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Minutes of APTS Advisory Committee meeting (AC12) on 13th September, 2018

Present: Sergio Bacallado (Cambridge, remotely), Mark Brewer (BioSS), Chris Brignell (Nottingham), Jochen Einbeck (Durham), Wilfrid Kendall (Warwick), Paul Jenkins (APTS co-director), Adam Johansen (APTS co-director), Finn Lindgren (Edinburgh, remotely), Brendan Murphy (UCD), Geoff Nicholls (Oxford, remotely), Jonty Rougier (Bristol), Jan Palczewski (Leeds, remotely), Stefan Stein (Warwick, Student representative)

Apologies: Chris Ferro (Exeter), James Griffin (Warwick, Student representative), Azadeh Khaleghi (Lancaster), Laura McDonnell (EPSRC), Simon Shaw (Bath), Julian Stander (Plymouth), Shahin Tavakoli (APTS Programme Manager), Len Thomas (St Andrews)

Meeting held at: C1.06, Zeeman Building, University of Warwick

Meeting Began: 14:00

Meeting Ended: 16:00

Overview of topics

1 Minutes of Advisory Committee meeting on 14th September 2017

The previously circulated minutes were agreed, except for a typo in Section 4: APTS week 4 took place in 2018, not 2017.

2 Matters arising

2.1 From Advisory Committee Meeting AC11

AC11-3: Student feedback indicated that the student experience of the *Statistical Computing* labs could be improved. Student feedback on this module has been forwarded to the current local organiser (SERGIO BACALLADO) as recommended.

AC11-3: It was noted that APTS weeks 3 and 4 tend to host smaller numbers and that this should be emphasized in the call for bids to host weeks. In fact this effect has substantially declined in 2017-18 (initial registrations for the four weeks were 136 / 119 / 117 / 97), so the APTS Management Team decided *not* to draw attention to this effect in the call for bids.

AC11-3: It was noted that module leaders should be encouraged to give serious consideration to providing breaks during 90 minute lectures. This has been done; every module leader in 2017–18 has provided breaks.

2.2 From Executive Committee Meeting EC12

EC12-2.3: Because of the change of module leader during the academic year, EC12 agreed to write to APTS Academic Contacts informing them of the change and to honour subsequent amendments to registrations if requested. This was done; only one such request was made. The billing and cancellation policy has been amended to reflect that changes to registrations can be made under this circumstance.

EC12-3: It was recommended that the module delivery fee (currently £3,000 per module, paid to the Department of a module leader in most instances, and shared amongst co-led modules) be reviewed. DAVID CROYDON approached Heads of Departments where module leaders are based. Feedback suggests that although module leaders are not paid at 'market rates' there are many intangible benefits to delivering APTS modules, and additionally that module leaders tend to be drawn from the pool of institutions that make heavy use of APTS for their students. There was no strong appetite for the module delivery fee to be revised.

EC12-5: Student feedback indicated the difficulty in calibrating the level of the *Statistical Computing* module. This has been brought to the attention of the new module leader for 2018–19 (DARREN WILKINSON).

EC12-7.1: Student numbers have been increasing and module leaders were consulted to check that arrangements for modules, particularly support during practical sessions, were adequate. Other than *Statistical Computing*, which received an additional PhD helper in 2017–18, no issues were raised.

EC12-9.2: DARREN WILKINSON (Newcastle) has agreed to succeed FINN LINDGREN in the delivery of the *Statistical Computing* module in 2018–19.

EC12-9.3: HELEN OGDEN (Southampton) joins ANTONY OVERSTALL in the delivery of *Statistical Modelling* for 2018–19, with a view to Helen Ogden taking over the module in subsequent years.

EC12-9.4: MATT ROBERTS (Bath) joins STEPHEN CONNOR in the delivery of *Applied Stochastic Processes* for 2018–19, with a view to Matt Roberts taking over the module in subsequent years.

APTS extends its thanks for Finn Lindgren, Antony Overstall, and Stephen Connor for their long and dedicated service; they have been involved in the teaching of their modules for five, four, and eight years, respectively.

EC12-11: PAUL JENKINS succeeds DAVID CROYDON as APTS co-director, alongside ADAM JOHANSEN. Paul Jenkins will share the role of APTS Programme Manager with SHAHIN TAVAKOLI (Warwick) in 2018–19, with a view to Shahin Tavakoli taking over in subsequent years.

