



Agenda

**The meeting of the Outreach Committee will be held on
18 February 2019, 14:00, SW00**

Members

Vasundhara Agarwal (VA)
Tim Jones (Chairman) (TMJ)
Claire Chapman (Secretary) (CLC)
Lise Gough (LMG)
Bogdan Roman (ABR)
Megan Sammons (MS)
Ilia Shumailov (IS)

1. Apologies for absence

Vasundhara Agarwal

2. Minutes from previous meeting

The Minutes from the meeting on 19 November 2018 are attached **(2019-02-02)**

3. Report on actions from last meeting

i. Committee Membership

To recruit an undergraduate student to the committee.

Action: MS

ii. How to consider Outreach at Masters and PhD Level

Update on if a taster week can be subsidised by the Department for PhD students who have been made an offer.

Action: LMG

iii. Sutton Trust Summer School

To advertise the Summer School date to Code First:Girls when the website is open for applications.

Action: TMJ

iv. Oxbridge Student Conferences

To submit the name of volunteers to the Cambridge Admissions Office.

Action: CLC

v. STIMULS Programme

To send to TMJ the contact details of Jacqui Watkins, STIMULS co-ordinator

Action: CLC

vi. Murray Edwards College Science Blog

To ask the Digital and Communications Office to initiate a blog and twitter feed on the website and to update the majority of photos.

Action: TMJ (this is on hold until the appointment begins on 25.2.19)

vii. Research Group Film

An update on the Research Group film.

Action: IS

viii. Sponsorship Opportunity

Meeting between TMJ, LMG and Jan Samols to discuss IBM sponsoring events in the Department.

Action: LMG

4. Outreach requests

i) Westcliff High School for Boys, Essex would like to establish CS enrichment days for their year 7-9 students (Approx. 180 students) **(2019-02-04)**

ii) Experience Cambridge Day in conjunction with the Cambridge Admissions Office, 10.30-16.30, 13 July 2019

Dr Tobias Kohn, RA in the Computer Architecture has agreed to be the co-ordinator

iii) Raspberry Pi event, 30 & 31 March 2019

A course information stand will be provided for 3 hours on both days and help will be sought.

5. Industrial Supporters Members Donations

Donations received from members of the Supporters Club will be given the choice to support either:-

1) Research Student Hardship Fund

2) Research Pump Priming

3) Outreach.

The HoD has asked the committee to discuss blue sky initiatives if enough funding was available, i.e. offering pre-university courses for people who haven't had the opportunity to do CS A Level, offering a conversion course which might provide an opportunity for women with a background in numerate subjects to get into CS.

6. Transition Year at Cambridge

The committee is asked to discuss the Transition Year at Cambridge: Pre consultation document received from Professor Graham Virgo, Senior Pro-Vice Chancellor (Education) and to provide feedback **(2019-02-06)**

7. Outreach Committee Actions from Athena SWAN Silver Application

(2019-02-07)

8. Any Other Business

9. Date of next meeting

To be held in Easter Term.



**Minutes of of the Outreach Committee held on
Monday 19 November 2018, 2:00pm, SW00**

Present: Tim Jones (Chairman) (TMJ)
Claire Chapman (Secretary) (CLC)
Lise Gough (LMG)
Megan Sammons (MS)
Ilia Shumailov (IS)

1. Apologies for absence

Bogdan Roman (BR)

2. Minutes from previous meeting

The Minutes from the meeting on 9 April 2018 were approved.

3. Report on actions from last meeting

i. Committee Membership

Ilia has joined the committee as a graduate student member. MS will recruit an undergraduate student member.

Action: MS

ii. To set up a Moodle Poll to find out the Outreach activities which IA and IB undergraduates currently do

As BR successfully found a pool of willing students to help set up the CSAT practice [+] platform, it was felt that an extra feedback poll was not required.

iii. How to consider Outreach at Masters and PhD Level

LMG has asked the HoD Team to discuss the possibility of the Department subsidising a taster week for PhD students who have been made an offer. This would allow students the chance to talk to institute, non-institute members and current PhD students. The week could also be embedded with college run activities. The timing of the week would be carefully considered to ascertain the best time to be held. If Departmental approval is given, it could be in operation in 2020.

