Paper for 4. APTS year 10 (2015–16): Summary report to Advisory Committee

Preliminary: some summary counts for all nine years 2007–2015

Numbers of students who took 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)
```

Number of APTS lecturers to date: 23 (This will increase to 24 in 2016–17)

Number of APTS-week host institutions to date: 10 (increasing to 11 this year)

Member Institutions

In 2015-16 there were 25 MIs, all located in the UK and Ireland.

APTS weeks, academic year 2015-16

Week 1, December 2015, Cambridge:

- Statistical Computing (Finn Lindgren)
- Statistical Inference (Jonty Rougier)
- Evening sessions: RSS Reception, Pub quiz, Academy Dinner

Week 2, April 2016, Nottingham:

- Statistical Modelling (Antony Overstall)
- Statistical Asymptotics (Andrew Wood)
- Evening sessions: RSS Reception, Academy Dinner

Week 3, July 2015, Lancaster

- Applied Stochastic Processes (Stephen Connor and Amanda Turner)
- Computer Intensive Statistics (Adam Johansen)
- Evening sessions: Pub Quiz, Academy Dinner

Week 4, August/September 2015, Glasgow:

- Survival Analysis (Ingrid Van Keilegom)
- Nonparametric Smoothing (Adrian Bowman and Ludger Evers)
- \bullet Evening sessions: RSS Reception, Quiz, Ceilidh

Registrations

A total of 133 unique students were registered to attend one or more APTS week in 2015/16. Numbers of registrations for each of the four weeks were 109, 92, 92 and 65, respectively. The corresponding attendance figures were 109, 88, 87 and 59, respectively. At the end of the registration period, we were able to accommodate all students.

Of those 133 students:

• 53 were registered to attend all 4 weeks and 47 students actually did so.

- $\bullet~122$ were first year students in statistics or probability, of whom 48 were EPSRC funded.
- APTS Member Institutions supplied 100 of the 133 applications.



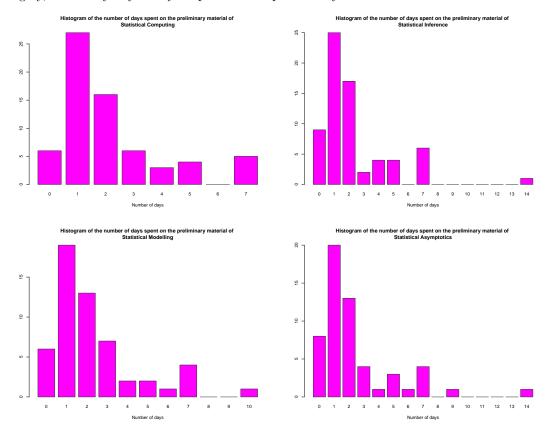
Figure 1: UK 2015/16 Registrations (from institutions supplying UK postal codes)

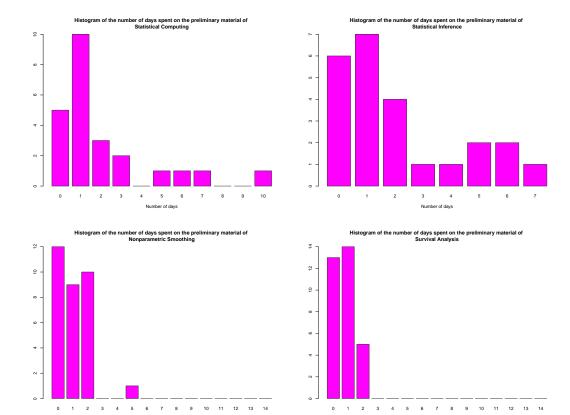
Student feedback

The following summarizes student responses to an anonymous question naire 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	60	1	9
Statistical Inference	55	2	11
Statistical Asymptotics	42	5	9
Statistical Modelling	47	1	7
Computer Intensive	19	4	1
Stochastic Processes	18	0	6
Nonparametric Smoothing	20	1	12
Survival Analysis	18	2	11

$B.\ The\ APTS\ week:\ material\ covered$

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

	Too easy	Just right	Too hard
Statistical Computing	10	52	6
Statistical Inference	6	57	6
Statistical Asymptotics	0	30	26
Statistical Modelling	6	49	1
Computer Intensive	6	18	0
Stochastic Processes	2	21	0
Nonparametric Smoothing	2	30	1
Survival Analyis	14	18	1

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

	Yes	No	Didn't use
Week 1	17	8	45
Week 2	21	2	33
Week 3	8	0	16
Week 4	23	0	10

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

	Yes	No	Didn't attend
Statistical Computing	51	18	0
Statistical Modelling	49	5	2
Computer Intensive	16	3	5
Stochastic Processes	8	0	8
Nonparametric Smoothing	26	2	5
Survival Analysis	23	6	4

4. Did you bring a laptop to the computer sessions?

Student costs 2015-16

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

APTS week	Registration	Accommodation	EPSRC travel
	fees	and food	allowance
Cambridge	£14,715	£28,505	(£1,006)
Nottingham	£12,420	£25,830	(£999)
Lancaster	£12,285	£25,595	(£997)
Glasgow	£3,699	£ $18,645$	(£997)
TOTAL	£43,199	£98575	(£3,999)

Note:

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

Summary of APTS Alumni Questionnaire Responses (2012/13 Cohort)

Number of respondents: 39

1. What best describes your current status?