3 Report of APTS 2017–2018

The APTS week: material covered. There is a slight uptick in the number of students reporting that they found a module "too hard", particularly the more theoretical modules *Applied Stochastic Processes*, *Statistical Modelling*, and *High-dimensional Statistics*. This might reflect the increasing diversity of the cohort. WILFRID KENDALL It is not clear what are the ideal numbers to be aiming for here. It is not necessarily the case that we want 0 claiming a module is "too easy" nor "too hard".

Engagement in computer labs seems to have been lower this year, especially for the modules in weeks 3 and 4. STEFAN STEIN It is possible that low attendance means students are overwhelmed by the material rather than that they find it too easy, especially those with little experience in R. It would be helpful to add R code to plots on lecture slides, and also to conduct computer sessions in the form of 'guided lectures'.

Student costs. Income to APTS is substantially up on the previous year. This is chiefly due to an increase in student numbers. Outgoings have increased commensurately, as will be reported to the next Executive Committee in the usual way.

Alumni questionnaire. This is an interim report based on responses received so far. There is a slight increase in numbers reporting that they would not recommend APTS to someone just starting a PhD, but these numbers are very small. One alumnus requests APTS provide academic transcripts; APTS cannot do this as it does not conduct assessments. One alumnus comments that they found Statistical Inference too unrelatable. WILFRID KENDALL Students' expectations for this module may be misplaced. It may be worth checking the module description for this module and adding something to make it clear what is to be gained from this module even if you have already taken several undergraduate statistics modules.

Action: Together with the module leader for Statistical Inference, to review its module description. (APTS PROGRAMME MANAGER)

One alumnus reports an unfortunate experience with their accommodation. PAUL JENKINS Problems with accommodation have also been raised at the most recent APTS week 4 in Glasgow, in which students were required to share rooms and only discovered this on their arrival.

Action: To make it explicit in future calls for bids from host institutions that students should be expected to have individual rooms. (APTS MANAGEMENT TEAM)

4 Programme for APTS 2018–2019

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1. Cambridge 10-14 December, 2018
   Statistical Computing (Darren Wilkinson)
   Statistical Inference (Simon Shaw)
2. Southampton 8-12 April, 2019
   Applied Stochastic Processes (Stephen Connor and Matt Roberts)
   Statistical Modelling (Helen Ogden and Antony Overstall)
3. Durham 8-12 July, 2019 [clashes with a public holiday in NI]
   High-Dimensional Statistics (Rajen Shah)
   Computer Intensive Statistics (Paul Jenkins)
4. Oxford 2-6 September, 2019
   Design of Experiments and Studies (Dave Woods)
   Flexible Regression (Claire Miller and Tereza Neocleous)
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5 Dates and Locations for APTS 2019–2020

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1. Cambridge 16-20 December, 2019
2. Southampton 30 March - 3 April, 2020
3. Nottingham 6-10 July, 2020
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4. Oxford 14–18 September, 2020

6 Elections

6.1 Advisory Committee representative to the Executive Committee

Nominees: BRENDAN MURPHY.

BRENDAN MURPHY is re-elected.

7 GDPR

Because of the recent implementation of General Data Protection Regulation, the APTS Management Team have made some changes to the way APTS processes data, in consultation with the University of Warwick's Data Protection Officer. Operationally, the key changes are

1. Data on individuals is anonymised four years after the year in which they attended an APTS week.

2. Attendee data must be shared securely between APTS and host institutions. Data sharing agreements require review; this is in progress.

3. There is a new, more detailed, privacy notice for students.

CHRIS BRIGNELL Does the privacy notice also cover module leaders and APTS academic contacts? PAUL JENKINS The notice is aimed at students but data on module leaders and academic contacts is also subject to GDPR. APTS' privacy procedures for these types of data subject are under ongoing review.

8 Curriculum Review

Several actions were suggested during EC12:

EC12-10.1 "Communicate the topics raised by the EC as omissions from the APTS syllabus to lecturers, encouraging them to either consider including such material, or communicate suggested further reading, where appropriate." This has been done. Responses included that RAJEN SHAH is considering including kernel machines and gradient boosting in *High-Dimensional Statistics*; and CLAIRE MILLER and TEREZA NEOCLEOUS are considering including neural networks in *Flexible regression*.
Action: Seek feedback from the lecturers on these additions. (APTS PROGRAMME MANAGER)

EC12-10.2 — "Encourage lecturers to consider being more explicit about prerequisites, e.g. point to specific textbooks." This is done: the majority of modules now includes textbook references to help students with their preparation. Some are still missing references.
Action: Chase up the remaining modules. (APTS PROGRAMME MANAGER)

EC12-10.3 "To look into the feasibility of rotating APTS modules and/or offering online modules and to report back to the EC".