Action: LMG

iv. Departmental Calendar

As each person needs to be granted access to the official meeting calendar by reception, a link cannot be provided on the home page.

4. Sutton Trust Summer School

TMJ gave the following report on the Summer School held in August 2018.

Feedback showed the course was very well received and the students enjoyed the

mix of practicals and supervisions. However, some students found the Friday morning was 'lecture-heavy' in comparison to the rest of the week and this will be rectified next year.

The students (19 male and 3 female) were in the Department Tue AM – Fri 12noon. All the female students who applied were accepted on the course. TMJ suggested that in order to increase the female intake, we should advertise the course to Code First: Girls when the website is open for applications.

Action: TMJ

The activities included:-

- Programming exercises in Python and ML
- Algorithms lecture and coding exercise
- Computer Architecture lecture and coding exercises
- Graphics coding exercises
- Example supervision questions to answer
- Supervision with a PhD student
- Lectures from UTOs and RAs giving overviews of their research area

TMJ fed back to the Admissions Office that the Department can increase its intake to 50-60 students, but as the lead time to book accommodation is 2 years in advance, the intake will increase gradually year on year. Due to increased intake, computer monitors would need to be provided in the Intel Lab. TMJ has already discussed the implications of this with Graham Titmus.

Each participant was provided with a Raspberry Pi to keep which the Sutton Trust funded (cost of £50 each), but the Sutton Trust is not able to meet this cost annually. TMJ has contacted Jan Samols to ask if the Supporters Club can provide funding to purchase the Raspberry Pi's.

5. Graduate Open Day

LMG reported that the day was a big success with staff members, students and Alan Blackwell on the stand in the University Centre. Tours in the Department were also given in the afternoon. 10/36 (30%) attendees were female and the overall attendee number has doubled since last year. The majority of attendees were encouraged to initially do the MPhil.

6. Outreach requests received: -

i) 31 January 2019, Nobel School in Stevenage, 2 hours visit (approximately 8 students) (***Richard Mortier is hosting***).

ii) 18 – 25 February 2019, ABC Languages has a group of students visiting from a Computer Engineering School in Austria, would like a weekday afternoon visit.

The committee felt that the Department of Engineering may be more suitable for the group to visit rather than the Department. CLC will respond to this effect.

Action: CLC

iii) 3 – 7 March 2019, Haute Ecole Francisco Ferrer, University of Electronics in Brussels, approx. 13 students, (1/2 day or a 1 day), would like a tour and admission talk if possible.

As these are undergraduate students, the option of holding the PhD student

presentations and providing an MPhil/PhD admission talk on one of these days was discussed. LMG will follow this up.

Action: LMG

7. Oxbridge Student Conferences (Monday 18 March - Thursday 28 March 2019)

Two volunteers have come forward (Graham Titmus and Michael Dodson) and a further request for volunteers will be circulated. Once all the slots have been filed CLC will submit the names to Rachel Cox in the Cambridge Admissions Office.

Addendum: One further volunteer (Julia Bibik) has come forward and all the dates have been filled apart from Aintree.

Action: CLC

8. Other Outreach Events

Taster Day

TMJ said that in January 2019, the Cambridge Admissions Office are holding a taster day for Year 8/9 students in all subject areas and he will give a 45 minute Sonic Pi demonstration.

STIMULUS Programme

TMJ suggested advertising the STIMULUS programme to PhD students which allows students the opportunity to visit local schools to give coding demonstrations. MS said that she believed that Larry Paulson has agreed to be the Department's representative following the bereavement of Richard Gibbens, but she will confirm this. LMG said that she believed that Omer Sella had already signed up to the programme. CLC will send TMJ the contact details of Jacqui Watkins, the STIMULUS co-ordinator.

Addendum: Larry Paulson has agreed to be the STIMULUS representative.

Action: CLC

Murray Edwards College Science Blog

TMJ reported that he had visited Murray Edwards College to discuss their "She Talks Science" blog. The blog provides posts on all science subjects. It was hoped that the Department could adopt something similar and provide a blog and twitter feed on our website. The Digital and Communications Officer will be asked to initiate this following their appointment.