```
other (please specify): 3
still studying for PhD: 22
working in academia as statistical scientist: 9
working in academia in another role: 1
working in industry as statistical scientist: 4
```

Of those answering other:

```
Submitted and waiting for my viva
working as an alogorithmic quant analyst
Working in European institutions
Writing up; starting postdoc next month.
```

2. Which of the APTS weeks did you attend in 2012/13? (specify as many as is appropriate)*

```
Statistical Computing & Statistical Inference: 27
Statistical Modelling & Statistical Asymptotics: 25
Applied Stochastic Processes & Computer Intensive Statistics: 25
Spatial and Longitudinal Data Analysis & Nonparametric Smoothing: 24
```

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

```
Applied Stochastic Processes: 8
Computer Intensive Statistics: 15
Nonparametric Smoothing: 4
Spatial and Longitudinal Data Analysis: 13
Statistical Asymptotics: 2
Statistical Computing: 22
Statistical Inference: 10
Statistical Modelling: 19
```

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

```
Yes 34 (87%) No 5 (13%)
```

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 16 (64%) No 9 (36%)
```

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: 9
APTS weeks enable networking with peers: 14
Other (please specify): 1
The modules provide a broad general training in the area: 30
```

Further details supplied by those answering other:

None

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: 2
Computer Intensive Statistics: 10
Nonparametric Smoothing: 2
Spatial and Longitudinal Data Analysis: 11
Statistical Asymptotics: 2
Statistical Computing: 13
Statistical Inference: 9
Statistical Modelling: 14
```

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

```
Yes 39 (100%) No 0 (0%)
```

Additional Notes

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

```
: NA
```

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

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

Additional Comments

- 1. At certain points, in my experience, I could not understand some of modules I attended because the guest lecturers were rather fast. As a result, I am of the view that the APTS training can aim at students understanding the core of the modules taught during the training, instead of aiming to finish the contents of each module over a short period of time available.
- 2. very short time perious to study.
- 3. Students need to learn about ggplot data.table packages in R. Also C++ and Python courses could be very useful
- 4. In the beginning of course, I prefer a list for all people who attended the course and with research area.
- 5. I have answered the questions about employment because, while I am still studying for my PhD, I have taken time out from studying to work as a Statistician in industry and will be resuming this position full time after completion- the APTS modules that I attended were extremely relevant for both PhD and employment. Overall, I thought that the APTS modules that I attended were excellent, and I have repeatedly referred to the lecture notes/references therein throughout my PhD- long may they continue!
- 6. I said above APTS were not specifically useful for my research topic, but indeed they were useful for my general knowledge and training as a statistician! Like all modules taken during my degree which I did not need for my PhD but which widened my knowledge and may turn out to be useful in the future. Btw I found "Spatial and Longitudinal Data Analysis" and "Nonparametric Smoothing" really excellent! I think "Statistical Modelling" and "Statistical Asymptotics" were too basic, definitely not at a PhD level, more Bachelor or Master level.

