Paper for 5. APTS year 13 (2018–2019): Summary report to Executive Committee

Preliminary: some summary counts for all years 2007–2018

Numbers of students who attended at least one APTS week (of which, EPSRC-funded in brackets):

2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
88 (38)	88 (37)	100 (45)	90 (37)	128 (46)	129 (40)	147 (40)	149 (42)	130 (47)

2016-17	2017-18	2018-19
155 (NA)	174 (NA)	176 (NA)

Number of APTS lecturers to date: 32 (This will increase to 34 in 2019–20).

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

Member Institutions

In 2018–2019 there were 25 MIs, all located in the UK and Ireland.

APTS weeks, academic year 2018–2019

Week 1, 10–14 December, 2018, Cambridge:

- *Statistical Computing* (Darren Wilkinson)
- *Statistical Inference* (Simon Shaw)
- Evening sessions: RSS Reception, Pub quiz, Academy Dinner

Week 2, 8–12 April, 2019, Southampton:

- *Applied Stochastic Processes* (Stephen Connor and Matt Roberts)
- *Statistical Modelling* (Helen Ogden and Antony Overstall)
- Evening sessions: Wine Reception, Quiz, Academy Dinner

Week 3, 8–12 July, 2019, Durham:

- *Computer Intensive Statistics* (Paul Jenkins)
- *High-dimensional Statistics* (Rajen Shah)
- Evening sessions: APTS Wine Reception, Football match (afternoon), Academy Dinner

Week 4, 2–6 September, 2019, Oxford:

- *Flexible Regression* (Claire Miller and Tereza Neocleous)
- *Design of Experiments & Studies* (Dave Woods)
- Evening sessions: Punting followed by BBQ, Academy Dinner

Registrations

A total of 179 unique students were registered to attend one or more APTS week in 2018–2019. Numbers of registrations for each of the four weeks were 109, 118, 135, 105, respectively. The corresponding attendance figures were 109, 116, 118, 96, respectively.

At the end of the registration period, we were able to accommodate all students.

Of those 179 students:

- 65 were registered to attend all 4 weeks and 54 students actually did so.
- 140 were first year students in statistics or probability.
- APTS Member Institutions supplied 125 of the 179 applications.

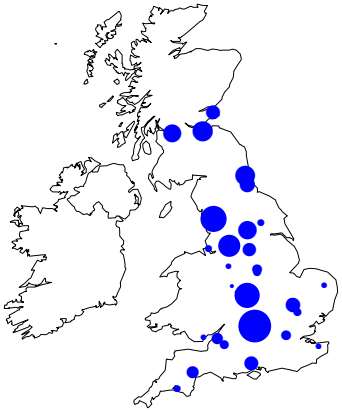


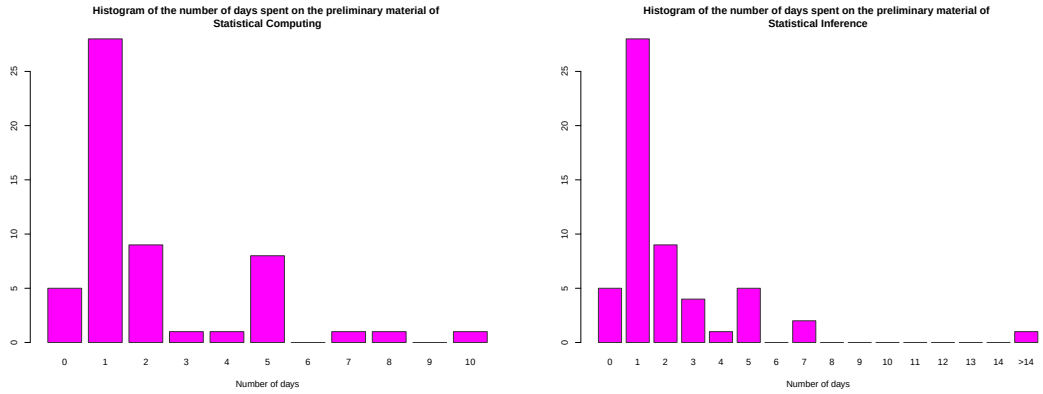
Figure 1: UK 2018–2019 Registrations (from institutions supplying UK postal codes)

