

# Biannual meeting of the Directors of Studies in Mathematics

DRAFT (UNAPPROVED) MINUTES

**Date and time:** Tuesday 15<sup>th</sup> November 2016, 2:00 pm

**Venue:** Room MR5, Centre for Mathematical Sciences

**Chair:** Julius Ross (DoS Convenor, Sidney Sussex)

**Present:** Christopher Tout (Churchill), Anastasia Kisil (Corpus Christi), Anita Faul (Selwyn), Julia Gog (Queens'), Orsola Rath Spivack (Lucy Cavendish), Irena Borzym (St Catharine's), Wayne Boucher (Sidney Sussex), Colm Caulfield (Churchill College/Part III Chair ex officio), Nilanjana Datta (Pembroke), Berry Groisman (Sidney Sussex), Peter O'Donnell (St Edmund's), Maciej Dunajski (Clare), Chris Brookes (Corpus Christi), Chris Warner (Robinson), Thomas Forster (Clare Hall), Jonathan Evans (Gonville & Caius), John Lister (Trinity), Stephen Cowley (Emmanuel), Rachel Camina (Fitzwilliam), Clive Wells (Hughes Hall), Nathaniel Berestycki (Kings), Julia Goedecke (Newnham), Holly Krieger (Murray Edwards), András Zsák (Peterhouse), Anthony Ashton (Homerton), Anders Hansen (Peterhouse), Ross Lawther (Girton), Stephen Siklos (Jesus)

Notes for the Minutes: Emma Grosvenor Myer (Undergraduate Office)

**Apologies:** Julian Gilbey (Jesus), Simon Wadsley (Homerton), Robert Hunt (Christ College), Jack Button (Selwyn), Sophia Demoulini (Downing), Mark Gross (Kings)

## 1. Introductions

The Chair (Dr Ross) welcomed everyone to the meeting and introduced Dr Holly Krieger as the new DoS for Murray Edwards.

## 2. Minutes of the previous meeting on 10<sup>th</sup> May 2016

The minutes of the previous meeting were approved, subject to the title 'supervisor report' in item 4b being corrected to 'supervisor support'. This has since been done by Emma GM and the minutes have been added to the Maths website. There were no further matters arising.

## 3. Admission matters:

### a) STEP update on the new A-levels

Dr Siklos explained that the new A-level syllabus will be introduced for the first time in 2019 and that this needs to be considered when setting the STEP syllabus for next term. Dr Siklos highlighted a new common syllabus for the entire single mathematics A-level, covering pure, some mechanics and some statistics. Dr Siklos asked for suggestions from the DoS's on the best make-up and mix of questions, and requested he be contacted with any ideas by email.

### b) Mathematics Subject Convenor

Dr Gog informed the group that whereas this year will still receive UMS marks for mathematics, we are starting to lose UMS marks from other subjects. Dr Gog explained the meaning of an "open

offer”, emphasising that with the current parameters, this would be used rarely. Dr Gog then proposed discussion of this topic is delayed for the time being.

Professor Caulfield asked if open offers could be used to increase the number of offers to female students, and Dr Gog replied that is being looked into. There were questions as to legality of such an approach, to which Dr Rath-Spivack added that the key is to extend offers to “disadvantaged groups” for which “women” could maybe qualify. It was agreed by the DoS’s that Dr Gog should pursue this on behalf of the DoS committee.

Dr Gog updated the group on the completion of 2015-16 admission round. There was a small error with STEP marks but the group was assured this should not happen again. There was then a discussion of admission statistics, focusing on the admission of female students and then discussion into trends from older data. Dr Siklos asked if more than 8 years of past data should be looked at, to which Dr Gog explained is available but is a “mess” and often unusable, so this would be a long and difficult task.

Dr Gog was pleased to announce that applications to the 2016-17 admission round is up from 1300 to 1442, an 11% increase vs 3% across the University. It was notable that with Maths having no pre-admissions testing there was a higher rise in applications.

Action: Dr Gog to put information on Moodle well before interviews are due to take place.

