

Minutes of APTS Advisory Committee meeting (AC13) on 12th September, 2019

Present: Mark Brewer (Biomathematics & Statistics Scotland), Rajenki Das (Manchester, APTS student representative), Jochen Einbeck (Durham), Adam Johansen (Chair; APTS co-director), Finn Lindgren (Edinburgh; videoconferencing), Brendan Murphy (UCD; videoconferencing), Pete Neal (Lancaster; videoconferencing), Geoff Nicholls (Oxford; videoconferencing), Philip O'Neill (Nottingham; videoconferencing), Jonty Rougier (Bristol; *honorary*)

Apologies: Paul Jenkins (APTS co-director), Natalia Garcia Martin (Oxford, APTS student representative), Antony Overstall (Southampton) Jan Palczewski (Leeds) Simon Shaw (Bath) Julian Stander (Plymouth) Shahin Tavakoli (APTS Programme Manager),

Meeting held at: MB 2.22, Mathematical Sciences Building, University of Warwick

Meeting Began: 14:00

Meeting Ended: 15:45

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1 Minutes of Advisory Committee meeting on 13th September 2018

The previously circulated minutes were accepted as a true record.

2 Matters arising

2.1 From Advisory Committee Meeting AC12

AC12-3: One Alumnus commented that they found *Statistical Inference* unrelatable. This was followed-up in EC13 (EC13-2.2), and it was decided to review module description for *Statistical Inference*, and have discussions of JONTY ROUGIER and SIMON SHAW. Simon has since updated the module description, adding “the ability to critique familiar inference methods” to the course learning outcomes and slightly rejigging the course aims to try and make it more explicit that the course is trying to consider justifications for techniques (which may be familiar). He also plans to provide more examples to increase awareness that justifications are important when considering statistical algorithms.

AC12-3: Problems with accommodation had been raised (students were required to share rooms, but made aware of this only upon arrival). It was decided in EC13 (EC13-8.3) to change guidance notes accompanying call for bids to host APTS weeks 2020/2021 to add (1) the expectation that students will be accommodated in individual study bedrooms will be made explicit and (2) guidance for any organization seeking to secure any sponsorship from external parties will be added. ADAM JOHANSEN did so this year.

AC12-8: After EC12 in 2018 it was communicated to lecturers that the EC had raised some topics as omissions from the APTS syllabus, and lecturers were encouraged to either consider including such material, or to communicate further reading where appropriate. AC12 suggested we seek feedback on this effort, and we can now report such feedback. First, in High-dimensional Statistics, RAJEN SHAH introduced some additional material on kernel machines (definition of positive definite kernels, some examples and a version of the representer theorem). This was well received. Other topics that were considered were boosting and random forests, which were ultimately not included for lack of space as well as Rajen’s reflection that these seemed conceptually less difficult. Second, in Flexible regression, CLAIRE MILLER and TEREZA NEOCLEOUS briefly cover Gaussian processes and functional data analysis. It was decided not to cover neural networks in any detail as it was felt that this did not really fit with the rest of the module. CLAIRE MILLER commented that she would find a module with a more systematic treatment of machine learning useful.

AC12-8: EC12 recommend that we encourage lecturers to consider being more explicit about prerequisites, e.g. point to specific textbooks. AC12 asked for an update on this, which we can now provide: This has been chased up again; now every module has at least one—and usually several—textbook references.

AC12-8: Look into the feasibility of a moderated blog aimed at APTS students about “Things I wish I’d known when I started my PhD”. This was discussed again in EC13 (EC13-2.2) and ADAM JOHANSEN has set up such blog (iwihktw.wordpress.com). So far ADAM JOHANSEN, PAUL JENKINS and SHAHIN TAVAKOLI have written each provided some material, and Stefan Stein and James Griffin have agreed to provide student moderation for the first year of operation. Contributions welcome. GEOFF NICHOLLS noted that the APTS LinkedIn group could provide a source of material. ADAM JOHANSEN noted that technical issues related to financial regulations and approved supplier lists might necessitate a change of platform and the current blog should be viewed as prototypical until officially announced.

2.2 From Executive Committee Meeting EC13

EC13-9: module leader succession. The following changes have occurred or will occur:

- Matt Roberts has succeeded Stephen Connor and has co-opted Nicholas Georgiou to share delivery of applied stochastic processes.
- Rajen Shah will be succeeded by Yi Yu in the coming academic year.

- Claire Miller and Tereza Neocleous have indicated that this will be the final year in which they deliver their flexible regression module.

