GEOSTAT 2017 Split

Registrations are now closed. Daily programme of the GEOSTAT Summer School is available below.

Date:
Monday, August 14, 2017 - 09:00 to Saturday, August 19, 2017 - 18:00

Body:

- **Day 1 Introduction**
- **Day 2 QGIS & R**
- **Day 3 MLA & Bayesian sp and st modelling**
- **Day 4 MLA & RMarkdown and knitr**
- **Day 5 Open day**
- **Day 6 Excursion**

The GEOSTAT Split 2017 Summer School is 12th 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.

**Summer school moderators:** T. (Tomislav) Hengl, ISRIC ? World Soil Information, the Netherlands and B. (Barry) Rowlingson, Lancaster Medical School, Lancaster University

The registrations are now closed [1]. **If you have not yet received an e-mail from the organizers, please contact us here [2] a.s.a.p. To follow preparations for the GEOSTAT please use this G+ community [3].**

The topics include: spatial and spatio-temporal data and analysis in R, spatial and spatio-temporal geostatistics, processing large rasters and big data analytics in R, QGIS, RQGIS software tutorials, overview of machine learning methods in R, visualization of spatial and spatio-temporal data in Google Earth. **This summer school has 45 participants.**
The GEOSTAT 2017 will include:

- Training sessions / R package and GIS software tutorials;
- Discussion sessions;
- Spatial prediction competition game;
- Orientation game;
- Excursion (outdoor hiking);
Dates

The Summer school will be held on:

- **Sun 13th August ? Sat 19 August 2017** (arrival Sunday, departure Sunday; 7 night accommodation)

Other important dates:

- April 15th 2017 ? Registration deadline;
- end of April 2017 ? Invitation letters send to applicants;
- **May 15th 2017** [5] ? Deadline for settling registration fees (working programme confirmed);
- July 15th 2017 ? Final programme, data sets and exercises published;

Note: **August is a season high period and advanced booking of flights and similar travel arrangements are highly advised.**
Registration fees

The registrations fees are 450 EUR (invoice will be sent after registrations). Registration fees cover costs of using facilities, lunch and coffee breaks and costs of travel and accommodation for lecturers. Participants from ODA countries (employed by an organization or company in ODA-listed country) and full-time students typically receive a subsidized price of 320 EUR for the registration costs. GEOSTAT makes no profit. All lecturers are volunteers. None of the lecturers receives any honorarium payment or is contracted by the local organizers.

Venue


The Mediterranean Institute for Life Sciences (MedILS) is a life science institute in Split, Croatia, envisioned as an international centre of excellence for molecular biology. It is located in a park on one of the most beautiful stretches of Croatia’s Adriatic coast.

Accommodation

Limited number of shared bedrooms (8-9) is available at MEDILS for room sharing. Participants that express a wish for accommodation at the institute and that accept room sharing can opt for accommodation at MEDILS. If you have registered for the room at MEDILS, you will be assigned to rooms by the Summer School organizers (modifications are possible up to a certain moment).

Accommodation can also be booked through several local travel agencies. Recommended hotel for participants is:

- Hotel Cornaro (http://www.cornarohotel.com/)
Of interest

Group sessions can also be held outside in the Institute’s park where benches, desks, and wireless Internet access are available. The location enables a number of possibilities for after-work leisure activities, including swimming at nearby beaches, running and hiking in the forests of Marjan state park, or playing basketball at the Institute’s private court. The city of Split with its picturesque old town offers plenty of restaurants, bars, and shops for social activities and can be reached in 20 minutes by foot, or in five minutes by bus or car.

Daily programme

Provisional programme subject to modifications.

Day 0: Sunday 13 August

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:00?19:00</td>
<td>Organized collection of arrivals from Split airport</td>
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</tr>
<tr>
<td>18:00?21:00</td>
<td>Registrations (happy hour)</td>
<td>MEDILS garden</td>
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Day 1: Monday 14 August

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
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<tbody>
<tr>
<td>8.30?9.00</td>
<td>Registrations</td>
<td></td>
</tr>
<tr>
<td>9.00?9.15</td>
<td>The official opening</td>
<td>Lecture hall</td>
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<tr>
<td>9.15?10.00</td>
<td><strong>Welcome note and course overview</strong> (introduction to GEOSTAT)</td>
<td>Lecture hall</td>
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</tbody>
</table>
10.00?10.30  Geospatial Fundamentals ? Programs and Data  Lecture hall

10.30?11.00  Coffee break  Garden

11.00?11.30  Geospatial Fundamentals ? Spatial Statistics  Lecture hall

11.30?12:30  Introduction to spatial and spatio-temporal data in R  Lecture hall

12.30?13.30  Lunch  Garden

13.30?15.00  Spatial and Spatio-temporal modelling in R  Lecture hall

15.00?15.30  Coffee break  Garden

15.30?16.30  R / GIS integration  Lecture hall

16.30?17.00  Spatial Prediction Competition Game (SPCG)  Lecture hall
              Mapping/Graphics Gallery Competition (MGC)