Dr Gog re-iterated requests to the DoS’s as already shown on page 4 of her paper distributed prior to the meeting (Report\_from\_subconv\_Nov16.pdf), pertaining to interviewer training and paperwork. Dr Cowley added that the percentage of ‘home’ applicants’ is down from 65 to 60% and the largest increase is from EU students. There was only a 1% increase in female ‘home’ students so the skew is heavily towards male EU students.

c) MUAC

Dr Cowley outlined the background to his paper included for consideration by the DoS (Entry\_Requirements.pdf). It proposes a change to undergraduate entry requirements to now read: *“Further Mathematics A-Level or IB Higher Level Mathematics or an equivalent qualification should be essential (‘required by all Colleges’) for the Mathematical Tripos.”*

Dr Siklos added that the current message is misleading and is giving out the wrong message so a change is necessary, and that we are currently out of step with almost all of the other maths departments and will not lose much interest in our courses by making Further Maths essential. Dr Cowley said that students would be better prepared when STEP comes around if they had already studied Further Maths at A-level. The Faculty Board is in favour of the change and Dr Cowley has sent the paper to be amended from 2018-19 to coincide with the new A-levels, but it needs to be in this year’s Undergraduate prospectus so that we can get it out earlier to prepare students.

Dr Warner commented that although there may be a risk of putting some students at a disadvantage, the message we are sending out may well be an advantage to others, and so thought the overall effect of this change would likely be positive. Dr Borzym agreed it was a positive move because state sector AS Further Maths students in particular find it harder to cope without having studied Further Maths at A-Level. It was felt that where Further Maths is not available in schools students should be encouraged to find the resources and self-learn.

The Chair asked for a show of hands to vote on the approval of the proposal, and it was unanimously agreed by the DoS Committee.

This discussion topic continued and it was noted that if new text is to appear in the prospectus for 2017 then admission tutors need to be made aware of this change as soon as possible. There was

additional discussion around students taking 4 A-levels and the extra funding available, and that state schools are only pushing for 3 A-levels. Dr Evans suggested we send a message saying we may look sympathetically on students without the resources to study Further Maths, who have used self-learning online resources. Dr Rath-Spivack confirmed the current 'Guide to Admissions' does have a paragraph that says "individual circumstances will be considered", such that it encompasses those who have to self-learn Further Maths.

Dr Cowley closed the discussion by observing that when the change is made DoS should ensure that all relevant documents, and college websites need to be updated to reflect this change.

#### Admissions Update

Dr Rath-Spivack summarised her papers by saying that there is static trend of female undergraduate students since 1986, noting an upward trend from 1986-2000, but a downward trend since then which is of concern. There is still a struggle to attract students for open days and the number of attendees is almost exactly the same number as for admissions. Dr Rath-Spivack urges the colleges to liaise with the faculty as we want to attract more female students to open days. Another worrying trend is the downward trend of numbers of 'home' students, which was previously discussed in this meeting. In the early 1980's nearly all female students were from the UK, compared with less than half in 2016.

Dr Goedecke suggested that if students that we wish to attract are not meeting our prerequisites, then we should be looking at our courses. She added that this has been done in Physics by changing their IA course, and that perhaps this could be done for the start of the Mathematics Tripos. Dr Ross (Convenor) suggested this was something to think about and revisit in future.

#### d) Faculty Open Days

Dr Rath-Spivack shared details of the proposed new open day programme. She asked for collective work towards recruiting more students, and welcome emails for suggestions as to how this can be achieved.

### **4. Tripos matters:**

#### a) Working Party on Supervisions

Dr Goedecke updated the committee on the meetings of the Supervisor Support working party. One of its aims is to ensure that supervisors have the right information needed to give high quality supervisions, and to do so without it taking too much of their time. With this in mind, the supervisor's resources in Moodle are being reviewed. The Faculty guide for Supervisors has been changed and there is now a one-page summary of the most important points, that DoS should pass to (new) supervisors. Dr Goedecke asked if the working party should continue their work, and it was strongly agreed that they should continue.

Action: Dr Goedecke will distribute the one-page summary to the DoS.

#### b) Supervision Arrangements

There was a discussion about the perceived increase in difficulty in finding supervisors, particularly for certain subjects, such as Optimisation and Control, Automata and Algebraic Geometry. Dr Goedecke asked how we might encourage more people to take on supervision, and could we make it easier for Post Docs who are not at Cambridge to become involved. Professor Lister said he thought the problem is with non-mainstream subjects and suggested that perhaps it is more useful if

lecturers of these topics could provide a set of supporting lecture notes online. He suggested that we need to find people able to supervise from lecture notes and added that a full set of lecture notes would help. Dr Datta replied that the Stats Lab already provides supervisor solutions and its example sheets have guidelines. Dr Dunajski suggested that this was not a problem if supervisions are arranged very early, for instance finding Michaelmas supervisors as early as April. He added that whilst model solutions are intended only for supervision use, and supervisors sign up to that agreement, students inevitably get hold of them.