The committee felt that the majority of photos on the website need to be updated as they are very out of date. This also falls in the remit of the Digital and Communications Officer and they will be approached on their appointment to initiate this.

Action: TMJ

Research Group Film

IS reported that he is compiling a film to showcase the research of all research groups in the Department. Each group will be approached to ask for volunteers to come forward to give a short talk. It is anticipated that students, post docs and academics will take part. He hopes to have the film completed by the end of the year.

Action: IS

9. Any Other Business

Sponsorship Opportunity

LMG said that IBM have offered to provide sponsorship for events in the Department and suggested that a meeting is held between TMJ, LMG and Jan Samols to discuss this.

Action: LMG

10. Date of next meeting

To be held in Lent Term.

Claire Chapman

From: Mr R Steel <SteelR@whsb.essex.sch.uk>
Sent: 11 January, 2019 12:06 PM
To: Claire Chapman
Subject: RE: Outreach program and enrichment days

Dear Claire

Thank you for your quick reply. Ideally I'd love to try and forge a long term enrichment link with the university. Two of our last years Computer Science cohort were fortunate enough to make it to Cambridge last year but sadly neither opted to take Computer Science. I want to encourage more of our Computer Science students to aspire and apply for your university.

In an ideal world I would like to arrange both some form of outreach where you come to us to help deliver something onsite and a trip out to you for a different year group for something onsite. I have seen that you have a number of day events suitable for sixth formers, I will be encouraging them to apply for places on them.

In the past, at a prior school, I have worked with Bletchley park to run a superb year 7 enrichment day, this involved an initial lecture about the history of ciphers and encryption followed by a carousel of activities (making/using Caesar Ciphers, Pringles cans enigma machines and a 'cryptographics' inspired message task) we were lucky enough to have an alumni who was at Bletchley who then gave awards and spoke about her time during the war. Bletchley are sadly unable to run this with us but I am aware of the need for significant input on my part to help ensure successful outcomes.

I'm sure your team have a range of activities past experiences that you have used in the past, we are very flexible and are more than happy to work with you on a tried and tested day or help develop something new. We have a good range of facilities onsite at your disposal. There are two side by side computer rooms accounting for 60 machines along with another very good room in technology nearby with an additional 30. By using three other rooms of older machines we can extend to accommodate all 180 in the year group but 2 days or a suitable carousel may prove more useful. One room is equipped with Raspberry Pi 3's on it's own dedicated (non internet connected) network for network security activities. There is also access to the main hall, a theatre and a large gymnasium. There is a good appetite for robotics, network security, game development and general programming amongst the student body.

Due to staff recruitment issues I'm very keen to arrange something suitable for years 7-9 given we are unable to staff their lessons with a computer science teacher. For this reason we want to arrange something for this academic year but would still rather arrange something next year than miss out on an excellent opportunity. We want to offer an activity to an entire year group of 180.

I will get back to you with dates once I have a chance to discuss the calendar with my manager. With the exception of the exam period, exchange and CCF camp we are very flexible. Depending on the year group certain days will cause less disruption than others but once again we are very flexible on this.

For off site visits a middle of day would work best, we are a little under two hours from you, it is not unusual for us to have trips leave before the school day but that would still have us arriving around 10am, similarly a departure of 2pm would have us back in time for school transport. If an activity would require longer than this that wouldn't be an issue as we can inform parents of a later return time. Students would be off timetable for the entire day (both for onsite or offsite) so less than three hours of activity wouldn't be ideal.

What sort of things do you normally offer? Do you normally work with entire year groups or prefer to limit to smaller numbers? Given our situation what would you recommend we look to?

Kind Regards
Roger Steel

From: Claire Chapman <clc32@cam.ac.uk>
Sent: Wednesday, January 9, 2019 3:54:01 PM
To: Mr R Steel
Subject: RE: Outreach program and enrichment days

Dear Roger

Thank you for your enquiry. I am replying to you on behalf of the Outreach Committee in the Department. Our next committee meeting is due to take place in February and we will be able to consider your request at this meeting. In the meantime, please can you provide me with answers to the following questions:-

- 1) Where would you want the visit to take place (at your school or here in the Department);
- 2) What date would you be considering; (if you would like to visit the Department, then it would have to be outside of the University's term time due to our Lecture Theatres being in constant use – our term dates can be found here:- <https://www.cam.ac.uk/about-the-university/term-dates-and-calendars>)
- 3) How long would you want us to run a session for (e.g. the whole day, or just an hour as part of a day covering several subjects, or something else)?