17.00?18.00  Dinner  Garden

19:00?21:00  Crash course in R (optional)  Lecture hall

Day 2: Tuesday 15 August

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<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>9.00?10.30</td>
<td>Introduction to QGIS</td>
<td>Lecture hall</td>
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</tbody>
</table>
10.30–11.00 Coffee break Garden

11.00–12.30 **QGIS tutorial** Lecture hall

12.30–13.30 Lunch Garden

13.30–15.00 **Introduction to the RQGIS package** Lecture hall

15.00–15.30 Coffee break Lecture hall

15.30–17.30 **Prediction of species richness using RQGIS** Lecture hall

17.30–18.30 Dinner Garden

**Day 3: Wednesday 16 August**

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<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
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<tbody>
<tr>
<td>9.00–10.30</td>
<td><strong>Machine learning algorithms for spatial data</strong></td>
<td>Lecture hall</td>
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<tr>
<td>10.30–11.00</td>
<td>Coffee break</td>
<td>Garden</td>
</tr>
<tr>
<td>11.00–12.30</td>
<td><strong>Geocomputing with large rasters in R: parallelization, model optimization, upscaling and automation</strong></td>
<td>Lecture hall</td>
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<tr>
<td>12.30–13.30</td>
<td>Lunch</td>
<td>Garden</td>
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<tr>
<td>Time</td>
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<td>Location</td>
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<tr>
<td>13.30?15.00</td>
<td><strong>Bayesian Spatial and Spatiotemporal modelling in R</strong></td>
<td>Lecture hall</td>
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<tr>
<td>15.00?15.30</td>
<td>Coffee break</td>
<td>Lecture hall</td>
</tr>
<tr>
<td>15.30?17.30</td>
<td><strong>Bayesian Spatial and Spatio-temporal modelling in R</strong></td>
<td>Lecture hall</td>
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<tr>
<td>17.30?18.30</td>
<td>Dinner</td>
<td>Garden</td>
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**Day 4: Thursday 17 August**

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<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
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<tbody>
<tr>
<td>9.00?10.30</td>
<td><strong>Bayesian Spatial and Spatio-temporal modelling in R</strong></td>
<td>Lecture hall</td>
</tr>
<tr>
<td>10.30?11.00</td>
<td>Coffee break</td>
<td>Garden</td>
</tr>
<tr>
<td>11.00?12.30</td>
<td><strong>Mastering machine learning methods for spatial prediction problems</strong></td>
<td>Lecture hall</td>
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<tr>
<td>12.30?13.30</td>
<td>Lunch</td>
<td>Garden</td>
</tr>
<tr>
<td>13.30?15.00</td>
<td><strong>Introduction to reproducible research RMarkdown and knitr</strong></td>
<td>Lecture hall</td>
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<tr>
<td>15.00?15.30</td>
<td>Coffee break</td>
<td>Lecture hall</td>
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15.30?16.30  Containers for research  Lecture hall

16.30?17.00  Geo web services in containers  Lecture hall

17.00?17.30  "Geoinformatics in Croatia: research and business opportunities"  Lecture hall

20.00?24.00  Dinner  Outside MEDILS

Day 5: Friday 18 August

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
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<tbody>
<tr>
<td>9.00?10.30</td>
<td>Mastering machine learning methods for spatial prediction problems</td>
<td>Lecture hall</td>
</tr>
<tr>
<td>10.45?11.15</td>
<td>Coffee break</td>
<td>Garden</td>
</tr>
<tr>
<td>11.15?12.30</td>
<td>'Shiny' Applications with R</td>
<td>Lecture hall</td>
</tr>
<tr>
<td>12.30?13.30</td>
<td>Lunch</td>
<td>Garden</td>
</tr>
<tr>
<td>13.30?15.00</td>
<td>Tiling and parallelization (for large rasters)</td>
<td>Lecture hall</td>
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<tr>
<td>15.00?15.30</td>
<td>Coffee break</td>
<td>Lecture hall</td>
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Spatial Prediction Competition Game and Mapping/Graphics Competition results /

15.30?16.30  Closing remarks  Lecture hall
<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.00</td>
<td>Departures</td>
<td>MEDILS</td>
</tr>
<tr>
<td>9.30-17.00</td>
<td>Excursion (lunch included)</td>
<td>Krka National Park</td>
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<tr>
<td>18.00</td>
<td>Return</td>
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</tbody>
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**Preview:**

20.00-24.00 Dinner (at own expense) Downtown Split

**Day 6: Saturday 19 August**
Who is invited?

The GEOSTAT MEDILS, Split 2017 Summer School is 12th in a series of summer schools organized by R and OS GIS developers and enthusiasts.

GEOSTAT aims at PhD students and postdoctoral researchers.