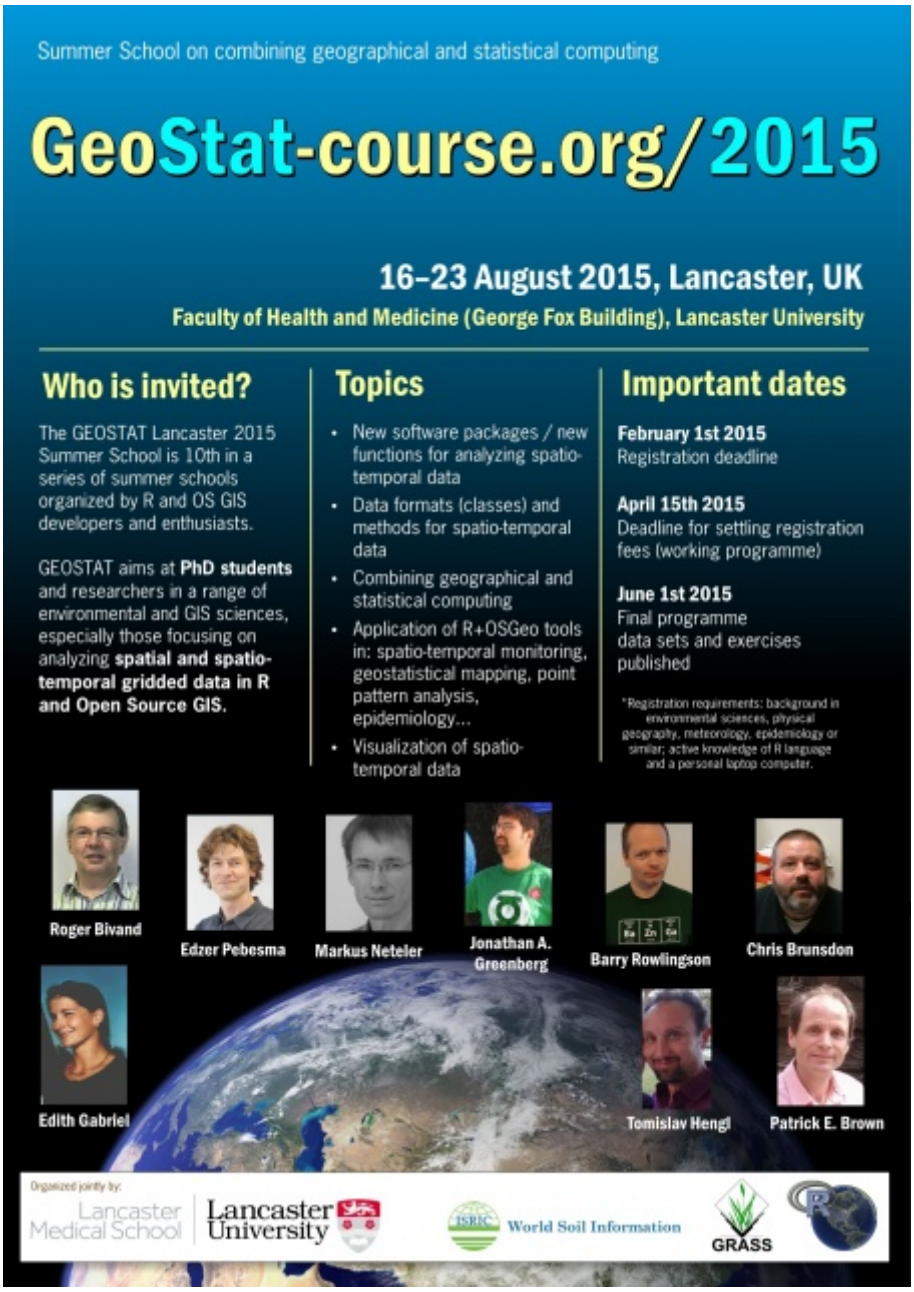
GEOSTAT 2015 Lancaster [1]

Submitted by barryrowlingson on Wed, 11/26/2014 - 16:03



The **GEOSTAT Lancaster 2015 Summer School** is 10th in a series of summer schools organized by R and Open Source (OS) GIS developers and enthusiasts. GEOSTAT aims at PhD students and researchers in a range of environmental and GIS sciences, especially those focusing on analyzing spatial and spatio-temporal gridded data in R and OS GIS.

Registrations are now closed. We received a total of over 60 registrations. Invitation letters have been sent to all applicants. For more info visit this page [2].

Period: **16 August (Sunday) to 23 August (Sunday) 2015**

The participants will learn how to import and organize **space-time data i.e. time series of points, lines and rasters** and how to program statistical and geographical analysis using a combination of R and OS GIS functionality.