There was then a discussion concerning the value in postgraduate students and postdocs teaching, but at the same time we should be mindful as to putting an undue burden on their time. Dr Cowley proposed that the Faculty Board be asked to perform a "resource audit" to measure the number of people in our community who are able/willing to teach, and an estimate of what capacity this gives. It was unanimously agreed that the Convenor (Dr Ross) should bring this request to the Faculty Board.

Action: Dr Ross to bring this to the Faculty Board.

c) Faculty Teaching Committee

Professor Lister opened the agenda item with the proposed new Quantum Information Science Part II C Course subject which is due to start in Lent 2018. The proposal was greeted with general enthusiasm, but with concern as to the ability to find supervisors. It was observed that the list of supervisors in the proposal included five members without permanent contracts (some of whom are expected to be leaving in the near future) but did not include two of the principal UTO in the field. The meeting asked the Convenor to bring this up when it was discussed at the next Faculty Board.

Dr Lister went on to present the results from the National Student Survey, showing graphically how our University compares with its competitors and across the sector. According to the survey, Cambridge fared unfavourably on offering opportunities for personal development. Dr Goedecke suggested that perhaps Part II students could have seminars and training on "How to prepare a talk". It was, however, recognised that some of the less confident or adept students may struggle with giving a presentation. It was suggested that giving students the opportunity to give talks and other such personal development skills may have to fall into the remit of the colleges rather than the wider faculty.

Regarding the Teaching Committee Report to the Faculty Board, Professor Lister asked for any comments on the Examiners' report to be sent to him by Thursday 17<sup>th</sup> November.

d) Mark breakdown

Professor Lister asked for some input on Mark Breakdown results reports. He asked if the Camsis percentile should be also shown and whether we should also add the students' ranking. He added that not everyone would want to know their placement within the rankings so the inclination in the past has been not to include it, unless the DoS's now feel it is of value. Professor Lister asked for comments and emails from the DoS's with their views on this. He asked that after Easter 2017 it would be a good idea to ask the DoS's what results and data they would like sending to them in future. Dr Cowley requested that he may be involved in the process of maintaining our database of active DoS.

Professor Lister also asked how often DoS details are updated and would like to understand the process. Emma GM (Undergraduate Office) has since briefly discussed this with Professor Lister, and has invited him to the Undergraduate Office to see the database and which information is stored and the emails that are sent out to Senior Tutors and DoS's.

e) Part III Examples Classes

Professor Caulfield gave some feedback on changes to the Faculty guidelines regarding 'Example Classes'. It has been agreed with the Colleges that example classes with up to 12 students may be claimed via CamCORS, subject to the class instructor keeping an attendance record and individual reports on the students. If classes are larger than 12 students it was agreed that the Faculty would pay for them.

f) Status of exchange students

Dr Borzym reported on the status of a current Part III exchanged student who unusually has elected to take the full Part III course and sit the exams, rather than merely attended lectures and return home with a letter of attendance from the college. Dr Borzym suggested that a special status such as 'Exchange Student' be created and that in this case, and other rare cases where the student is willing to pay for their course and achieve 'Part III' status then they should be allowed to do so. She added that the department should have a facility available for students to do a single one year course on this basis. It was agreed by the DoS's that the Convenor bring this to the Faculty Board for consideration.

## **5. Other Committees**

a) Part III Permissions Committee

The DoS agreed to nominate Dr Stuart Martin to serve on the Part III Permissions Committee vice Dr C Warner to serve for three years from 1 January 2017.

## **6. Intercollege DoS Meeting**

a) Moodle

The Convenor (Dr Ross) asked if minutes from the DoS meetings should be added to Moodle or should remain on the Maths website. Dr Ross is to meet with Glory Dalton and Emma GM (Undergraduate Office) to discuss.

b) Rota

It was proposed that Girton take Chair of the Intercollege DoS meeting next year (2017-18) and Murray Edwards the year after. The DoS duly agreed this at the meeting.

## **7. Any other business**

There was no other business and the meeting was concluded at 4:00 PM.