In discussing the final point in this list it was noted that it would be an opportunity to either slowly, or quickly, develop this into a machine learning module. This idea was broadly supported; GEOFF NICHOLLS noted the natural synergies between nonparametric regression and machine learning. There was some discussion of the need to focus such a module appropriately to ensure that it had a suitably statistical flavour and was well differentiated from High-dimensional statistics. Possible module leaders were discussed including Andreas Groll (Dortmund) and Anthony Lee (Bristol).

EC13-11: regarding the continuation of APTS beyond the present five-year period (from Oct 2021), it was decided that DAVE WOODS forms a sub-committee to oversee a bidding process for the role of running APTS. This is ongoing.

EC13-12: Following a discussion about rotation of modules, it was decided that DAVE WOODS would add in the bidding process the requirement that “the institutions bidding for running APTS should include a description of the basis on which they would anticipate running the academy”. It was decided not to preempt this by making any more substantial changes to the structure of APTS before the next 5 year round of management.

EC13-13.2: Following the suggestion for having a code of conduct for APTS weeks, the APTS management team is currently in consultation with Warwick’s Legal and Compliance services to update our Terms and Conditions with sending institutions concurrently with drafting the Code of Conduct. Then APTS can ensure that it retains the right to cancel its contract with a student’s sending institution in the event that that student is deemed to have breached any Code of Conduct put in place by APTS.

EC13-13.3: It was decided to try online feedback at an APTS week and see how it goes. The online feedback forms were updated, and were tested to work well on smartphones/tables. The module leaders were asked to set enough time aside during a lecture to encourage students to fill the online feedback form then. 53 out of 116 (week 2) and 43 out of 118 (week 3) completed the electronic feedback form. PAUL JENKINS noted that when giving his module (in week 3), students had difficulty entering the long URL for the feedback form, and that a short URL should be created. This was implemented for week 4, and the response rate was again low although improved by following up after the week.

There was considerable concern about these response rates and the possible impact of electronic collection of feedback thereupon. GEOFF NICHOLLS noted the importance of collecting as much feedback as possible, and that in his own experience paper feedback tended to be more valuable for difficult to quantify reasons. JONTY ROUGIER asked what cost there would be to allowing either paper or electronic feedback to be submitted. RAJENKI DAS suggested that collecting the feedback before (or during) the academy dinner might lead to higher response rates; ADAM JOHANSEN noted the conflicting requirements of collecting feedback on as much of the week as possible while avoiding doing so late in the week.

Action: To implement a more robust process for the next academic year — considering the use of paper feedback forms and timing of feedback collection. (APTS Management Team)

3 Report of APTS 2018–2019

ADAM JOHANSEN presented the report.

There was some discussion of attendance numbers and the differences relative to previous years. It was suggested that the relatively high popularity of week 3 in the current year may reflect its alignment with machine learning.

It was noted that APTS used to collect feedback also from module leaders and local organizers and that this feedback might also be valuable.

Action: To reintroduce the collection of feedback from module leaders. (APTS Management Team)

Arising from discussion of student feedback there was some discussion of the ongoing use of the Oxford R lectures. GEOFF NICHOLLS noted that the lectures upon which they were based had been updated and

he would be willing to consult with the current Oxford lecturer. Following the meeting it was noted that the current lectures would not provide a like-for-like replacement. The general mood was that it was more appropriate to identify good existing resources than to develop them for this particular cohort.

Action: Liaise with module leaders to determine what changes, if any, are required. (APTS Management Team)

In discussing the alumni feedback, the possibility of leveraging the LinkedIn group to improve response rates was raised. ADAM JOHANSEN noted the complication associated with collecting feedback only from the correct cohort.

Action: Investigate mechanisms for improving alumni feedback rates by efficiently exploiting communications with alumni. (APTS Management Team)

4 Programme for APTS 2019–2020

The following programme was reported:

1. Cambridge 16–20 December, 2019
Statistical Computing (Darren Wilkinson)
Statistical Inference (Simon Shaw)
2. Southampton 30 March – 3 April, 2020
Applied Stochastic Processes (Nicholas Georgiou and Matt Roberts)
Statistical Modelling (Helen Ogden)
3. Nottingham 6–10 July, 2020
High-Dimensional Statistics (Yi Yu)
Computer Intensive Statistics (Paul Jenkins)
4. Oxford 14–18 September, 2020
Design of Experiments and Studies (Dave Woods)
Flexible Regression (Claire Miller and Tereza Neocleous)

Total costs for each week are as follows:

		RAF	RF	R
Cambridge,	16–20 Dec 2019	470	270	160
Southampton,	30 Mar–03 Apr 2020	490	425	160
Nottingham,	06–10 Jul 2020	510	300	160
Oxford,	14–18 Sep 2020	510	290	160

For students who attend all 4 weeks, a rebate of 20% of the total registration fees (20% of $4 \times 160 = 128$) is made at the end of the year.