Lecturers / topics


[3]

Roger Bivand [3]: Representing and handling spatial and spatio-temporal data in R: sp, rgdal, maptools packages


[4]

Edzer Pebesma [4]: Handling a analyzing spatio-temporal data


[5]

Markus Neteler [6]: GRASS GIS 7 tutorial


[7]

Jonathan A. Greenberg [7]: rasterEngine tutorial


[8]

Chris Brunsdon [9]: Geographically weighted regression: GWmodel package


[10]

Patrick E. Brown [10]: Geostatis modelling with geostatsp


[11]

Edith Gabriel [12]: Space-time point process data: analysis and simulation using the R package stpp

[13]

Barry Rowlingson [14]: QGIS v mapping shootout


[15]

Tomislav Hengl [15]: Automated geostatistics and visualization in 3D+T: GSIF and plotKML packages


[16]

Theresa R. Smith [16]: Basic me for Areal/Spatially Aggregated D

Target audience

PhD students and researchers working with spatial and spatio-temporal data. Interest groups: R Spatial [17], R Spatio-temporal [18], GRASS GIS [19], SAGA GIS [20].

Venue

The school will be hosted at the **Lancaster University** [21] **Campus** (Conference centre / George Fox Building [22]), UK. Two parallel workshops will be run on days 2-4 and joint

sessions on day 1 and 5.

Important dates

- February 1st 2015 - Registration deadline;
- **February 18th 2015** - Invitation letters send to applicants;
- April 30th 2015 - Deadline for settling registration fees (working programme);
- June 1st 2015 - Final programme, data sets and exercises published;

Course fees

The course fee for the GEOSTAT 2015 Lancaster Summer School is **£350**; this covers the costs and no profits are made. Participants from, and funded by, ODA countries pay a subsidized fee of £210 as stated in the confirmation of participation letter sent to each participant. The fees do not cover accommodation or evening meals except for the Wednesday dinner and the Friday BBQ. Information about accommodation possibilities is provided on the course website, and will be regularly updated. For more info visit **this page** [2].

This summer school is limited to 55 participants (two parallel sessions).

Local Information

Lancaster is a small historic city in north-west England.

Travel

The nearest international airport is Manchester Airport. A regular train service from there goes to Lancaster, taking about one hour. If flying to one of the London airports, trains run from London Euston to Lancaster, taking a little under 3 hours. You can book train tickets in advance and pay much less than turning up on the day at the station. Online ticket sellers include The Train Line [23], TPExpress [24], and Virgin Trains [25].

Coach travel from London can be cheaper, but much slower. A coach from London's Victoria Coach Station six and a half hours until it stops at the University.

Accommodation

Single rooms on campus can be reserved and paid for online with your course booking. The cost is £35 per night for a room with shower and toilet, and also includes a good breakfast to start your day. This is a special price for the Summer School and is great value. The rooms are a short walk from the lecture theatres and all campus facilities.

Alternative accommodation on campus can be bought separately from the Conference Office Room Bookings [26] but this will not offer the £35 discounted price available from the Summer School Online Booking.

If you choose to stay off-campus, the best options are in Lancaster City centre, preferably south of the river since traffic in town can be slow in the mornings. There is a Travelodge [27] budget hotel, and other options can be found on TripAdvisor [28] or other hotel reservation sites. You'll need to catch a bus to campus.

Food and Drink

Note that if you are staying on campus you will get a full breakfast as well as lunch and snacks during the week. Your fee also includes dinner with the Wednesday evening event and the Friday BBQ.

Since the school is operating outside of university term time there will be few food outlets open on campus during the week. Usually one or two cafes are open but at the moment I can't say for sure. There are two small supermarkets that sell sandwiches and other snacks that will definitely be open. I know where to find a microwave oven if you need to heat up a pie from the shop.

Many places will deliver take-away food to campus. I will provide a list of such places, or you can use popular online take-away ordering web sites to find them, choose, and order your food. Chinese, Indian, and Italian takeaway food is the most common.

Lancaster City is the other option for food in the evening. As a student town, there is a wide range of eating options. At the low end, there are fast-food takeaways where you can get a burger, kebab, or pizza with a drink for about £5. Traditional British Fish and Chip shops will sell you a slab of fish and a pile of chips ("fries") for about £5 too, wrapped up in paper - optionally sprinkled with salt and dripping with vinegar.

Many local pubs serve basic English food if you want a cheap sit-down meal, costing maybe £5-£7, drinks extra. Look out for special deals and "early bird" offers that sometimes apply before 7pm.

A meal in a restaurant will start at about £10, plus drinks. The cheapest options are usually the Indian curry houses, of which there are several. There are also Chinese restaurants, Thai food places, Italian bistros, French cuisine, and a noodle bar.

Most places have vegetarian options and are happy to consider other dietary requirements.

Course Timetable

Refer to campus map for locations.

