Paper for 4. APTS year 14 (2020-2021): Summary report to Executive Committee

Preliminary: some summary counts for all years 2007–2021

Numbers of students who attended at least one APTS week (of which, EPSRC-funded in brackets). Note 2019-20 is the attendance for week 1 only, due to the cancellation of weeks 2–4. The number of participants due to attend weeks 1–4 was 184:

2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 88 (38) 88 (37) 129 (40) 147 (40) 149 (42) 130 (47) 100 (45) 90 (37) 128 (46) 2016-17 2017-18 2018-19 2019-20 2020-21 155 (NA) 174 (NA) 176 (NA) 141 (NA) 255 (NA)

Number of APTS lecturers to date: 35

Number of APTS-week host institutions to date: 11 (remaining at 11 this year).

Member Institutions

In 2020-2021 there were 26 MIs, all located in the UK and Ireland.

APTS weeks, academic year 2020-2021

[APTS Week Online] Week 1, 14-18 December, 2020:

- Statistical Computing (Darren Wilkinson)
- Statistical Inference (Simon Shaw)

[APTS Week Online] Week 2, 19-23 April, 2021:

- Applied Stochastic Processes (Nicholas Georgiou and Matt Roberts)
- Statistical Modelling (Helen Ogden)

[APTS Week Online] Week 3, 12-16 July, 2021:

- Computer Intensive Statistics (Paul Jenkins)
- *High-dimensional Statistics* (Yi Yu)

[APTS Week Online] Week 4, 13-17 September, 2021:

- Statistical Machine Learning (Louis Aslett)
- Design of Experiments & Studies (Dave Woods)

Registrations

A total of 258 unique students were registered to attend one or more APTS week in 2020-2021. Numbers of registrations for each of the four weeks were 150, 178, 186, 157, respectively. The corresponding attendance figures were 150, 175, 167, 151, respectively.

Of those 258 students:

- 81 were registered to attend all 4 weeks and 74 students actually did so.
- 137 were first year students in statistics or probability.
- APTS Member Institutions supplied 187 of the 258 applications.



Figure 1: UK 2020-2021 Registrations (from institutions supplying UK postal codes)

Student feedback

The following summarizes student responses to an anonymous questionnaire completed at the end of the online APTS Weeks 1-3 (Week 4 is ongoing)

A. Preparation for APTS

1. Roughly, how many days did you spend on the preliminary material?





2. Did the preliminary material help you to understand the lectures this week?

	Yes	No	Didn't use
Statistical Computing	47	7	0
Statistical Inference	43	8	3
Applied Stochastic Processes	34	6	5
Statistical Modelling	43	2	2
Computer Intensive Statistics	31	0	2
High-dimensional Statistics	20	10	3

B. The APTS week: material covered

1. How would you rate the level of the module lectures?

	Too easy	About right	Too hard
Statistical Computing	0	41	13
Statistical Inference	0	43	11
Applied Stochastic Processes	1	16	29
Statistical Modelling	2	45	1
Computer Intensive Statistics	2	30	1
High-dimensional Statistics	0	15	18

2. Did the Oxford R lectures help you with the computer sessions during the week?

	Yes	No	Didn't use
Week 1	8	5	41
Week 2	12	1	35
Week 3	4	2	27

3. Did you find the computer sessions/classes helpful?

	Yes	No	Didn't attend
Statistical Computing	39	13	2
Statistical Inference	42	8	2
Applied Stochastic Processes	21	17	6
Statistical Modelling	45	2	1
Computer Intensive Statistics	30	0	3

4. Will you do the module assessments?

	Yes, required to	Yes, though not required	No
Week 1	17	28	8
Week 2	12	14	20
Week 3	7	9	17

Student costs 2020-21

The following table summarizes the invoices received by APTS sending institutions for the four APTS weeks.

APTS week	Registration	Accommodation
	fees	and food
Week1	£24,000	£NA
Week2	$\pounds 28,480$	$\pounds NA$
Week3	$\pounds 29,120$	$\pounds NA$
Week4	£NA	£NA
TOTAL	£81,600	$\pounds 0$

Note: Registration fee discounts for students attending all four weeks are all deducted from the final week.

