GeoPython 2018

May 07-09

Muttenz/Basel, Switzerland

Conference Schedule

Welcome to the GeoPython 2018 Conference

Welcome to GeoPython 2018 - the 3rd edition of the Python conference for the Geo-Community organized by the Institute of Geomatics Engineering at the University of Applied Sciences and Arts Northwestern Switzerland and PyBasel - the local Python User Group.

This year we have again many interesting contributions. On Monday there will be 6 Workshops in 2 parallel tracks. Topics include geospatial data analysis, QGIS, FME, and Celery/RabitMQ. This year's talks (Tuesday/Wednesday) are about geospatial web services, GIS and mapping, spatial databases, geodata processing, and geovisualization. On Tuesday there will also be a parallel track on (Geo-)Machine Learning.

The University of Applied Sciences and Arts Northwestern Switzerland FHNW ranks amongst Switzerland's leading and most innovative universities of applied sciences. It is composed of nine Schools covering Applied Psychology, Architecture, Civil Engineering and Geomatics, Art and Design, Life Sciences, Music, Teacher Education, Social Work, Engineering and Business. The modern campuses are in northwestern Switzerland, near the borders with Germany and France and in the immediate vicinity of the cities of Basel and Zurich, as well as of national and international companies.

PyBasel is the local Python User Group Northwestern Switzerland. The user group offers space and opportunity for all those interested in Python to share knowledge and learn about Python. The participants hold talks, share news, and provide help for both Python newbies and professionals.

Basel lies in the heart of Europe, on both banks of the Rhine. The city is the centre of the idyllic border triangle of France, Germany and Switzerland - lying between the Swiss Jura, Germany's Black Forest and the Vosges in Alsace.

Basel is easy to get to. Only a 10-minute drive from the city centre, Basel's EuroAirport is served by a number of international airlines. Together with neighbouring Zurich Airport, it enjoys connections to all European airports and to more than 200 intercontinental destinations. Located in the centre of Europe, Basel is a major transportation hub. Its three railway stations not only offer excellent connections to far and wide but are also all situated in the very heart of the city.

I wish you a great conference!

Prof. Martin Christen
GeoPython 2018 Chair

Sponsors

GeoPython sincerely thanks our sponsors for supporting our mission and making the conference possible!

The mission of the Python Software Foundation is to promote, protect, and advance the Python programming language, and to support and facilitate the growth of a diverse and international community of Python programmers. The majority of the PSF's work is focused on empowering and supporting people within the Python community. The PSF has active grant programs that support sprints, conferences, meetups, user groups, and Python development efforts all over the world. In addition, the PSF underwrites and runs PyCon US, the primary Python community conference. Being part of the PSF means being part of the Python community. Recently we changed the PSF to an open membership organization, so that everyone who uses and supports Python can join. To learn more, visit https://www.python.org/psf/membership

The Python Software Association represents the interests of users of the open-source programming language Python in Germany, Austria and Switzerland. More information can be found on the website: https://python-verband.org/
The Python Software Association helps in conference/workshop organization, it supports local python communities and promotes python in education.

DocRaptor is an HTML-to-PDF and HTML-to-Excel document conversion API. We have hundreds of European customers and generate millions of documents every month. Every account includes an uptime guarantee and access to our professional support team who can help debug any HTML styling issues you encounter. Libraries and documentation are available for all major languages, including Python

Founded in 2004 in Birmingham, UK, Packt's mission is to help the world put software to work in new ways through the delivery of effective learning and information services to IT professionals.
Working towards that vision, the company has published more than 5,500 expert-authored books and videos, providing IT professionals with the actionable knowledge they need to get the job done — whether it's learning an emerging technology or optimizing key skills in more established tools

JetBrains PyCharm is the most intelligent Python IDE providing a complete set of tools for productive Python, Django and Web development. PyCharm comes in three editions. The free and open-source PyCharm Community Edition is perfect for pure Python coding. PyCharm Professional Edition is designed for professional Python and Web developers. Novice programmers should choose PyCharm Educational Edition for learning programming with Python easily and effectively.