- 7. I would recommend APTS strongly.
- 8. Thank you for sending and asking me
- 9. I think the grouping of the courses could be improved. For example, people who have studied statistics beforehand should know most or all of the material in 'Statistical Inference' and 'Statistical Modelling'. These courses could be paired and held early on.

In my experience, 'Statistical Computing' and 'Statistical Asymptotics' are not areas typically covered in depth at undergraduate level and are full of material which many PhD students should know.

With regard to the final courses, 'Spatial and Longitudinal Data Analysis' and 'Nonparametric Smoothing', these are relatively niche courses and: they are not necessarily of interest to everyone at the end of their first year (when many are preparing reports/exams to progress beyond probationer status) the people for whom these courses are most relevant should probably know the material by that stage of their PhDs.

10. I found the courses a good refresher on statistical theory, having worked for a number of years as a statistician before beginning to study part-time for a PhD, but also included more modern statistics with a direct bearing to my current work. I note that I have answered questions relating to whether the APTS courses were relevant to my current job, despite still studying for a PhD as I am working full time, these questions do apply to me as I will be continuing in my current job once my studies are complete.

Warwick, September 15, 2016

Registration for APTS

Student registration for APTS academic year 2016-17 will open on Friday 23rd September 2016, and closes on Friday 28th October 2016.

Registration applications made after that date will be kept in a priority-ordered reserve list, in case of any cancellations.



Contact A

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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 him/her to complete the <u>student</u> registration form for 2016-17 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
- for EPSRC-funded students taking an APTS week away from home, an allowance is made by APTS to the sending institution towards the cost of travel
- in the case of a student taking all four APTS weeks in the same academic year a 20% rebate of registration fees (20% of $4 \times £145$) is made

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 all financial transactions with individual APTS students, including those relating to travel expenses, are handled by the sending institution

Please see the FAQ and the Billing and Cancellation policy 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

