge system, only those students passing their yearly Tripos can expect to proceed into the next year.

New Supervisors (2016-2017)
These changes reflect the completion of postgraduate studies by several Wolfson Part 1 supervisors. Wolfson Engineer Vols 4-5 contain short form bios and photos for continuing/returning supervisors.

Dr Mohammed Elshafie is a University Lecturer at the Laing O’Rourke Centre for Construction Engineering and Technology at the University of Cambridge; he is also, currently, Acting Director of The Laing O’Rourke Centre which was created as a result of a partnership between the Department of Engineering and Judge Business School at the University of Cambridge and Laing O’Rourke, the UK’s largest privately-owned construction company. Prior to his appointment at the Laing O’Rourke Centre, Dr Elshafie had graduated from the Civil Engineering Department at Khartoum University in Sudan where he finished top of his class and won a number of prizes, including the Engineering Department Award for best overall academic performance. He was then awarded an Overseas Research Studentship (ORS) and a Gates Cambridge Scholarship to study for a PhD at Cambridge. During his PhD studies he had been extensively involved in centrifuge testing using the 10m-diameter beam centrifuge at Cambridge with particular interest in modelling of deep excavations and the development of advanced instrumentation techniques. His doctoral research work, investigating the effect of excavation-induced displacements on existing building has earned him the Philip Turner Prize at the end of his PhD study. He then joined the Engineering Department at Cambridge as a Research Associate, elected as a Research Fellow at Robinson College Cambridge and then worked as a consultant in Geotechnical Consulting Group Ltd in London, giving technical advice in a wide range of geotechnical engineering problems. Dr Elshafie’s current research group leads the application of novel instrumentation techniques in new and existing civil engineering infrastructure, in order to understand its performance, with a particular emphasis on the use of novel optical fibre strain sensing technology. The group has been at the forefront of applying optical fibre sensing technology on a wide range of civil engineering structures including bridges and tunnels in a large number of field deployments. As a result, the group has developed very strong industrial collaborations and has gained extensive expertise on the deployment, measurement and interpretation of various instrumentation techniques over the last eight years. Dr Elshafie will supervise Part 1 structures at Robinson College, where he is DoS for Engineering.
Dr Francesca Paoli Carli received her M.Sc. degree in Telecommunications Engineering (cum laude) and her Ph.D. degree in Information Engineering both from the University of Padova, Italy. She held postdoctoral positions at the Departments of Electrical and Computer Engineering at the University of Minnesota, Minneapolis, USA and Electrical Engineering and Computer Science at the University of Liège, Belgium. She joined the Department of Engineering, University of Cambridge, in 2014. Her current research interests are in the areas of Modelling and Estimation, System Identification, Machine Learning, Signal Processing and Optimization. Francesca will supervise Part I Mathematics.

Dr Abdeldjalil Bennecer (Jalil), has taught first year undergraduate modules on electrical and electronic principles, linear circuits and microelectronics and digital logic at Northampton University since 2012, and begins a module for second year electromagnetism. The rest of his teaching workload is devoted to MSc and Web-based distance learning students and research supervision. He held a couple of research fellowships at the Cambridge-based Brunel Innovation Centre and Strathclyde University in Glasgow, related to non-destructive testing applications albeit focused on design and development of ICT measurement tools like fibre optic sensors and spatial positioning systems. Jalil’s doctorate work at Cambridge was based in the Engineering Department, as part of the Division B Photonics systems group working on low cost lasers for optical fibre communication. He demonstrated laboratories in digital electronics, C++, Matlab and lasers, and has supervised 1B electrical modules at St John’s and Downing colleges for Dr Tom Hynes (Division A). He will supervise some electrical topics and computing at Wolfson College.

Dr Claire Barlow is the Director of Undergraduate Education and University Senior Lecturer at CUED, a Fellow at Newnham College and DoS for Hughes Hall. She supervises for 1B materials at Newnham.

Part 1 Supervisors

Part 1A (1st year): Mr Kristian Saull (mechanics); Dr Francesca Paola Carli (maths); Mr Ed Flaherty (digital processing); Dr Rasha Rezk (materials); Dr Steve Hoath (dimensional analysis, mechanical vibrations); Dr Abdeldjalil Bennecer (electrical topics; computing); Dr Cristina Rodriguez-Rivero (thermofluids) and Dr Mohammed Elshafie (structures).

Part 1B (2nd year): Mr Kristian Saull (mechanics); Dr Mohammed Elshafie (structures); Dr S Sabesan (linear systems & control, part); Dr Francesca Paola Carli (vector calculus, PDE, probability, linear algebra); Mr Anirban Lahiri (Linear circuits); Ms Diana Sher (thermodynamics) Dr Abdeldjalil Bennecer (electrical topics); and Dr Steve Hoath (electrical topics); Dr Claire Barlow (materials).

Part 2 supervisors are arranged by the Department of Engineering rather than by the Part 2 DoS.