Best wishes
Claire

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From: cl-outreach-bounces@lists.cam.ac.uk [mailto:cl-outreach-bounces@lists.cam.ac.uk] **On Behalf Of** Mr R Steel
Sent: 9 January, 2019 10:03 AM
To: outreach@cl.cam.ac.uk
Subject: Outreach program and enrichment days

My name is Roger Steel, I'm head of Computer Science at Westcliff High School for Boys. We are looking to establish a range of enrichment days for years 7-9. Ideally these will be for the entire year group (180). I can

see from your website that you offer a range of excellent enrichment activities, would it be possible to arrange something with us. As a school we have a pretty active uptake off computer science, with 120 students studying for the GCSE (years 10 and 11 combined) and 32 taking a-level (12 and 13 combined).

Many thanks in advance.

Kind Regards

Roger Steel

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Transition Year at Cambridge: pre-consultation

1. Summary

This document outlines emerging thinking about a proposed Transition Year at the University of Cambridge. Work is still ongoing, and much detailed planning remains to be done, but the Transition Year Project Board would welcome feedback at this stage on some of the key principles currently under consideration.

This is essentially a pre-consultation, prior to a more detailed proposal which will be developed for full consultation across the Collegiate University in Spring 2019. In particular, this pre-consultation focusses on the **objectives and overall structure** of the Transition Year; it does not reflect any detailed thinking on the academic content of the programme, which will be developed in consultation with Schools, Faculties and Departments, non-School institutions and Colleges.

If the programme is formally approved by the Collegiate University early in the 2019-2020 academic year, it is intended that the Transition Year will be available in pilot mode for its first intake in 2021. The Collegiate University already makes considerable efforts to ensure diversity of intake; the Transition Year would not replace these programmes, but would target students who have experienced significant educational disadvantage or disruption and who would either not perform well in standard admission assessment or who would simply not apply. Subject to rigorous definition of 'significant educational disadvantage or disruption', the Transition Year is intended to benefit both students presenting from the current A-level system, and those with other Level 3 qualification, including mature learners.

The Transition Year can only go ahead if funded philanthropically. No part of the Collegiate University will be asked to fund the Transition Year programme directly. Further consideration will need to be given to the requirements for residence and matriculation.

2. Course objectives

The primary objective will be to create academic opportunities for students with potential, such that they are able to progress successfully to undergraduate courses at Cambridge or at other leading Universities; the Transition Year will thus facilitate transition from current level of academic preparation to the level required to thrive at a leading University.

It is anticipated that applicants may be drawn from the following groups:

- (i) Students from a background of educational disruption or disadvantage who have the potential, and aspiration, to achieve highly but are unsure about committing to Higher Education or would like to gain some experience of undergraduate study methods and expectations;
- (ii) Mature learners returning to Higher Education, in particular those coming through Access to HE pathways;
- (iii) Students with strong academic potential who have followed a standard educational route but, through disruption or disadvantage, have not achieved or are not expected to achieve the typical Cambridge offer;
- (iv) Students from less advantaged backgrounds who have followed a standard educational route and have achieved highly, but whose subject combinations do not equip them for a Cambridge Tripos.