Aston University: Mathematics Group

Birkbeck University of London: Department of

Economics Mathematics and Statistics

Brunel University: Department of Mathematics

Cardiff University: School of Mathematics

Durham University: Dept of Mathematical Sciences

Government Communications HQ

Heriot-Watt University: Dept of Actuarial Maths and

Statistics

Imperial College London: Business School

King's College London: Department of Biostatistics at

the Institute of Psychiatry

Lancaster University: Dept of Maths and Statistics

Lancaster University: School of Health and Medicine

London School of Hygiene and Tropical Medicine

Newcastle University: Dept of Mathematics and

Statistics

Northumbria University: Department of Mathematics

and Information Sciences

Nottingham Trent University: Department of

Mathematics and Statistics

NUI Galway: Dept of Mathematics

NUI Maynooth: Dept of Mathematics

Open University: Dept of Mathematics and Statistics

Trinity College Dublin: Statistics Group

Umeå University: Department of Statistics

University College Cork: Statistics Department

University College Dublin: Statistics Group

University College London: Dept of Infection and

Population Health

University College London: Dept of Statistical Science Paul Northrop

APTS contact

David Saad

Rosalba Radice

Silvia Liverani

Anatoly Zhigljavsky

Jochen Einbeck

Jeremy Bradley

George Streftaris

Walter Distaso

Andrew Pickles

Kanchan Mukherjee

Benjamin Taylor

James Carpenter

Colin Gillespie

Pete Philipson

Golnaz

Shahtahmassebi

John Newell

Caroline Brophy

Paul Garthwaite

Simon Wilson

Dr Magnus Ekström

Michael Cronin

Brendan Murphy

Andrew Copas

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University College London: Institute of Child Health	Mario Cortina-Borja
University of Aberdeen: Department of Medical Sciences	Ian Stansfield
University of Bath: Dept of Mathematical Sciences	Julian Faraway
University of Birmingham: School of Mathematics	Biman Chakraborty
University of Bristol: Dept of Mathematics-Statistics	Janty Pougiar
Group	Jonty Rougier
University of Bristol: Dept of Social Medicine	Chris Metcalfe
University of Cambridge: CRI	Simon Tavare
University of Cambridge: MRC Biostatistics Unit	Ian White
University of Cambridge: MRC Human Nutrition	Ivonne Solis-Trapala
Research	•
University of Cambridge: Statistical Laboratory	Rajen Shah
University of East Anglia: School of Computer Science	Elena Kulinskaya
University of Edinburgh: Centre for Population Health	Chris Weir
Sciences	Maul Duanana
University of Edinburgh: Roslin Institute	Mark Bronsvoort
University of Edinburgh: School of Mathematics	Natalia Bochkina
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	Duncan Lee
University of Iceland: Dept of Mathematics	Gunnar Stefansson
University of Kent: IMSAS	Jim Griffin
University of Leeds: Dept of Statistics	Stuart Barber
University of Leeds: Institute of Clinical Trials Research	Sarah Brown
University of Limerick: Dept of Mathematics and	D 11 1
Statistics	Peg Hanrahan
University of Liverpool: Department of Biostatistics	Gabriela Czanner
University of Liverpool: Department of Molecular and	Trevor Cox
Clinical Cancer Medicine	TICVOI COX
University of Liverpool: Dept of Mathematical Sciences	Kai Liu
University of Manchester: School of Mathematics	Peter Foster
University of Nottingham: Nottingham Geospatial	Jeremy Morley
Institute	, ,
University of Nottingham: School of Mathematical	Chris Brignell
Sciences	_
University of Oxford: Clinical Research Unit Vietnam	Marcel Wolbers

University of Oxford: Dept of Statistics Sarah Filippi

University of Oxford: Wellcome Trust Centre for Gil McVean

Human Genetics

University of Plymouth: School of Computing and Paul Hewson

Mathematics

University of Reading: Department of Mathematics and Fazil Baksh

Statistics Fazil B

University of Salford: Centre for OR and Applied
Phil Scarf

Statistics

University of Sheffield: Dept of Probability and
Statistics

Tim Heaton

University of Sheffield: School of Health and Related

Research Stephen Walters

University of Southampton: Department of Ocean and Claudie Beaulieu Earth Science

University of Southampton: School of Mathematics Robin Mitra
University of Southampton: School of Social Sciences Peter Smith

University of St Andrews: School of Maths and

Statistics Carl Donovan

University of Strathclyde: Department of Mathematics
Michael Grinfeld

University of Surrey: Dept of Mathematics Janet Godolphin

University of Warwick: Dept of Statistics

University of Warwick: MAS CDT/MOAC DTC

Mark Barrow

University of Warwick: MASDOC DTC

University of Warwick: Medical School

Nigel Stallard

University of Warwick: Systems Biology DTC

Vicky Buchanan-

Wollaston

University of York: Centre for Reviews and

Mark Simmonds

Dissemination Mark Simmonds

University of York: Department of Mathematics Stephen Connor

<u>Intranet</u>

Contact APTS

and Statistics

Page contact: <u>Adam Johansen</u>
Last revised: Tue 6 Sep 2016

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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 registation fees will be rebated. This is achieved by reducing the registation fee on the final invoice from £145 to £29.

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.

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.

Intranet

Contact APTS

Page contact: <u>Adam Johansen</u>
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