Dr Stephen Hoath (sdh35) 9 Sep 2016
Goodbyes...
Dr Alena Puchkova (Part 1 maths), Miss Emily Woodhouse, Ms Diana Sher (1B thermodynamics); Mr Sijun Du (1A vibrations), Mr Anirban Lahiri (Part 1 linear circuits, computing), Mr Peicheng Xu (1B materials) and Ms Iila Li (1A structures) left our supervision team after the 2015-2016 year.

... and Hello new supervisors
For the 2016-2017 year we welcome: Dr Mohammed Elshafi (1A & 1B structures); Dr Francesca Paola Carli (1A & 1B mathematics) and Dr Abdeldjalil Bennecer (1A & 1B electrical topics, 1A computing).

... and returning supervisors!
Dr S Sabesan (1B control); Dr Claire Barlow (1B materials) and Dr Stephen Hoath (1A mech. vibration)

DoS News & Activities
After 5 years in a shared office room at 2, Morrison House (opposite the main car park at the front of Wolfson College), your (2) continuing DoS for Engineering undergraduates are parting company with the new Deputy Senior Tutor and moving to Fuchs House room C. Future mandatory DoS meetings and also supervisions with either of your DoSs will in future be held in the Fuchs House Music Room.

Dr Rasha Rezk and Dr Stephen Hoath are joint Admissions DoS for October 2017 and deferred entry. Dr Rezk becomes the DoS for Parts 1B and 2A, while Dr Hoath will be DoS for Parts 1A and MET 2A. Recruitment of supervisors and the involvement of the Wolfson Fellowship are another DoS priority.

Dr Antonio Lombardo steps up his active involvement with the JRFs, other Fellows and postgraduate students with the aim of improving the recruitment of engineering postgraduate students and also attracting engineering Fellows to Wolfson. He was recently appointed to the MRes Directorship (Electronics Division) and continues as DoS for Part 2B while taking on the new Graduate DoS role.

Library Resources
Mrs Meg Westbury is the Lee Librarian and Fellow at Wolfson College and is always happy to receive suggestions for additions to (and removals from) the Library’s collection and to help students with their information needs in any way she can. Please contact Meg via library@wolfson.cam.ac.uk. Once again Andreas Theodosiou has helped by checking the Part 1 reading lists with Wolfson’s stock.

Undergraduate Students
Last year
General Admission on June 25th 2016
(Bob) Yang Chen gained the degree of MEng (Hons with Distinction), Luechao Wen and Changwei Zhou both gained the degree of MEng (Hons with Merit) and Junyu Wei the degree of MEng (Hons).

University Prizes and Tripos Achievements
Wolfson engineering students have traditionally performed well in their Tripos exams and of the 8 Part 2 students sitting their Tripos in 2016, 3 students achieved a Distinction or class I, 2 were at Merit, 1 took Hons, none at Class III, none at class Illi, 2 at class III and no fails; of the 7 Part 1 students, there was 1 at class I and 6 at class III, with none at classes Illi or class III and no fails.

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

Distinctions: - Yang Chen
Firsts: Claudio Ravasio and Michael Friedman (2A); Shutong Feng (1A)

Dr Stephen Hoath (sdh35) 9 Sep 2016
Our Graduands in the Sundial Garden with Tripos Transcripts before the Lee Hall reception & lunch
Leavers

Yang Chen, Junyu Wei, Luechao Wen, and Changwei Zhou starting out from Wolfson College (with Plommer House in the background) in a traditional graduands procession via Kings College gardens to receive their Cambridge BA, MEng degrees at the Senate House on Saturday 25 June 2016.
Waiting to enter the Senate House from Kings Parade and GRADUATE onto the Senate House lawns!

Another Wolfson Engineer also has graduated this year, but in Law! Shee Han Ng switched after 3 years of engineering, then took a 2 year course, achieving an Honours Degree at Class 2i in Law. Undergraduates at Cambridge can only receive degrees for ONE subject and Shee Han’s switch was unusual and his choice, permitted by both the receiving and outgoing DoS and both the Faculties.
Graduate stories:
The Editor thanks Bob Chen for providing his feedback on his course experiences (quoted verbatim). Bob is now working in London, in the same company as another recent Wolfson Engineer, Lan Xiao.

Hi everyone! I am Bob, and I just finished the 4-year BA/MEng Information and Computer Engineering course at Cambridge. When I reflect what I have learnt in the past four years, I would certainly say the Engineering course at Cambridge is a very enriching experience.

The Engineering course here has a unique structure. In the first two years, everyone studies the same content which covers mechanics, structures, materials, thermos-fluid, electrical, information, and maths. These two years are really broad and everyone can get a taste of all aspects of engineering and can decide what one would like to specialise in afterwards.

In the last two years, I specialised in Information and Computer Engineering. I enjoyed my last two years more because I was studying the content I like more. Also, the last two years were more hands-on, with coursework and projects. My final year project was very programming focused and it made me learn Java/Android programming myself, which was definitely useful when I was applying for jobs.

