

Part IA briefing notes - opportunities

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Staff Student Joint Committee

The Staff Student Joint Committee (SSJC) provides an important mechanism for students to help the teaching staff improve all aspects of the course. There are webpages describing the [current membership](#), and [giving more details of their remit](#).

Cambridge University Engineering Society

CUES is a student-run, University-wide society with over 1,000 active members and several thousand alumni. Its role is to organise events that will give its members a taste of the wider world of engineering, as well as a chance to get to know other students in Cambridge and beyond. [Follow this link for further details](#).

Student-led societies

The Department hosts, or is associated with, a number of [student-led societies](#), which students may be interested in joining.

Student-led project & industry partnership (SPIP) & project expo

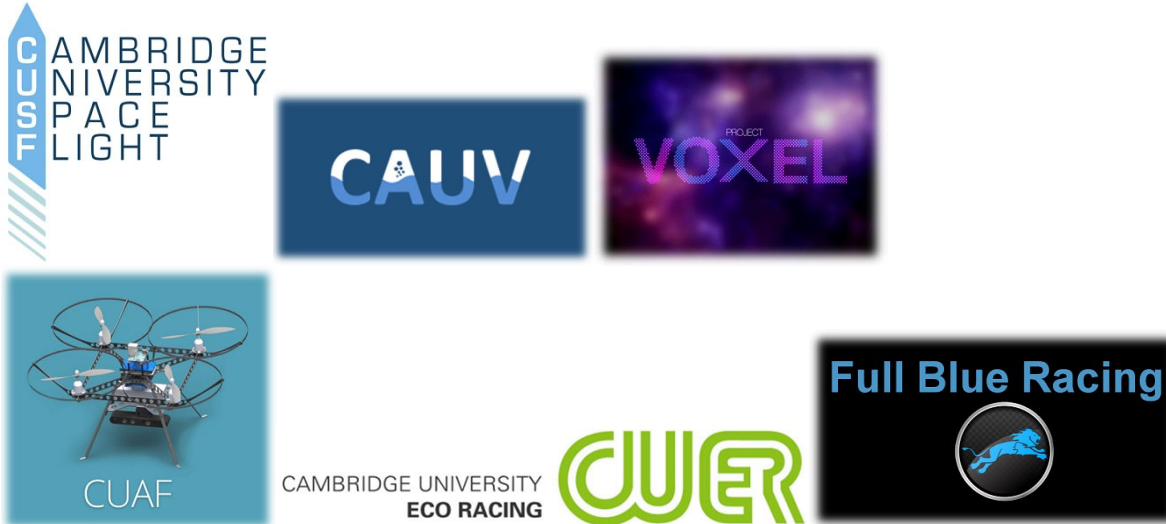
Introduction to SPIP

The Student-led Projects and Industry Partnership (SPIP) supports independent student engineering activity in CUED. The programme started in 2010 and now approximately 150 students are involved in the 6 current teams. Industrial support through sponsorship, mentoring, technical and management advice is provided by Boeing, BP, Jaguar Land Rover, National Instruments and Marshall Group. Any independent project with at least one student member from CUED can apply for funding.

Project Expo

Each year the teams present their most recent developments in the Expo on 5 November in the main engineering site, details to follow. Find out how you can become involved or how you can turn your ideas into a new project.

Meet the Teams



Cambridge University Space Flight

- High powered rocketry (15 km)
- High altitude ballooning (40 km)
- Building everything from light computer to rocket motors
- Launched high-altitude planetary entry parachute test system
- Annual rocketry event in the Black Rock Desert.

Cambridge University Eco Racing

- Most enterprising student society (RBS ESSA Scheme)
- Designs, builds and races
- Lightest ever vehicle at 120 kg
- Ongoing event: World Solar Challenge - 3000km race (Darwin to Adelaide)

Project Voxel

- Starting out small but ambitious
- 3 students initially
- Crowd-based, interactive, wearable, pixel lighting system with new sensors to come
- Great technical support from ARM
- May Ball trial of similar technologies

Cambridge Autonomous Underwater Vehicle

- Founded in 2006
- Originally designed for scientific exploration under the arctic ice
- Compete annually in the Student Autonomous Underwater Challenge Europe
- Won 1st place in the 2013 competition with Barracuda

Full Blue Racing

- 60 students
- Design & build a single seater racing car
- 450 Formula Student Teams, 100 teams compete
- Assessed on (1) speed & handling, (2) Business/design presentations
- Promoted to Class 1 in 2014

Cambridge University Autonomous Flight

- Designs, builds and flies autonomous quadrotor, drones or fixed wing aircraft.
- This includes: Mechanical frames, camera stabilizers, payload release mechanisms, electronics and software
- Compete at International Micro Aerial Vehicle Conference and Competition.