Local Partners:

http://www.basel.com/en

Schedule (Detailed Descriptions of the Workshops/Talks can be found at: http://2018.geopython.net)
GeoPython 2018

Day 1: May 7, 2018

08:30	**Registration Opens**	
09:00 – 09:20	**AUDITORIUM** **Opening GeoPython 2018** Martin Christen, FHNW, Institute Geomatics	
09:30 – 12:30	**AUDITORIUM** **Introduction to geospatial data analysis with GeoPandas and the PyData stack** Joris Van den Bossche	**ROOM 232** **PyQGIS Layer actions and project macros** Marco Bernasocchi, OPENGIS.ch GmbH
12:30 – 13:30	**Lunch Break**	
13:30 – 15:30	**AUDITORIUM** **Spatial Data Science with PyData** Levi John Wolf & Sergio Rey, (University of Bristol & University of Chicago) & University of California, Riverside	**ROOM 232** **QGIS Processing Framework: Automating Tasks with Python** Stefan Keller, HSR Geometa Lab
15:30 – 16:00	**Coffee Break**	
16:00 – 18:00	**AUDITORIUM** **Task queues with Celery and RabbitMQ** Matt Walsh, thinkWhere	**ROOM 232** **Introduction to Spatial Data Processing using FME and Python** Régis Longchamp, INSER SA
18:00 – 21:00	**Ice Breaker Party**	

Day 2: May 8, 2018

	AUDITORIUM	Room 104
08:30	**Registration Opens / Good Morning Coffee**	
09:00 – 09:15	**Opening Day 2**	
09:15 – 10:30	**Session: Web Services I** **Why Kubernetes: Finding the Best Solution for Your Needs**, Rizchel Dayao, IBM **Using PyWPS for Water Resources Quantification in Mountain Basins,** Susanna Grasso, Polytechnic of Torino, Department of Environment, Land and Infrastructure Engineering	
10:30 – 11:00	**Coffee Break & Start Lighting Talk Registration**	
11:00 – 12:40	**Session: GIS & Mapping I** **Who Needs Geography in Today's Digital World?**, Corryn L Smith, Northern Arizona University **Kroměříž, Győr, Łomża, Mâcon - Around Europe on a Single Keyboard**, Miroslav Šedivý **Automated Drain Area Creation for Municipal Hydraulic Simulations**, Robin Dainton, Hunziker-Betatech AG **Using Python for regionalized sustainability assessment**, Chris Mutel, PSI	**Session: Machine Learning I** **Case Study - how to use big-data machine learning to predict future delays and bottlenecks in public transport**, Ture Friese, Computas AS **Classification of geological features on Satellite images**, Johannes Oos **Understanding and Implementing Recurrent Neural Network using Python**, Anmol Krishan Sachdeva, University of Bristol, United Kingdom
12:40 – 13:40	**Lunch Break**	
13:40 – 14:55	**Session: Spatial Databases** **Postgres migrations using Python**, Mario Baranzini, OPENGIS.ch GmbH **PLR (ÖREB) Cadastre Kanton Wallis**, Régis Longchamp, Inser SA **Reproducible geoscience: Volcanic eruption mass calculations using Python, GRASS7 and Pandas**, John A Stevenson, British Geological Survey	**Session: Machine Learning II** **Boost your app with Machine Learning API**, Laurent Picard, Google **Deep Learning on Spatial Imagery to improve GeoSpatial DataSet Quality**, **an OSM use case**, Olivier Courtin, DataPink
14:55 – 15:30	**Coffee Break**	
15:30 – 16:45	**Session: GIS & Mapping II** **Computing drone-based image footprint with Python**, Hans-Jörg Stark, SBB **MesoHABSIM move to the Cloud**, Erik Tiengo, GisUp	
16:45 – 17:45	**Lightning Talks** (5 Minutes talks), **max. 12 Talks**	
19:00 – 22:00	**Conference Dinner**	