The Engineering course is broad, interesting but at the same time challenging. It covers a lot of materials within short academic terms. Usually I could only understand the content right before exams, which always seemed worrying. However, after completing the course, finally I could say I managed to cope with it and finally I realised how much it stretched me.

Undergraduate Students
This year (2016-2017)
First Year: Andreas Malekos, Karthik Suresh, Muhammed Raaed Fareed and Yat Khai Tan.
Chem. Eng 1A: Yue Chen, Thabang Selalame (Hughes Hall student)*, Han Yuan and Di Fu Zhu
Second Year: Shutong Feng, Jing Xuan Koh, Philip Salmony, Aaron Szekely and Jason Jee Too
Third Year: Muhammad Faran Haider (MIT exchange), Andreas Theodosiou and Samuel Willis.
MET Part 2A: Ioannis Menikou
Fourth Year: Michael Friedman, Kutlo Kebaikanye, Thomas Mullners and Claudio Ravasio.
*as requested for this year’s supervisions by the Hughes Hall DoS for Engineering (Dr Claire Barlow)

Deferred offers (Engineering 2017-2018)
First Year Sara Mandoki and Benjamin Neo

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 Engineers BBQ

An impromptu end-of-year BBQ in the Sundial Garden had half a dozen participants on 15 June – Tom (Year 3), Aron (Year 1), Kutlo (Year 3), Bob (Year 4), Rasha (DoS Part1 ), Luechao (Year 4) and myself (DoS Part1) – enjoyed the brief sunshine and a chance to chat together after Tripos exams. Most of the other students had already left Cambridge for work placements or visa hunts, and we also missed coordinating with Newnham College for our more traditional joint BBQ sessions here.

Wolfson Research Event –
Friday 24th February 2017 – Lee Hall

Next year’s WRE will be held towards the end of Lent Term. This year saw the introduction of flash presentations (2 minutes), which were highly successful, but the absence of posters was less good. I hope that they will be re-instated and again supported by a local inkjet printing company sponsor, which was admittedly easier for me to handle with my contacts than for the succeeding organisers. Presentations from Wolfson Engineers and Scientists are always very welcome – for example some of Wolfson’s UROP (Undergraduate Research Opportunities Program) students could present their research findings from their summer work placements.

UROP projects & inkjet printing research

Over the last few years the Inkjet Research Centre on the West Cambridge site has hosted several UROP projects, including 4 for Wolfson students (and 2 of these were also sponsored externally). Normally these are offered to 2nd and 3rd year students in engineering or science subjects, although Wolfson’s Lan Xiao (1st) tackled an investigation into inkjet droplet charging, while Sam Willis (2nd) worked on a variable aperture print-head, Claudio Ravasio (2nd) imaged ink meniscus motion inside inkjet print-head nozzles and Andreas Theodosiou (2nd) on Design of Experiments for new products. [Other UROP students from other Colleges and Departments were hosted during the same period.] UROP projects have so far resulted in 2 peer-reviewed publications, 3 papers and 2 posters for some open conferences, and other posters presented to members of our industrial inkjet R&D consortium.
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 (Emeritus Professor of Public Understanding of Technology @ OU); Dr Steve Evans (IfM Industrial Sustainability); Mr Tom Ridgman (ISMM Graduate Course Director, IfM)

Dr Rasha Rezk (JRF, Admissions DoS & DoS Parts 1B and 2A); Dr Antonio Lombardo (JRF, DoS for 2B and DoS for Graduates, Cambridge Graphene Centre); Mr Simon Pattison (IfM);

Dr Stephen Hoath (IfM, Admissions DoS & DoS Parts 1A, 2B & MET), Dr Pradipta Biswas (JRF), Dr Carmine D’Agostino (JRF and DoS for Chemical Engineering);
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 – details of the talks are available on the usual Cambridge drums: talks.cam, Agora and at www.wolfson.cam.ac.uk/seminars/science.

Accreditation of Engineering Courses – MEng - at Cambridge
Prospective students (or their government funding agencies) sometimes ask about accreditation of undergraduate engineering courses by relevant professional engineering institutes. Accreditation allows a graduating student to automatic gain a professional qualification that is recognised and of value to their future career and most likely their first full-time jobs as a postgraduate engineer.

Accreditation status for UK undergraduate engineering courses get posted on the websites of the UK Engineering Council and other bodies, but any updates are outside the control of the Universities. At the time of writing the accreditation status posted for the MEng course expires by October 2016. The Engineering Council website also states that accreditation of the MEng course at Cambridge is usually valid for 5 years. As the Cambridge MEng course has been valid for at least the last 10 years, and Cambridge has a 5* (top)- rated engineering department, possible failure of full re-accreditation is extremely unlikely. The next full accreditation audit is set for February 2017 and re-accreditation of the MEng would apply for 5 years from that academic year, i.e. from October 2016 student entry.

Dr Stephen Hoath (sdh35) 9 Sep 2016