3. Key components of the Transition Year

- (i) Students will apply directly to the Transition Year and will undergo a contextual assessment process, most likely alongside the March admissions round. Students will not be expected to present with predictions that they will meet the typical offer for undergraduate admission, though some might do so. Applicants will, however, have to demonstrate outstanding academic potential, contextually assessed.
- (ii) It may also be possible that applicants presenting through the standard admissions process, but who do not receive an offer for admission, may be thought suitable to benefit from the Transition Year, and could then be encouraged to apply for this programme– or even that a referral route may be created in such instances.
- (iii) It is anticipated that Colleges will be able to select Transition Year entrants from a central pool; applicants will not normally be expected to express a choice of College on their application. Students continuing into Tripos from the Transition Year (see para v below) will be able to apply to any College, including the one at which they have followed the Transition Year.
- (iv) On successful completion of the Transition Year, students will be assessed for the award of an Undergraduate Certificate of Higher Education (FHEQ Level 4) as a nationally-recognised, post-A-level, exit award.
- (v) Two models are being considered following successful completion of the Transition Year:
 - (a) No guarantee of continuation from the Transition Year to an undergraduate place, but it is anticipated that achievement on the Transition Year will equip students with levels of attainment sufficient to stand a strong chance of competing effectively for a place at Cambridge or another leading University. Once on the Transition Year, students will be expected to apply for admission to one of the Cambridge Triposes, again most likely in the March round. Threshold for entry will be outstanding academic potential and a stated level of minimum achievement in the UG Certificate, signalling a level of overall attainment commensurate with the University's typical offer;
or
 - (b) Automatic admission to a Tripos, with the Transition Year operating as Year 0, subject to compatibility of course content between the Transition Year programme and Tripos requirements.
- (vi) The programme will initially cover only subjects in the Arts, Humanities and Social Sciences, where application levels are generally lower and the need for improved access and participation is greatest; a subsequent extension of the programme to STEM subjects is anticipated. The Transition Year will provide an opportunity for students to experience subjects and teaching methods that may encourage in them an interest to pursue a particular course of study at Cambridge.
- (vii) An initial cohort of 50 students is planned, to be reviewed as the programme evolves.
- (viii) It is hoped that eventually all undergraduate Colleges will wish to participate in admitting to and participating in the teaching and support of Transition Year students. However, to avoid isolation for students and to manage complexity, it is anticipated that the Transition Year will initially operate within a limited number of participating Colleges, so that at least five Transition Year students are present in each. As the programme develops, a larger cohort could be supported across a larger number of Colleges. Transition Year students will matriculate as members of Colleges and will have full access to the Collegiate University's benefits and facilities.

4. Programme content

The Transition Year will be a full-time programme of study, observing standard Cambridge Terms. As with the Tripos, appropriate arrangements will be in place for self-learning or assignments out of Term.

Full details of the programme have not yet been finalised and will be worked up in consultation with academic colleagues in Colleges, Faculties and Departments. The key themes of the programme will be:

- Detailed knowledge acquisition relevant to preferred or likely subjects
- Introduction to key methodologies in the preferred or likely subjects
- Development of analytical and critical thinking
- Enhanced generic study skills
- Exposure to new forms of teaching, learning and assessment relevant to the Cambridge and disciplinary context

In view of the likelihood of students coming from a background of disadvantage or disruption, the programme will also provide support for students to develop personal effectiveness and study management skills, and will include a programme of mentoring and ongoing support for those who continue their studies at Cambridge.

5. Criteria for entry to the Transition Year

Criteria for entry will be developed by the Admissions Forum, to be consistent across all participating Colleges.

6. Programme resources

It is intended that the Transition Year will be free for students. Funds will be raised by philanthropy to enable the University to provide each student with a funding package to cover travel, accommodation and living costs, and the costs of tuition and administration.

7. Programme management

A management structure for the Transition Year will operate under the oversight of the General Board's Education Committee and the Senior Tutors' Committee, and will include a dedicated Programme Director and administration team. A Management Group for the Transition Year will have Collegiate representation and will lead a sub-structure managing publicity, entry procedures, evaluation and monitoring, and programme development. The Management Group will be supported by input from the relevant Collegiate University bodies, including, *inter alia*, the Cambridge Admissions Office, Education Services, University and College Libraries, Communications Office, the Institute for Continuing Education, and academic and professional staff in Colleges, Faculties and Departments.