Day 3: May 9, 2018

AUDITORIUM

08:30	**Registration Opens / Good Morning Coffee**
09:00 – 09:10	**Opening Day 3**
09:10 – 10:25	**Session: Web Services II / GIS & Mapping III** **Selinon - dynamic distributed task flows**, Fridolín Pokorný, Red Hat **Developing Automated Geospatial Procedures for Civil Engineering**, Joseph Kaelin, Katharina Kaelin, Alan Hodgkinson, Philippe Nater
10:25 – 11:00	**Coffee Break & Lightning Talk Registration**
11:00 – 12:15	**Session: Geovisualization** **The Mosquito Alert map implementation: a use case in citizen science**, Marc Compte, GIS Service - University of Girona **Approaching geovisualization and remote sensing with GeoViews**, Giacomo Debidda **Mapping Mesothelioma**, Carl Reynolds, Imperial College London
12:15– 13:15	**Lunch Break**
13:15 – 14:15	**Lightning Talks**
14:15 – 15:30	**Session: Data Processing** **GeoPandas: easy, fast and scalable geospatial analysis in Python**, Joris Van den Bossche, Université Paris-Saclay Center for Data Science, INRIA **Everything you've been told about geoprocessing performance is wrong**, Aaron Styles, Geoplex **Introducing GeoPySpark**, a Big Data GeoSpatial Library, Jacob Bouffard, Azavea
15:30 – 15:50	**Closing Session**

Lightning Talks

You missed the deadline for the call for speakers? You still want to present your latest work? Talk about how your company is using Python? Know something you want to share? No problem! **There will be two sessions of lightning talks** (5 minute talks). You can write the title of your talk (first come first serve) on the flip chart, starting during the first coffee break (day 1 and day 2) in the entrance hall (registration area).

A **lightning talk** is a very short talk where you share an idea, concept, or a bit of information you find interesting. They're quick, easy, and a great way to practice.

A lightning talk should be about five minutes long, just long enough to give an overview and make people curious about your topic. You can talk about anything that's related to the event's general theme.

First, you need a topic. Your topic might be:

- A concept, process, or tool that you learned recently or are still learning
- An idea for a website or product that would solve a problem you have
- A retrospective, or what went right/wrong during a project you did or are doing
- Anything relevant that the audience might be interested in knowing more about
- Next, you need an outline for the content. Think about the audience, and the goal of your talk. Choose points to make that will be understandable by the audience and achieve your presentation goal. Remember how quickly five minutes goes by when choosing what to include!

Potential points of interest might be:

- What could you use this for or when could you use it? Have you already used it? How?
- When wouldn't it not be as useful? What are some contraindications to using it?
- Resources related to the subject, including books, documentation, and URLs.
- Are there any projects or companies that are using what you're sharing?
- Is this something you'd like to collaborate with others on? Feel free to ASK!
- What are some of the challenges related to using, building, or configuring what you're showing?

You absolutely don't need slides. However, if you'd like to make slides, use anything that you are comfortable with. Don't worry if it doesn't look polished, lightning talks don't need to be! You might use Microsoft Word, Keynote, a PDF, or a web site. Even a simple terminal or console window where you enter commands can work well for presenting your ideas.

Keep in mind that the projector will be lower resolution, typically 1024x768, and that low-contrast slides don't present well. You'll also need to make your terminal or console font very large so that everyone can see what you're typing. If you're running code examples, have them written, debugged, and ready to go. Watching someone write code as they go can be great in a longer deep-dive type of talk, but it's not very well-suited to a lightning talk.

You may have the urge to do a live demonstration of the thing you're talking about. It seems like an easy way to help the audience see your vision, and it is… if it works! Following Murphy's Law, however, we can deduce that your live demo will go horribly wrong. A failed demo can derail all but the most skilled presenters, but if you choose to do a demo and it goes wrong don't worry! Have a backup story to tell that explains what the demo would have shown and revert to it if necessary.

Take a deep breath and go for it. You are among friends, and nobody will mind if you make mistakes. Almost everyone starts out their public speaking career in the tech industry by giving lightning talks, so you can assume your audience has been in your shoes before. Throw caution to the wind and embrace your five minutes! :)

Be sure to bring everything you need to do your presentation. It's wise to assume that the internet access will fail precisely when you need it. Load web pages you need into your browser beforehand. Bring the adapters you'd normally need to connect your laptop to a monitor or projector, and keep a backup copy of your presentation on a USB memory stick – laptops can and do fail, and this will allow you to use someone else's laptop if the need arises.