Summary of APTS Alumni Questionnaire Responses (2017–18 Cohort)

Number of respondents: 32

1. What best describes your current status?

```
other (please specify): 2
still studying for PhD: 17
working in academia as statistical scientist: 10
working in academia in another role: 1
working in industry in another role: 2
```

Of those answering other:

Have completed PhD and are yet to begin employment in industry as statistical scientist Just finished my PhD Quant developer

2. Which of the APTS weeks did you attend in 2017–18? (specify as many as is appropriate)*

Week 1: Statistical Computing & Statistical Inference: 27
Week 2: Applied Stochastic Processes & Statistical Modelling: 28
Week 3: Computer Intensive Statistics & High-dimensional Statistics: 23
Week 4: Design of Experiments and Studies & Flexible Regression: 22

3. Which of the APTS modules ended up connected closely to your eventual PhD research? (specify as many as is appropriate)

Applied Stochastic Processes: 9 Computer Intensive Statistics: 13 Design of Experiments and Studies: 2 Flexible Regression: 10 High-dimensional Statistics: 12 Statistical Computing: 10 Statistical Inference: 12 Statistical Modelling: 16

4. Has the training given by APTS proved helpful to you in your PhD experience and research?

Yes 28 (88%) No 4 (12%)

5. Has the training given by APTS proved helpful to you in your present employment? (answer only if you are not still working for your PhD)

Yes 13 (72%) No 5 (28%)

6. If your answer to either of the previous two questions was yes, which of the following reasons underlie your recommendation? (specify as many as is appropriate)

APTS weeks enable broader contacts with more senior academics: 3 APTS weeks enable networking with peers: 14 The modules provide a broad general training in the area: 24

Further details supplied by those answering other:

7. Which of the APTS modules ended up connected closely to your current employment? (specify as many as is appropriate, answer only if you are not still working for your PhD)

```
Applied Stochastic Processes: 3
Computer Intensive Statistics: 7
Flexible Regression: 5
High-dimensional Statistics: 8
Statistical Computing: 8
Statistical Inference: 5
Statistical Modelling: 6
```

8. Would you recommend APTS to someone just starting a PhD in applied probability or statistics?*

Yes 29 (91%) No 3 (9%)

Additional Notes

1. Current status of those who would not recommend APTS:

working in academia as statistical scientist: 3

2. Current status of those who *did not* find APTS useful for their PhD:

still studying for PhD: 4

Additional Comments

- 1. Apologies for completeing late, I was locked out of my email address.
- 2. I think APTS was great for the networking side, and for people who are on a more teaching based course in first year. For students whose research is quite specific the courses don't quite offer enough detail. But overall I'd definitely recommend it to any PhD peers!
- 3. I only attended the first week term's APTS training, but found it was quite difficult to follow the materials given by lecturers as I didn't have a statistical background before I started my PhD studying. While, this is just my opinion. I believe you provide the best resources for new PhD students and I heard from many other participants, all of whom have math or stats background, that they benefited a lot. Of course, this is a great platform for future researchers to have a taste of great researches and start to build their own network. Thank you.
- 4. Despite the material not connecting closely with my own research, I would recommend the courses as a useful way to meet a broad range of PhD students whose own research may align with your own, and a good place to share ideas and experiences
- 5. 1) I feel like some more rigorous mathematical training (I honestly don't understand why mathematical details are glossed over all the time) might be very useful to many participants. 2) Sadly, many of the programming tutorials tend to have only very few participants. Maybe something (I don't know what, either) can be done to make attendance more appealing?
- 6. It would be great if there were video recordings for the lectures. They would be very helpful for recapping the materials.

Warwick, September 7, 2021

Registration for APTS

Student registration for APTS academic year 2021-22 opens on Friday 24th September 2021, and **closes on Friday 29th October 2021**. Registration applications made after that date will be kept in a priority-ordered reserve list, in case of any cancellations.

** Alternative delivery **

There is a possibility that one or more of the APTS weeks planned for 2021/22 may not be able to go ahead as a face-to-face event. If we are unable to have sufficient confidence that an APTS week can proceed safely (APTS reserves the right to make this assessment at its sole discretion) then all reasonable attempts will be made to ensure that an online alternative will run in its place. This is expected to take the form of recorded video lectures covering equivalent content, as well as the accompanying written materials (preliminary reading, lecture notes, and assessments). There will also be opportunities for live online interaction with the module leader and other participants, the exact nature of which will vary depending on what is most appropriate for the content of the module, but may take the form of problem classes or guided computer practicals over video conferencing software. Should an APTS week be replaced by a "virtual" alternative then no accommodation/meal costs will be charged to a student's sending institution. The original registration fee for the APTS week, which covers administrative and delivery costs that will not be lessened by such a move to an online event, will still be levied and will be subject to the usual <u>Billing and Cancellation policy</u>.