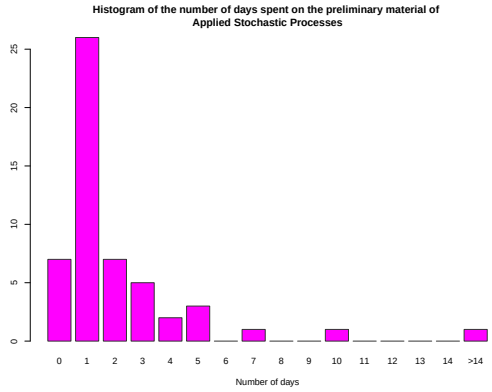
Student feedback

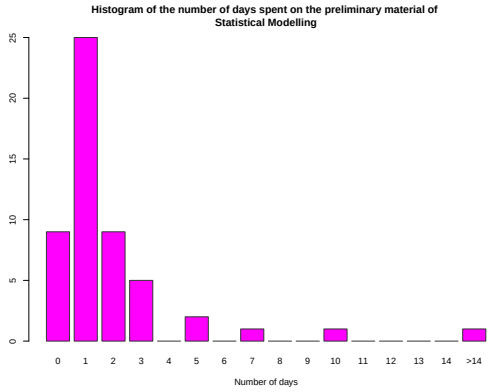
The following summarizes student responses to an anonymous questionnaire completed at the end of each training week.

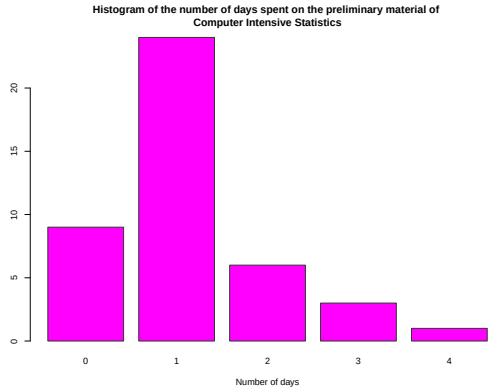
A. Preparation for APTS

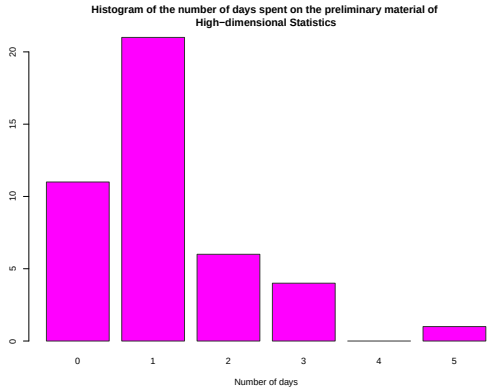
1. Roughly, how many days did you spend on the preliminary material?

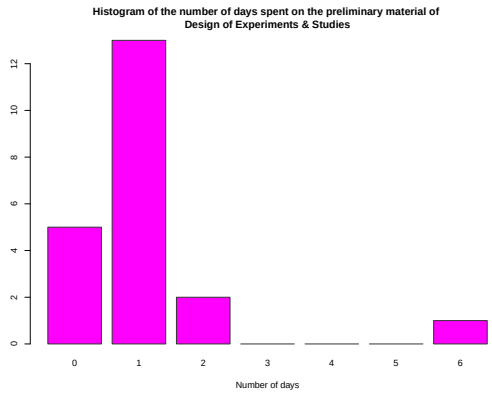


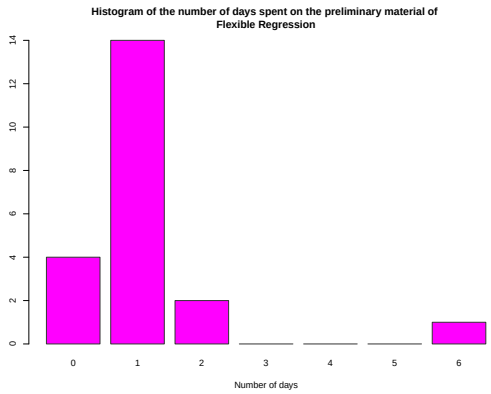












2. Did the preliminary material help you to understand the lectures this week?

	Yes	No	Didn't use
Statistical Computing	47	3	5
Statistical Inference	50	0	5
Applied Stochastic Processes	40	4	9
Statistical Modelling	39	4	10
Computer Intensive Statistics	30	5	8
High-dimensional Statistics	30	3	10
Flexible Regression	14	1	6
Design of Experiments & Studies	14	2	5