Application process

Details of the application procedure can be obtained from the SPIP coordinator, [Dr Daly](#). Applications for the next round of funding should be submitted in the required format by 4pm on 28th October 2015.

New opportunity

Cambridge University Engineering Alumni are also providing a new opportunity for seed funding of new ideas. Have you been inspired by the established teams? Have an idea about a new project you would like to try? Let us know! [Expressions of interest are welcome at the Moodle site](#)

Arthur Shercliff travel scholarship

Each year an [Arthur Shercliff Travel Scholarship](#), currently valued at £1,300, is awarded to a member of the Cambridge University Engineering Department, to promote technical visits abroad. The Arthur Shercliff Memorial Trust was set up in memory of a former Head of Department.

Undergraduate Research Opportunities Programme (UROP)

UROPs are an opportunity for Cambridge undergraduate students to spend a period of time over the summer assisting with research activities taking place across the spectrum of University Departments.

The scheme is open to any Cambridge University student provided that they have at least one full academic year of their undergraduate course to complete.

UROPs usually have a 10 week duration and there is a bursary payment at the rate of £230 per week.

For background information, including the application procedure, FAQs and a list of projects offered last year see the [UROPs homepage](#).

Students in Parts IA-IIA will be alerted when the initial list of projects offered for summer 2016 is posted and further projects will be added as staff propose them.

Engine stripping & rebuilding sessions

This activity is for IA students who have never had the opportunity of dismantling and examining an internal combustion engine and wish to do so. Sessions for this activity take place in the Thermodynamics Lab and last from 9 am to 12 noon. Sessions have been scheduled on:

- Thursday 3 December 2015
- Friday 4 December 2015
- Monday 11 January 2016
- Tuesday 12 January 2016
- Wednesday 13 January 2016

12 students can be accommodated at each session and you should book on the booking sheets which will be posted in the Thermodynamics Lab on Thursday 12 November 2015. Further sessions for the activity may be organised later in the year.

You are warned that the session on Thursday 3 December will conflict with the Fairbairn (rowing) Races. Sessions on Tuesday 12 January and Wednesday 13 January may conflict with College progress exams for Part IA students. You should confirm your availability with your Boat Club Captain/Director of Studies, as appropriate, **before** signing up for the sessions on these days.

If you book a session and then find you are unable to come, please inform [Dr Parks](#) (tel. 748553) or [Mr Slater](#) (tel. 764974) at the earliest opportunity.

Engine stripping & rebuilding sessions (Lent term)

This activity is for IA students who have never had the opportunity of dismantling and examining an internal combustion engine and wish to do so. Sessions for this activity take place in the Thermodynamics Lab and last from 9 am to 12 noon. Sessions have been scheduled on:

- Monday 11 January 2016
- Tuesday 12 January 2016
- Wednesday 13 January 2016
- Thursday 10 March 2016
- Friday 11 March 2016
- Tuesday 19 April 2016

12 students can be accommodated at each session of this activity, and you should book on the booking sheets in the Thermodynamics Lab. Booking sheets for the sessions in January are already up. Booking sheets for the sessions in March and April will be posted on Thursday 18 February 2016.

You are warned that a number of Colleges will be holding progress tests for their first year students on the mornings of Tuesday 12 January or Wednesday 13 January. You should confirm your availability with your Director of Studies **before** signing up for the sessions on these days.

If you book a session and then find you are unable to attend, please inform [Dr Parks](#) (tel. 748553) or [Mr Slater](#) (tel. 764974) at the earliest opportunity.

Computer build project

For IA and IB students who wish to construct a PC running Windows from scratch:

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Published on CUED undergraduate teaching (<https://teaching15-16.eng.cam.ac.uk>)

- putting the hardware together
- partitioning a disk
- installing the O/S
- installing any special drivers needed
- setting up network interfaces
- installing basic mail and browser software

The Linux O/S is available to more advanced software users. Sessions for this activity take place in the Electrical and Information Engineering Teaching Lab (EIETL) and will last from 9 am to 1 pm (possibly continuing into the afternoon if necessary). Sessions have been scheduled on:

- Friday 4 December 2015
- Monday 11 January 2016

12 students can be accommodated at each session, and you should book on the booking sheets which will be posted in the EIETL on Thursday 12 November 2015. Further sessions for the activity may be organised later in the year.

If you book a session and then find you are unable to come, please inform [Prof. Wilkinson](#) (tel. 339709) at the earliest opportunity.