OUTREACH COMMITTEE

ACTION POINTS – 2.1, 6.1 AND 6.2

ACTION PLAN

As a world-leading Computer Science department, we seek to increase the number of women in the field while ensuring our current staff and students continue to thrive. Our long-term goal is to be an international model for encouragement and support of women in Computer Science, both in the Department and, via our engagement with industrial collaborators, more widely. In our Action Plan below, we note progress made as a result of implementing our Bronze Award Actions, and we indicate both existing Activities we are taking forwards and new Actions we are adding. Our Action Plan follows similar organisation to our Bronze Award Action Plan, grouping actions under six headings: Departmental organisation; Information sharing and visibility; Information gathering and monitoring; Internal best-practice sharing; Support for existing staff and students; and Staff and student numbers. Throughout, *students* refers to both undergraduate and postgraduate students, and *staff* refers to all research, support and academic staff. Dates provided as a single year refer to the academic year beginning with the given year (i.e., 2019 refers to academic year 2019/2020).

| Action | Objective | Rationale | Activities Planned | Responsibility | Success Criteria | Priority |
|--|--|---|--|--|--|----------|
| 2. Information sharing and visibility | | These actions are motivated by the need to ensure that the Athena SWAN panel is aware of activities that members of the Department are already undertaking, that members of the Department are aware of existing activities in relation to women in Computer Science, that the visibility of women within the Department is improved, and that the Department's determination to improve the position of women in Computer Science is recognised externally. | | | | |
| 2.1 | Collecting and making visible information about outreach activities and resources. | Members of the Department enthusiastically engage in outreach, but this is not always effectively communicated to the wider world. Given the improvements in gender balance of academic staff in particular, this is a missed opportunity to increase visibility of women in Computer Science externally. Doing so will also contribute to addressing the challenges of improving numbers of | Record outreach and public engagement activities, for both monitoring and website updates. New Communications Officer is being hired to refresh the Department's website and other aspects of communication. Will give women-directed outreach activities and | OC women@CL Academic Chair Website Manager HoD | Website updates with women-directed outreach activities, at least monthly. Delivery of new website with increased prominence for women-directed activities, by 2019 Outreach Remit discussed at Faculty Board in 2018. | High |

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| | | women applying for UG, PGT and PGR courses. | resources further prominence. Discuss new Departmental Outreach Remit to increase staff involvement to Faculty Board and encourage participation in programmes such as STEMM Ambassadors and AWISE. | | | |
| 6. Increasing number and proportion of women students and staff | | These actions are motivated by the underlying, sector-wide need to increase representation of women (and other underrepresented groups) in Computer Science, traditionally a white male dominated field. These actions are among the most difficult to achieve as they depend heavily on external factors as well as taking considerable time (several years at least) to have effect. Nonetheless, there is clear support in the Department for ambitious goals, and the targets we have set here are deliberately at the upper end of what we believe is achievable. | | | | |
| 6.1 | Increase numbers of female undergraduates. | While our proportion of women undergraduates has been steadily increasing, considerable work remains to be done. As growing the undergraduate pipeline is a significant factor in achieving better balance in other areas, the Department should engage in targeted outreach to that end, in addition to general outreach from the Department addressing issues of "People Like Me". | Continue to monitor and revise outreach activities in light of data collected about what is effective. Continue to take advantage of opportunities presented to the OC, without overburdening female members of the Department. Support the Oxbridge Conferences with staff time. Recruit more women to help at Open Days. | OC | Continuing year-on-year increase in numbers of girls expressing interest in Computer Science at Cambridge, including attending Open Days and number of applications. 50% women helpers at events and outreach events, by 2019. To be in the top quartile of comparable UK courses for percentage of female students admitted in the 2018/19 academic year (see 6.3). | High |

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|-----|------------------------------------|---|---|----|--|------|
| 6.2 | Introduce Summer School for girls. | The University and Department collaborates with organisations such as the Sutton Trust, which are effective at recruiting from diverse background. Hands-on coding clubs are known as a good way to engage and recruit people. We should thus ensure we make use of these capabilities to improve gender balance in our undergraduate recruitment pipeline. | <p>Continue to support the University's Sutton Trust programme and Cambridge Admissions Office to widen participation in Outreach.</p> <p>By arrangement with Cambridge Coding Academy, who offer a course based on one run in the Department in 2015 and 2016, guarantee 10 places on that coding summer school.</p> | OC | 100% participants in the Sutton Trust Summer School accepted to the undergraduate course should have found the Summer School useful, using data gathered during the "pre-arrival course" (a preliminary short course, compulsory for all who undertake computer science in Cambridge), | High |
|-----|------------------------------------|---|---|----|--|------|