If you have your slide presentation or example code available online you can let the group know where to find it if you want to share it. Curious people may follow up with you if they'd like to collaborate or have feedback about your presentation.

Venue

FHNW – University of Applied Sciences and Arts Northwestern Switzerland
Address: Gründenstrasse 40, 4132 Muttenz, Switzerland

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lat, lng = 47.533694, 7.637539  # GeoPython Conference
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From Airport:
Take Bus number 50 to Basel SBB, then follow directions below.

From Basel SBB (Swiss & French railway station)

By Tramway (recommended)
From Basel SBB take the tram 8, 10, or 11 to «Aeschenplatz». Change to tram 14 to «Zum Park». Walk about 4 minutes to Gründenstrasse 40.

By Train: (recommended if you are close to train station)
Take the train S1 or S3 from „Basel SBB" to „Muttenz" (1st Stop, 4 to 6 minutes). Then walk to „Gründenstrasse 40" (about 8 minutes.)

By Car: (not recommended)
Parking is located at „Kriegackerstrasse 35, 4132 Muttenz", space is very limited. Please ask for parking cards at the registration desk.

By Taxi/Uber: (not recommended)
Adress is: Gruendenstrasse 40, 4132 Muttenz

Conference Dinner (May 8, 2018)

Restaurant Fischerstube (Brewery of the local **Ueli Beer**)