Students can only be registered for APTS weeks by their "sending institution" (i.e., their home department): a list of these institutions appears below.

- If your department wishes to register as a sending institution, then please <u>click here</u>;
- If your department wishes to commit to being a full Member Institution of APTS, then please <u>click here</u>.
 (All Member Institutions are automatically "sending institutions".)

If your department is included in the list below, the APTS contact (who must be a member of academic staff employed by that institution) will be provided with a password enabling them to complete the <u>student</u> <u>registration form</u> for 2021-22 APTS weeks. (The student registration form also gives full information on cost.)

The principles and practicalities of student registration and payments include:

- date of application within the registration period is unimportant --- it is not used in determining the allocation of APTS places to students (see the <u>APTS Constitution</u> for the list of priorities)
- sending institutions are invoiced by APTS for the registration fee, and for accommodation/meal costs, of their students who are allocated APTS places
- in the case of a student taking all four APTS weeks in the same academic year a 20% rebate of registration fees (20% of 4 x £170) is made
- all financial transactions with individual APTS students, including those relating to travel expenses, are handled by the sending institution

Please see the <u>FAQ</u>, the <u>Billing and Cancellation policy</u>, and the <u>Privacy notice</u> for more specific information, and the <u>list of prerequisites</u> if you are in any doubt as to whether APTS would be suitable for a particular student.

List of sending institutions

https://warwick.ac.uk/fac/sci/statistics/apts/register/

Biomathematics and Statistics Scotland Canterbury Christ Church University: The Business School Cardiff University: School of Mathematics **Durham University: Dept of Mathematical Sciences** European Molecular Biology Laboratory: European Bioinformatics Institute Imperial College London: Department of Mathematics Keele University: School of Computing and Mathematics Keele University: School of Medicine Lancaster University: Department of Management Science Lancaster University: Dept of Maths and Statistics Lancaster University: School of Health and Medicine London School of Hygiene and Tropical Medicine Loughborough University: School of Business and Economics Maynooth University: Department of Mathematics and Statistics Newcastle University: Dept of Mathematics and Statistics Northumbria University: Department of Mathematics and Information Sciences Nottingham Trent University: Department of Mathematics and Statistics **Open University: Dept of Mathematics and Statistics** Royal College of Surgeons in Ireland: Data Science Center The Francis Crick Institute **Trinity College Dublin: Statistics Group** University College Dublin: Statistics Group University College London: Dept of Statistical Science University of Bath: Dept of Mathematical Sciences University of Birmingham: School of Mathematics University of Bristol: Dept of Mathematics-Statistics Group University of Bristol: School of Geographical Sciences University of Cambridge: CRI University of Cambridge: MRC Biostatistics Unit University of Cambridge: Statistical Laboratory University of Cape Town: Department of Statistical Sciences University of Edinburgh: MRC Institute of Genetics and Molecular Medicine University of Edinburgh: School of Mathematics University of Essex: Department of Mathematical Sciences University of Exeter: College of Eng Maths and Phys Sci University of Glasgow: Statistics University of Kent: IMSAS University of Leeds: Dept of Statistics University of Leeds: Institute of Clinical Trials Research University of Limerick: Dept of Mathematics and Statistics University of Liverpool: Department of Biostatistics University of Liverpool: Dept of Mathematical Sciences University of Manchester: School of Mathematics University of Nottingham: School of Mathematical Sciences University of Oxford, MRC Weatherall Institute of Molecular Medicine University of Oxford: Department of Computer Science

APTS contact

Glenn Marion Prodromos Tsinaslanidis Anatoly Zhigljavsky Tahani Coolen-Maturi Nick Goldman Nick Heard Jie Cheng Ivonne Solis-Trapala Juliana Sutanto **Tony Nixon Benjamin Taylor** Ruth Keogh **Nikos Argyris** Andrew Parnell **Colin Gillespie** Pete Philipson Golnaz Shahtahmassebi Kaustubh Adhikari **Fiona Boland** Peter Van Loo Simon Wilson **Brendan Murphy** Paul Northrop Simon Shaw **Biman Chakraborty** Mathieu Gerber Levi John Wolf John Marioni Thomas Jaki Sergio Bacallado Freedom Gumedze **Ailith Ewing** Finn Lindgren Hongsheng Dai Chris Ferro Nema Dean Jian Zhang Jan Palczewski **Deborah Stocken** Peg Hanrahan **Girvan Burnside** Kamila Zychaluk Peter Foster Philip O'Neill Valentina lotchkova **Jim Davies**