Note that once places are allocated, cancellations are subject to the APTS billing and cancellation policy

5 Dates and Locations for APTS 2020–2021

The following dates and locations were reported for advanced planning purposes:

1. Cambridge 14–18 December, 2020
2. Durham 19–23 April, 2021
3. Lancaster 12–16 July, 2021
4. Oxford 13–17 September, 2021

6 Elections

6.1 Advisory Committee representative to the Executive Committee

Jochen Einbeck's term is at an end. Jochen Einbeck was the only nomination received and he was elected *nem. con.*

Agreed: Jochen Einbeck is elected as AC representative to the EC for a further two years.

6.2 Co-opted Members of the Advisory Committee

There was some discussion of the role of co-opted member of the committee. It was noted by MARK BREWER that there are other sectors in which statisticians play an important role and from which we might benefit from input. ADAM JOHANSEN noted that personal contacts were useful in making the first approach. It was agreed that strategically, identifying areas in which we would particularly benefit from input would be a sensible step in identifying potential sources of co-opted members.

The opportunity to benefit from the diverse experience of JONTY ROUGIER in the future was noted.

Agreed: That Jonty Rougier should be co-opted, in place of Jeremy Bradley of GCHQ, to the APTS Advisory Committee.

7 APTS Finances

EC13-3: Continuation of discussions about APTS account and plans for spending the money, and liaison by ADAM JOHANSEN with all UIs “over possibilities to ensure that all substantially interested parties are properly consulted over any substantial extraordinary expenditure”.

It was noted by GEOFF NICHOLLS that underwriting institutions would perhaps feel more comfortable if APTS held a moderately-sized surplus. ADAM JOHANSEN reassured such institutions that the intention was not to dispose of the entire surplus, but to reduce it to a level which our accountants would be comfortable with being held for contingency purposes (a soft signal had previously been received that this level is roughly £75k).

Suggestions for good uses of the APTS surplus which would be of broad benefit to the UK statistical community were invited (these should be directed to the APTS management team by email).

8 Any other business and general feedback

8.1 Printed Materials

From JOCHEN EINBECK by email:

Printing of full course material for all APTS students. Really required?
Cheers,
Jochen

There was some discussion. ADAM JOHANSEN noted that dinosaurs like himself would prefer printed copies of materials and MARK BREWER suggested that there would be a similar division amongst students. JONTY ROUGIER suggested that communication with module leaders could perhaps reduce the volume of printing.

Action: To explicitly ask module leaders to consider the volume of materials which they are asking to be printed and to ensure that only material which module leaders think central to the learning experience is actually printed. (APTS Management Team)

The possibility of charging differential fees depending upon whether printed materials were required was discussed but ADAM JOHANSEN opposed this on the basis that it would complicate the registration process and, particularly, that registrations are made a long time in advance by an individual other than the attendee and this would cause a number of difficulties.

Agreed: Ask students in advance of each week whether they require printed copies of lecture materials; ask host institutions to provide them only for those students who respond positively.

8.2 Module Descriptions

By email NATALIA GARCIA MARTIN had suggested that more detailed module information available at the time of registration would help in selecting modules.

There was some discussion over whether this was something that sending institutions would find useful and the consensus was a cautious, “yes”, but noting that for several modules this is already quite clear. It was felt that for some modules more information might be useful but often a simple link to the previous year’s

material together with information about the extent to which this would reflect the current year's delivery would suffice (changes in module leader being the most likely exception to this).

Action: Ensure, in liaison with module leaders, that the module descriptions are sufficiently informative to allow a new PhD student to make an informed decision about which modules from which they might most reasonably expect to benefit. (APTS Management Team)

8.3 Module Delivery

By email NATALIA GARCIA MARTIN had suggested:

- More guidance in practical sessions.
- 1 hour lectures.
- More interactive lectures.

The first and third of these points relate to the details of delivery and are at the discretion of individual module leaders.

The length of lectures was discussed but it was noted that there are significant logistical issues and timetabling would make it difficult to move to 60 minute lectures except by grouping them in lots of 3 rather than 2. The committee was not convinced that there would be advantages to this.

8.4 Date of Next Meeting

Planned date 10th September 2020, 14:00.