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	1	45	9
Statistical Inference	7	41	7
Applied Stochastic Processes	1	38	14
Statistical Modelling	3	47	3
Computer Intensive Statistics	9	30	4
High-dimensional Statistics	0	32	11
Flexible Regression	0	19	2
Design of Experiments & Studies	1	17	3

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

	Yes	No	Didn't use
Week 1	8	3	44
Week 2	10	4	39
Week 3	6	3	34
Week 4	5	0	16

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

	Yes	No	Didn't attend
Statistical Computing	49	5	1
Statistical Modelling	39	3	11
Computer Intensive Statistics	30	2	11
Flexible Regression	15	2	4
Design of Experiments & Studies	11	4	6

4. Will you do the module assessments?

	Yes, required to	Yes, though not required	No
Week 1	19	23	9
Week 2	12	19	22
Week 3[†]	NA	NA	NA
Week 4	4	2	15

[†]omitted from the questionnaire.

Student costs 2018–19

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

APTS week	Registration fees	Accommodation and food
Cambridge	£17,440	£30,240
Southampton	£18,880	£35,235
Durham	£21,440.0	£35,207.5
Oxford	£9,376	£26,775
TOTAL	£67,136	£127,457.5

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

Summary of APTS Alumni Questionnaire Responses (2015–16 Cohort)

Number of respondents: 44

1. What best describes your current status?

```
still studying for PhD: 21
working in academia as statistical scientist: 12
working in academia in another role: 7
working in industry as statistical scientist: 3
working in industry in another role: 1
```

   Of those answering other:

```
Postdoc for School of Psychology on a dataset building project
Still in PhD, but will start postdoc in a month
```

2. Which of the APTS weeks did you attend in 2015–16? (specify as many as is appropriate)*

```
Statistical Computing & Statistical Inference: 41
Statistical Modelling & Statistical Asymptotics: 30
Applied Stochastic Processes & Computer Intensive Statistics: 29
Survival Analysis & Nonparametric Smoothing: 20
```

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

```
Applied Stochastic Processes: 7
Computer Intensive Statistics: 14
Nonparametric Smoothing: 8
Statistical Asymptotics: 2
Statistical Computing: 21
Statistical Inference: 19
Statistical Modelling: 18
Survival Analysis: 1
```

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

```
Yes 33 (75%) No 11 (25%)
```

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 15 (58%) No 11 (42%)
```

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: 5
APTS weeks enable networking with peers: 21
Other (please specify): 1
The modules provide a broad general training in the area: 30
```

   Further details supplied by those answering other:

```
I still reference the course notes regularly
```

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: 1
Computer Intensive Statistics: 9
Nonparametric Smoothing: 3
Statistical Computing: 12
Statistical Inference: 6
Statistical Modelling: 7
Survival Analysis: 3
```

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

```
Yes 37 (84%) No 7 (16%)
```

Additional Notes

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

```
still studying for PhD: 5
working in academia as statistical scientist: 1
working in industry as statistical scientist: 1
```

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