University of Oxford: Dept of Statistics University of Oxford: Nuffield Department of Population Health University of Oxford: Wellcome Trust Centre for Human Genetics University of Plymouth: School of Engineering, Computing and Mathematics University of Reading: Department of Mathematics and Statistics University of Sheffield: Health Economics and Decision Science (HEDS) University of Sheffield: School of Mathematics and Statistics University of Southampton: School of Mathematics University of Southampton: School of Social Sciences University of St Andrews: School of Maths and Statistics University of Strathclyde: Department of Mathematics and Statistics University of Surrey: Dept of Mathematics University of Warwick: Dept of Statistics University of Warwick: Warwick Medical School University of Wolverhampton: Statistical Cybermetrics Research Group University of York: Department of Mathematics



• Contact APTS •

Garrett Morris Thomas Nichols Julian Knight Julian Stander Fazil Baksh Jean Hamilton Kostas Triantafyllopoulos Antony Overstall Peter Smith Len Thomas **David Greenhalgh** Janet Godolphin Mark Steel **Deepak Parashar** Paul Wilson **Stephen Connor**

Intranet Contact APTS

Page contact: APTS Programme Manager Last revised: Thu 9 Sep 2021 Powered by Sitebuilder | © MMXXI | Terms | Privacy | Cookies | Accessibility

Coronavirus (Covid-19): Latest updates and information

Billing and cancellation

This page gives details of the way in which the accounts of sending institutions will be handled, and of the APTS cancellation policy.

Billing

APTS will maintain an account for each sending institution. Charges made against this account will be:

- registration fee for all students
- cost of the specified accommodation and food requirements

For students who participate in all four APTS weeks in the same academic year, 20% of the total registration fees will be rebated. This is achieved by reducing the registration fee on the final invoice from £170 to £34 (in 2021-22).

Invoices will be issued to sending institutions **at the end of each APTS week**, for the amounts relating to participation in that APTS week. Registration rebates for students attending all four weeks are made on the invoice for APTS week 4.

Cancellation policy

- 1. Registration fees are payable for all students accepted for an APTS week, and are not normally refunded in the event of cancellation.
- 2. In the event of cancellation of a student's participation in an APTS week, the charges made for accommodation and food will be reduced by
 - 100% if the cancellation is received before noon of the Monday six weeks prior to the Monday of APTS week
 - 50% if the cancellation is received after that but before noon of the Monday four weeks prior to the Monday of APTS week.

(For an APTS week starting on Tuesday or Wednesday, "the Monday of APTS week" means the preceding Monday.) After four weeks prior to an APTS week, charges relating to that APTS week are not normally refunded.

- 3. Occasionally it will be necessary for the named module leader to change following the initial registration period. In the event of a notification of change of module leader, if a cancellation request is made **within six weeks of the notification and prior to the relevant APTS week** then charges for registration, accommodation and food will be reduced by 100%.
- 4. APTS expects all participants to abide by codes of conduct of the APTS week host institutions (see <u>APTS</u> <u>week informations</u>) and reserves the unlimited right to cancel any registration without prejudice in the event of violation of said codes of conduct.

Notice of any cancellation should be sent (by the APTS Academic Contact for the student's home department, NOT by the student concerned) by <u>email to APTS</u>.

Online alternative

There is a possibility that one or more of the APTS weeks planned for 2021/22 may not be able to go ahead as a face-to-face event. If we are unable to have sufficient confidence that an APTS week can proceed safely then an online alternative will run in its place. Should an APTS week be replaced by a "virtual" alternative then no

accommodation/meal costs will be charged to a student's sending institution. The original registration fee for the APTS week, which covers administrative and delivery costs that will not be lessened by such a move to an online event, will still be levied and will be subject to the usual Billing and Cancellation policy.

Force Majeure

The liability of APTS in the event of a failure or delay in the performance of its obligations under this Contract, if such performance is delayed or hindered by the occurrence of an unforeseeable act or event which is beyond its reasonable control ("Force Majeure Events") shall be limited to the reimbursement of any fees already paid in respect of obligations not performed.

Acts or events constituting Force Majeure Events shall include, but not be limited to Act of God, government intervention, or a change in the law, strikes, industrial dispute, civil unrest, riots, rebellions and wars.

Intranet Contact APTS

Page contact: APTS Programme Manager Last revised: Thu 9 Sep 2021 Powered by Sitebuilder | © MMXXI | Terms | Privacy | Cookies | Accessibility

Coronavirus (Covid-19): Latest updates and information