EC12-10.3 "Add a question to student feedback questionnaire: Will you do the assessments?" This has been quite informative: see AC12-3.

A discussion ensued.

On providing online modules or remote teaching. GEOFF NICHOLLS If lectures were recorded then APTS could build up a stock of material. WILFRID KENDALL The underlying question is how does this measure up to the mission of APTS. The APTS proposal explicitly mentions "networking" in its vision; if rotation of modules or providing modules online does not fit the APTS mission then we should not do it. ADAM JOHANSEN There may be a loss of opportunity to students at less affluent institutions, who may be less likely to benefit from attending in person. JONTY ROUGIER I have found that recording lectures does

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not work. I fill the blackboards.

On rotating modules in and out of the APTS programme. Wilfrid Kendall It might be more appropriate for an organisation other than APTS to follow-up with further material in years two, three, four, of the PhD. The RSS Graduate Training Programme has played this role in the past.

Other organisations floated that could be involved include the Research Students' Conference in Probability and Statistics, and the Young Statisticians' Section of the RSS. This would also help with networking for APTS alumni beyond their first year.

Jonty Rougier Another model would be to run parallel sessions in APTS week 4. Wilfrid Kendall But does this approach provide good value to the community? Chris Brignell One possibility would be to offer a theoretical and an applied stream of the same module. Adam Johansen We would need twice as much teaching space which might prove difficult. Wilfrid Kendall Part of APTS' mission is also to expose students to areas outside their expertise. Jonty Rougier What about a pre-session being offered on the Sunday / Monday morning of an APTS week? Wilfrid Kendall It might not send a good message to imply that a student needs to use their day off to catch up. Chris Brignell The pre-session could be an online lecture.

Action: To bring this discussion to the attention of the APTS Executive Committee. (APTS Programme Manager)

Jian Zhang (Kent) commented by email that rotating some APTS modules is feasible.

Jonty Rougier We should consider providing additional support in the skills of a professional statistician: tidy data conventions, filenames, markdown, databases, ... These are hard to cover in an APTS week. Adam Johansen We could crowdsource a document covering these areas. Wilfrid Kendall I propose a blog accessible to all APTS students. Things I wish I'd known when I started my PhD. Stefan Stein This would be hugely helpful to current students. Jonty Rougier It could be supplemented by follow-up workshops. Brendan Murphy It needs to be a live document. Wilfrid Kendall A pair of early career researchers or senior PhD students could moderate it. Adam Johansen The APTS cohort could elect them. Jonty Rougier I could contribute some feeder articles.

Action: To look into the feasibility of a moderated blog aimed at APTS students, and to solicit volunteers to help moderate and contribute initial articles. (APTS Management Team)

Topics covered. Stefan Stein. I think an introduction to measure theory should be included in the lectures during APTS. I spoke to several students and there seems to be a general lack of knowledge about measure theory. Whenever it came up in lectures, the lecturer would say something along the lines of "To proceed here we would need to use measure theory. . . but we are not going to do that. Just think of everything as reasonable and well behaved." As a result students are "scared" of measure theory. A single 90 min APTS lecture on measure theory might be included in one of the more theoretical modules. Jonty Rougier It would be very difficult to cover measure theory satisfactorily in 90 minutes. Wilfrid Kendall When I designed the original *Applied Stochastic Processes* module, I deliberately avoided any measure theory. It is possible to train first class applied statisticians without covering measure theory. Sergio Bacallado Covering measure theory briefly might make students more afraid of it rather than less.

9   Any other business and general feedback

Chris Brignell, local organiser for APTS week 2 in Nottingham, noted that a small number of students had been bringing their partners to meals and social events. After some discussion, it was agreed that it would help to re-iterate in the welcome e-mail that students should not bring guests without prior authorisation.

The experiment using `talky.io` rather than Skype for remote participants did not prove successful. Another alternative is `Jitsi`, though it might be preferable to forego internet videoconferencing in favour of audio telephony.

9.1 Date of Next Meeting

Planned date 12th September 2019, 14:00.