Computer build project (Lent term)

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- putting the hardware together
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The Linux O/S is available to more advanced software users. Sessions for this activity take place in the Electrical and Information Engineering Teaching Laboratory (EIETL) and will last from 9 am to 1 pm (possibly continuing into the afternoon if necessary). Sessions have been scheduled on:

- Monday 11 January 2016
- Thursday 10 March 2016
- Wednesday 20 April 2016

12 students can be accommodated at each session of this activity, and you should book on the booking sheets in the EIETL. Booking sheets for the sessions in January are already up. Booking sheets for the sessions in March and April will be posted on Thursday 18 February 2016.

If you book a session and then find you are unable to attend, please inform [Prof. Wilkinson](#) (tel. 339709) at the earliest opportunity.

Workshop skills sessions

This voluntary practical is based on the manufacture of a small oscillating air engine. The engine will consist of several parts, some of which will be supplied. You will be required to make the remaining parts and then assemble the engine. Manufacture will include turning, milling and drilling operations using workshop machine tools. Sessions

for this activity take place in the Instrument Workshop (reached from the south-east corner of the DPO) and last from 9 am to 4 pm with an hour's break for lunch.

It is very much hoped that this session will go ahead at the end of the Michaelmas term, but is dependent on the completion of the Dyson Engineering Centre. Full details of where to sign up and dates for the sessions will be emailed out.

Workshop skills sessions (Lent term)

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Sessions for this activity take place in the Instrument Workshop (reached from the south-east corner of the DPO) and last from 9 am to 4 pm with an hour's break for lunch. This activity will take place on **Friday 11 March 2016**.

12 students can be accommodated, and you should book on the booking sheet, which will be posted in the Instrument Workshop on Thursday 18 February 2016.

If you book a session and then find you are unable to attend, please inform [Dr Parks](#) (tel. 748553) or [Mr Ross](#) (tel. 332853) at the earliest opportunity.

CUED outreach programme

The [CUED outreach programme](#) aims to introduce school children to the fun and excitement of engineering within a university research environment. Teams of student volunteers are given the chance to make engineering more accessible through activities such as public lectures, summer schools for A-level students and workshops aimed at primary school children. Last year, almost 3,000 young people and parents participated in one of our outreach events.

For further details of the programme and a calendar of events visit the [outreach website](#) or [contact the Outreach Officer](#).

STIMULUS programme for helping children learn

INTERESTED IN HELPING CHILDREN LEARN?

If so, then STIMULUS will arrange a school placement for you at a time in the week when you are available, and give you training and support to help children in the age group of your choice. See stimulus.maths.org for more details.

Placements are usually 1-2 hours per week, and volunteers help the same class(es) each week so that they get to know the pupils. They provide valuable support, giving many youngsters more individual help and attention than teachers are able to give on their own.

Volunteers choose the age range of pupils they wish to work with and opt for Science, Mathematics, design, computing or coding classes (at the lower primary level other subjects are often available). As well as supporting the work of class teachers by helping individuals and small groups, volunteers wishing to do so may plan and carry out short practical projects with groups of pupils.

Students who wish to participate this can apply by completing the on-line application form by midnight on **Friday 9th October**. This is available at <https://stimulus.maths.org/members/volunteers/register.php>.

All details of placements will be given at the STIMULUS introductory sessions during the week of Monday 12th October and school visits will start during the following week. DBS (the new CRB) forms will also be organised at these sessions.

Further information about STIMULUS is available from the project leader, [Jacqui Watkins](#).

STIMULUS Coordinator

stimulus.maths.org

@stimuluscam

<http://www.facebook.com/groups/134906999853770/>

STIMULUS programme for helping children learn - Lent supplement

INTERESTED IN HELPING CHILDREN LEARN?

If so, then STIMULUS will arrange a school placement for you at a time in the week when you are available, and give you training and support to help children in the age group of your choice. See stimulus.maths.org for more details.

"Really fun working with young children and it's a nice break from work."

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"Both teachers in STIMULUS and in schools are very supportive. It's really an unforgettable and valuable experience! Thank you!"

Volunteers choose the age range of pupils they wish to work with and opt for Science, Mathematics, design, computing or coding classes (at the lower primary level other subjects are often available). As well as supporting the work of class teachers by helping individuals and small groups, volunteers wishing to do so may plan and carry out short practical projects with groups of pupils.

"This term's STIMULUS has been very enjoyable and rewarding, working with children at the beginning of their science education and hopefully inspiring them to enjoy the subject."

If you would like to get involved in the STIMULUS volunteering programme this term, please log onto the STIMULUS website, enter your details and check the 'Yes' box to indicate your availability for the Lent Term. You can go directly to the volunteer login page by clicking on the following link:
<https://stimulus.maths.org/members/volunteers>

Further information about STIMULUS is available from the programme Coordinator, [Jacqui Watkins](#).

stimulus.maths.org

@stimuluscam

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