```
still studying for PhD: 6
working in academia as statistical scientist: 4
working in industry as statistical scientist: 1
```

Additional Comments

1. Content of statistical computing should be extended to include Gaussian Process Emulation

2. Going during the second as opposed to the first year of the PhD could be more productive as the student will have a better idea of their course, particularly if they are not simply continuing a master's dissertation topic.

3. I am not far into my current employment so the APTs modules have not been applicable. I believe they will be applicable further into my postdoc.

4. Great experience - even if I had covered some of the material in courses taken previously, I always found the course lecturers provided a fresh perspective on the material. Several of the sets of notes have been useful reference tools, particularly in the early parts of my PhD. As well as this, the opportunity to build up a network of peers was invaluable - I'm still in touch with several of my fellow APTS alumni and even hope to collaborate on a paper with one in the near future.

5. While providing a useful body of notes APTS provided valuable networking.

6. APTS was a great week. The content of the course I took in Glasgow was interesting and I made some friends that I still keep in touch with today.

7. I only attended the first course. Although not connected closely to anything I did afterwards, the lessons were generally useful. I would recommend this as a good general statistics course if there are no specific courses that a new student has in mind.

Warwick, September 5, 2019

Registration for APTS

Student registration for APTS academic year 2019-20 opens on Friday 27th September 2019, and **closes on Friday 25th October 2019**. Registration applications made after that date will be kept in a priority-ordered reserve list, in case of any cancellations.

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 click here;
- If your department wishes to commit to being a full Member Institution of APTS, then please click here. (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 student registration form for 2019-20 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 APTS Constitution 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 £160) is made
- all financial transactions with individual APTS students, including those relating to travel expenses, are handled by the sending institution

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

List of sending institutions	APTS contact
Biomathematics and Statistics Scotland	Glenn Marion
Canterbury Christ Church University: The Business School	Prodromos Tsinaslanidis
Cardiff University: School of Mathematics	Anatoly Zhigljavsky
Durham University: Dept of Mathematical Sciences	Jochen Einbeck
European Molecular Biology Laboratory: European Bioinformatics Institute	Nick Goldman
Keele University: School of Computing and Mathematics	Jie Cheng
Lancaster University: Dept of Management Science	Nikos Kourentzes
Lancaster University: Dept of Maths and Statistics	Azadeh Khaleghi
Lancaster University: School of Health and Medicine	Benjamin Taylor
London School of Hygiene and Tropical Medicine	Ruth Keogh
Maynooth University: Department of Mathematics and Statistics	Caroline Brophy
Newcastle University: Dept of Mathematics and Statistics	Colin Gillespie
Northumbria University: Department of Mathematics and Information Sciences	Pete Philipson
Nottingham Trent University: Department of Mathematics and Statistics	Golnaz Shahtahmassebi
Open University: Dept of Mathematics and Statistics	Paul Garthwaite
Trinity College Dublin: Statistics Group	Simon Wilson

University College Dublin: Statistics Group	Brendan Murphy
University College London: Dept of Statistical Science	Paul Northrop
University of Bath: Dept of Mathematical Sciences	Simon Shaw
University of Birmingham: School of Mathematics	Biman Chakraborty
University of Bristol: Dept of Mathematics-Statistics Group	Jonty Rougier
University of Bristol: School of Geographical Sciences	Levi John Wolf
University of Cambridge: CRI	John Marioni
University of Cambridge: MRC Biostatistics Unit	Paul Newcombe
University of Cambridge: Statistical Laboratory	Sergio Bacallado
University of Cape Town: Department of Statistical Sciences	Freedom Gumedze
University of East Anglia: School of Computer Science	Elena Kulinskaya
University of Edinburgh: MRC Institute of Genetics and Molecular Medicine	Catalina Vallejos
University of Edinburgh: School of Mathematics	Finn Lindgren
University of Essex: Department of Mathematical Sciences	Berthold Lausen
University of Exeter: College of Eng Maths and Phys Sci	Chris Ferro
University of Glasgow: Statistics	Nema Dean
University of Kent: IMSAS	Jian Zhang
University of Leeds: Dept of Statistics	Jan Palczewski
University of Leeds: Institute of Clinical Trials Research	Deborah Stocken
University of Limerick: Dept of Mathematics and Statistics	Peg Hanrahan
University of Liverpool: Department of Biostatistics	Ruwanthi Kolamunnage-Donna
University of Liverpool: Dept of Mathematical Sciences	Kamila Zychaluk
University of Manchester: School of Mathematics	Peter Foster
University of Nottingham: School of Mathematical Sciences	Philip O'Neill
University of Oxford: Dept of Statistics	Geoff Nicholls
University of Oxford: Nuffield Department of Population Health	Thomas Nichols
University of Oxford: Wellcome Trust Centre for Human Genetics	Julian Knight
University of Plymouth: School of Engineering, Computing and Mathematics	Julian Stander
University of Reading: Department of Mathematics and Statistics	Fazil Baksh
University of Sheffield: School of Mathematics and Statistics	Kostas Triantafyllopoulos
University of Southampton: School of Mathematics	Antony Overstall
University of Southampton: School of Social Sciences	Peter Smith
University of St Andrews: School of Maths and Statistics	Len Thomas
University of Strathclyde: Department of Mathematics and Statistics	David Greenhalgh
University of Surrey: Dept of Mathematics	Janet Godolphin
University of Warwick: Dept of Statistics	Vassili Kolokoltsov
University of Warwick: Warwick Medical School	Deepak Parashar
University of Wolverhampton: Statistical Cybermetrics Research Group	Paul Wilson
University of York: Department of Mathematics	Stephen Connor

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 £160 to £32 (in 2019-20).

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%.

Notice of any cancellation should be sent (by the APTS Academic Contact for the student's home department, NOT by the student concerned) by email to admin@apts.ac.uk.