DRAFT programme. **Under construction!**

DAY 0: 16 August 2015

- Afternoon: Campus Accommodation Check-in/Key pickup from *FASS (Faculty of Arts and Social Sciences) Reception*
- 17:00-20:00 Happy hour / ice-breaker in *County College Private Dining Rooms*

DAY 1: 17 August 2015 George Fox Building

	Topic	*Format*	*Moderator*
9.00-9.15	The official opening ? Peter Diggle, RSS President	lecture	B. Rowlingson
9.15-10.00	Welcome note and course overview (introduction to GEOSTAT)	lecture	T. Hengl
10.00-10.30	**Representing and handling spatial and spatio-temporal data in R: sp, rgdal, maptools packages** (slides [29], script & data [30])	lecture	R. Bivand
10.30-11.00	*Coffee break*		
11.00-12.30	**Representing and handling spatial and spatio-temporal data in R: sp, rgdal, maptools packages** (continued)	lecture	R. Bivand
12.30-13.30	*Lunch*		
13.30-15.00	An overview of geostatistics in R	lecture	P.E. Brown
15.00-15.30	*Coffee break*		
15.30-16.30	**Python or R - that is the question?**	lecture	B. Rowlingson
16.30-17.00	**Spatial Prediction Competition Game (SPCG)** **Mapping/Graphics Gallery Competition (MGC)**	lecture	T. Hengl / B. Rowlingson
17.00-18.00	*Snack*		
18:00-20:00	**Crash course in R** [31] (optional)	computer practical	T. Hengl

DAY 2: 18 August 2015 George Fox Building

	workshop A	*workshop B*	*format*
9.00-10.30	**Handling and analyzing spatio-temporal data with R** [32] (E. Pebesma)	**Working with geostatistical models in R** [33] (P.E. Brown)	lecture
10.30-11.00	*Coffee break*		
11.00-12.30	**Handling and analyzing spatio-temporal data with R** [32] (E. Pebesma)	**Working with geostatistical models in R** [33] (P.E. Brown)	computer practical
12.30-13.30	*Lunch*		
13.30-15.00	**Handling and analyzing spatio-temporal data with R** [32] (E. Pebesma)	**Working with geostatistical models in R** [33] (P.E. Brown)	lecture
15.00-15.30	*Coffee break*		
15.30-16.30	**Handling and analyzing spatio-temporal data with R** [32] (E. Pebesma)	**Working with geostatistical models in R** [33] (P.E. Brown)	computer practical

16:30-17:30	**Round table on big (spatial) data in R**	discussion session

DAY 3: 19 August 2015 George Fox Building

	workshop A	*workshop B*	*format*
9.00-10.30	**GRASS GIS 7 tutorial** [34](M. Neteler)	**Basic methods for Areal/Spatially Aggregated Data** [35] (T. Smith)	lecture
10.30-11.00	*Coffee break*		
11.00-12.30	**GRASS GIS 7 tutorial** [34] (M. Neteler)	**Examples with sp, SpatialEpi, INLA, spdep packages** [35] (T. Smith)	computer practical
12.30-13.30	*Lunch*		
13.30-15.00	**Combining R and GRASS GIS** [34] (M. Neteler)	**Geographically weighted regression: GWmodel package** [36] (C. Brundson)	lecture
15.00-15.30	*Coffee break*		
15.30-17.00	**Combining R and GRASS GIS** [34] (M. Neteler)	**Geographically weighted regression: GWmodel package** [36] (C. Brundson)	computer practical
17:00-19:00	*Orientation game (around Lancaster)*		
19:00-23:00	*GEOSTAT Dinner (The Gregson Centre, Lancaster)*		

DAY 4: 20 August 2015 George Fox Building

	workshop A	*workshop B*	*format*
9.00-10.30	**QGIS vs R ? mapping shootout** [37] (B. Rowlingson)	**Space-time point process data: analysis and simulation using the R package stpp** [38] (E. Gabriel)	lecture
10.30-11.00	*Coffee break*		
11.00-12.30	**QGIS vs R ? mapping shootout** [37] (B. Rowlingson)	**Space-time point process data: analysis and simulation using the R package stpp** [38] (E. Gabriel)	computer practical
12.30-13.30	*Lunch*		
13.30-15.00	**Geostatistical mapping examples** (P.E. Brown)	**Automated geostatistics and visualization in 3D+T** [39] (T. Hengl)	lecture
15.00-15.30	Coffee break		
15.30-17.00	**Geostatistical mapping examples** (P. E. Brown)	**Automated geostatistics and visualization in 3D+T: GSIF and plotKML packages** [39] (T. Hengl)	computer practical