The Restaurant Fischerstube is a cosy traditional brewery restaurant located in the heart of the old town of lower Basel (Kleinbasel) - just a few meters away from the River Rhine. From the restaurant, you can watch the brewers at work in the In-house brewery while enjoying a homemade Ueli-beer (Ueli Bier) fresh from the barrel. The GeoPython 2018 conference dinner takes place in the rustic "Antoniterkeller", **a vaulted historic cellar from the 15th century**.
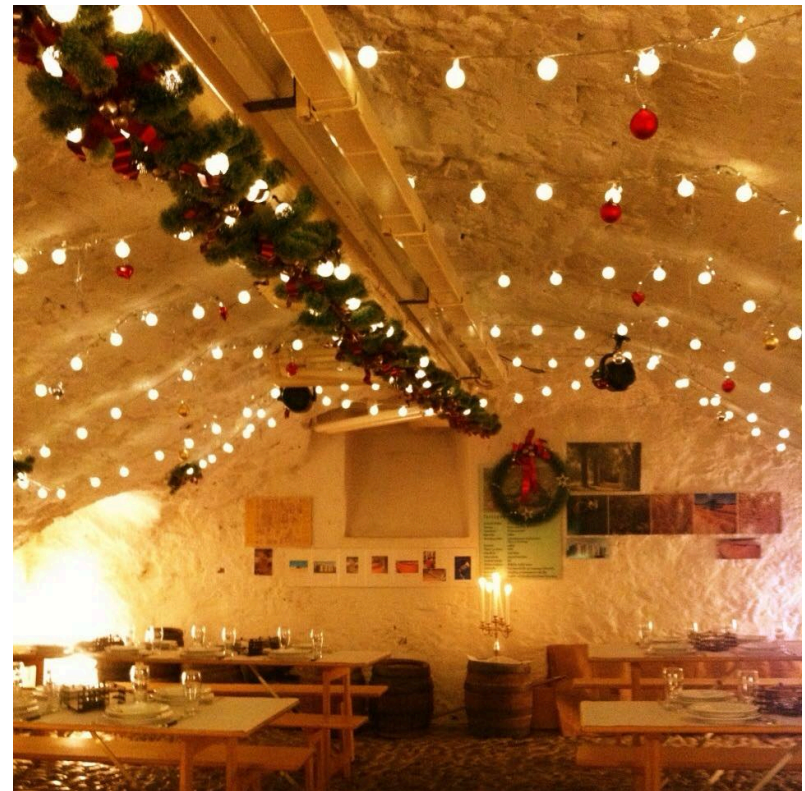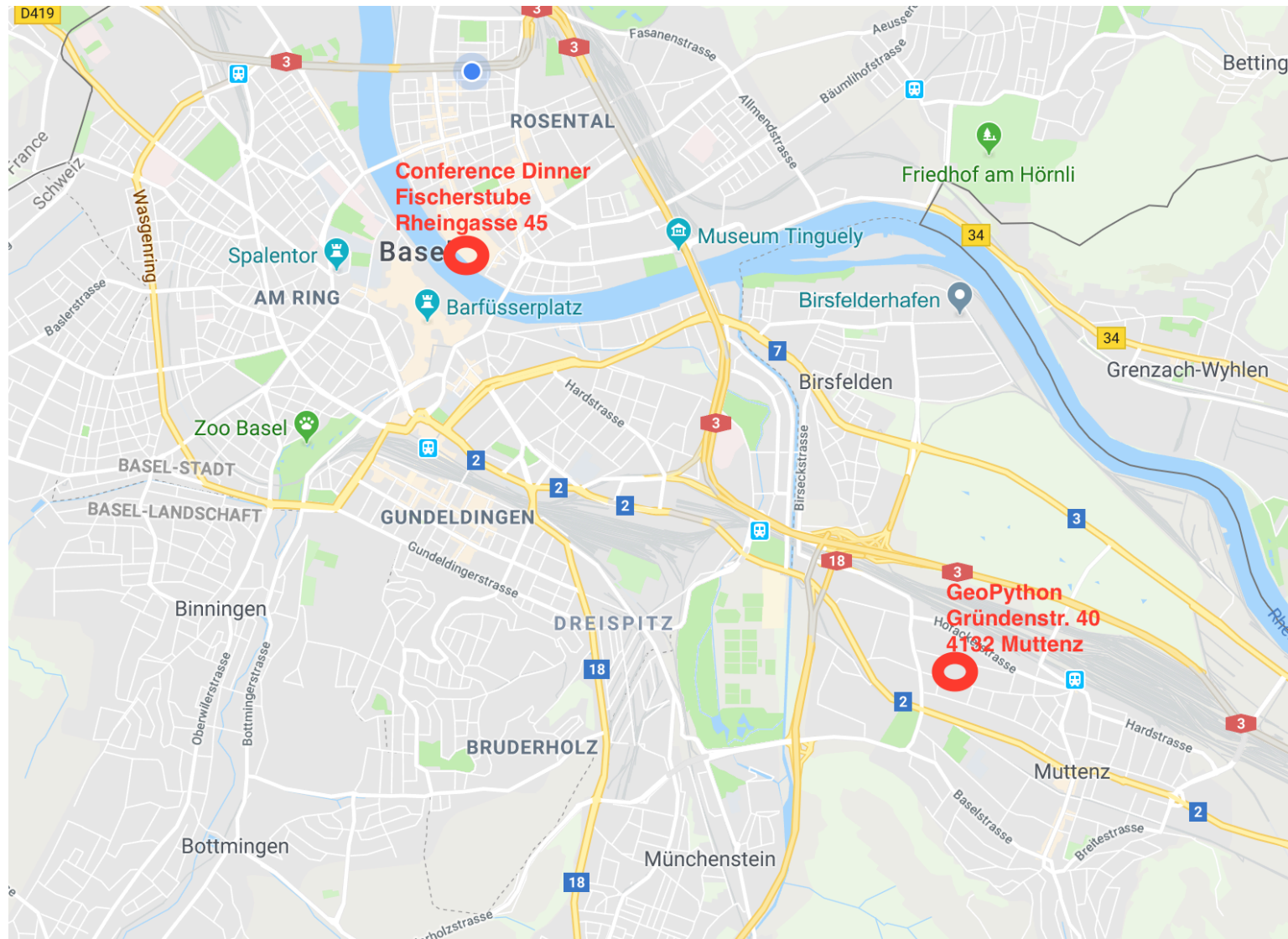
Address Conference Dinner:

Restaurant Fischerstube
Rheingasse 45, 4058 Basel, Switzerland
(about 25 minutes with public transport from conference, Tram 14 from "Zum Park" to "Rheingasse")

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