DAY 5: 21 August 2015 George Fox Building

	Workshop A	*Workshop B*	*Format*

9.00-10.30	**Analyzing wildlife habitat selection patterns based on the GPS tracks of animals** (D. Gregovich) -- 30 min **Cycling planning tool: interactive mapping and travel route optimization in real time** (R. Lovelace) -- 60 min		lecture / demo
10.30-11.00	Coffee break		
11.00-12.30	**GRASS GIS and HPC: processing large geodata on a cluster** (M. Neteler) (slides [40])	**Reproducible research and the use of Rmarkdown** (C. Brundson)	lecture / demo
12.30-13.30	Lunch		
13.30-15.00	**3D+T geostatistics - the cookfarm data set** (T. Hengl) **plotGoogleMaps package tutorial**	**Geostatistical modelling options for Raster time series objects / Gaussian geostatistical models using Maximum Likelihood Estimation or Markov Random Fields** (P. Brown)	lecture / demo
15.00-15.30	*Coffee break*		
15.30-17.00	Spatial Prediction Competition Game and Mapping/Graphics Competition results / Closing remarks		T. Hengl and B. Rowlingson
18:00-21:00	*GEOSTAT BBQ (Grizedale College Bar)*		

DAY 6: 22 August 2015

A coach trip to the Lake District

	Topic	*Format*	*Moderator*
9.00-10.30		lecture	B. Rowlingson
10.30-11.00			
11.00-12.30		walk	
12.30-13.30			
13.30-15.00		walk	
15.00-15.30			
15.30-17.00			

Social Activities

Provisional:

- Sunday Reception - a chance to meet the team and the other students as we all arrive.
- Wednesday Dinner - the big midweek party. We have the use of a hall in Lancaster with food and a full bar. Entertainment may include a quiz and a professional band. If you play an instrument and want to join in let the organisers know!
- Friday BBQ - a relaxing evening in the summer sunshine on the green fields of the university campus - or under cover if it rains!
- Saturday Excursion - a coach trip to the Lake District, with a choice of an easy stroll round a lake or a hard day up a mountain. Or just wander round in the village for tea and cakes, visit the local museums and churches where William Wordsworth wrote his poetry.

Contacts

- T. (Tom) Hengl: registrations, website materials
- B. (Barry) Rowlingson: the official program, local organizer

G+ groups: **PUBLIC** [41] | **INTERNAL** [42]

[21]

Links
[1] http://geostat-course.org/content/geostat-2015-lancaster
[2] http://www.geostat-course.org/node/373/
[3] http://www.nhh.no/Default.aspx?ID=697
[4] http://ifgi.uni-muenster.de/staff/edzer-pebesma
[5] http://www.des.ucdavis.edu/FacultyInfo.aspx?ID_Number=83
[6] http://www.grassbook.org/neteler/
[7] http://www.geog.illinois.edu/people/jgrn
[8] http://www.liv.ac.uk/environmental-sciences/staff/christopher-brunsdon/
[9] http://ncg.nuim.ie/redir.php?action=staff/staff/cbrunsdon
[10] http://pbrown.ca/
[11] http://edith.gabriel.pagesperso-orange.fr/Edith.html
[12] http://edith.gabriel.pagesperso-orange.fr/
[13] http://geospaced.blogspot.com
[14] http://barry.rowlingson.com
[15] http://www.wageningenur.nl/en/Persons/dr.-T-Tom-Hengl.htm
[16] http://www.lancaster.ac.uk/staff/smithtr/
[17] http://cran.r-project.org/web/views/Spatial.html
[18] http://cran.r-project.org/web/views/SpatioTemporal.html
[19] http://grass.osgeo.org/
[20] http://www.saga-gis.org/
[21] http://lancaster.ac.uk/
[22] http://www.lancaster.ac.uk/conference-facilities/welcome/gallery/
[23] http://www.thetrainline.com
[24] http://www.tpexpress.co.uk/
[25] http://www.virgintrains.co.uk/

[26] https://www.conferences.lancs.ac.uk/bedandbreakfast/
[27] http://www.travelodge.co.uk/hotels/498/Lancaster-Central-hotel
[28] http://www.tripadvisor.co.uk/Hotels-g187064-Lancaster_Lancashire_England-Hotels.html
[29] http://geostat-course.org/system/files/geostat_talk_150817.pdf
[30] http://geostat-course.org/system/files/bivand_bundle.zip
[31] http://geostat-course.org/Baby_steps_R
[32] http://geostat-course.org/node/1283
[33] http://geostat-course.org/node/1284
[34] http://geostat-course.org/node/1285
[35] http://geostat-course.org/node/1287
[36] http://geostat-course.org/node/1288
[37] http://geostat-course.org/node/1286
[38] http://geostat-course.org/node/1289
[39] http://geostat-course.org/node/1290
[40]
http://data.neteler.org/geostat2015/presentations/geostat2015_day2_1_grass_massive_raster_hpc.pdf
[41] https://plus.google.com/u/0/communities/103560544243938791437
[42] https://plus.google.com/u/0/communities/114623972569715514670