

Hochschule Karlsruhe  
Technik und Wirtschaft  
UNIVERSITY OF APPLIED SCIENCES



[www.hs-karlsruhe.de](http://www.hs-karlsruhe.de)

Hochschule Karlsruhe  
Technik und Wirtschaft  
UNIVERSITY OF APPLIED SCIENCES



THE SECOND EUROPEAN  
OPENSTREETMAP CONFERENCE  
**PROGRAMME**



## Contents

Talks on Friday .....	4
Lunch .....	15
Social Event on Friday .....	27
Talks on Saturday .....	28
Evening Programme on Saturday.....	49
Sunday Hack Day and Workshops .....	51
Imprint .....	59

## Important Information

If you publish anything on Twitter etc., please use the hash tag **#sotmeu** so that things are findable.

If you have any urgent question or problem during your stay in Karlsruhe or at the conference, call our conference mobile at **+49 176 9989 6898** and we'll try to help.

The general emergency telephone number in Germany is **112** (for police, ambulance, and fire brigades).

## Welcome

If you are reading this, then you have traveled to Karlsruhe, found the conference location, and managed to sign in. The complicated bits are behind you, and you can relax. This booklet tells you everything about our planned schedule for the two conference days and the hack day.

The central conference location with registration desk and coffee breaks is on the ground floor of building B. Talks are held in the auditorium in building B (ground floor) and the one in building A (1st floor, signposted "Aula"). Consult the map on page 14 if you're unsure where to go.

Lightning talks will take place in the auditoriums, and we have rooms on the 1st floor of building B for BoF sessions. There's also a "chill out room" where you can work on something quietly if you want. If you want to hold a BoF or a lightning talk, please add yourself on the flip charts placed near the registration desk.

The registration desk is also your port of call if you need support or help of any kind.

We would like to thank our sponsors, pictured on the back of this booklet, without whom the conference would not have been possible.

Thank you for coming, and we hope you'll enjoy your stay with us in Karlsruhe!

## Friday

Friday

		Building B	Building A
09:00		 <b>Registration</b> and morning coffee.	
09:30			<b>Opening</b>
10:30	<b>Everything but Directions</b> <i>Dennis Luxen</i>		<b>I've Bought a Car for Mapping, Now What?</b> <i>Ilya Zverev</i>
10:30		 coffee break	
11:00	<b>BikeDistrict—The Smart City by Bicycle</b> <i>Marco Quaggiotto</i>		<b>Opengeofiction</b> <i>Thilo Stapff, Johannes Bouchain</i>
11:30	<b>OSM Data in Journey Planning</b> <i>Thomas Jakubicka</i>		<b>Map Rendering Beyond Mapnik</b> <i>Sven Geggus</i>
12:00	<b>The State of the License</b> <i>Michael Collinson</i>		<b>pgmapcss—Advanced Cartography for Mapnik</b> <i>Stephan Bösch-Plepelits</i>
12:30			lunch until 14:00

	Building B	Building A
14:00	<b>State of the Kort Game</b> <i>Stefan Keller</i>	<b>Lightning Map Tiles</b> <i>Andy Allan</i>
14:30	<b>OSM Housenumber Evaluation</b> <i>Dietmar Seifert</i>	<b>Rendering Maps with OpenGL</b> <i>Konstantin Käfer</i>
15:00	<b>State of the Tools of OSM France</b> <i>Christian Quest</i>	<b>Tesselator's Delight</b> <i>Brett Camper</i>
15:30		 coffee break
16:00	<b>Osmose</b> <i>Frédéric Rodrigo</i>	<b>OSM Buildings</b> <i>Jan Marsch</i>
16:30	<b>MapRoulette 2: Electric Boogaloo</b> <i>Serge Wroclawski</i>	<b>2.5 D Maps and Bird Views with Blender</b> <i>Vladimir Elistratov</i>
17:00	<b>Lightning Talks I</b>	<b>Cartographically Plausible Label Placement</b> <i>Maxim Rylov</i>
19:00		social event at campus

Dennis Luxen

## Everything But Directions

### All the Other Exciting Things to Do with Routing

Friday

This talk explores the benefits of a state-of-the-art routing engine that go beyond the means to get simple driving or walking directions. We explore how routing is used as a building block not only to sophisticated data analysis but also in other new and exciting areas. Whether it is applied to calculate the walkability of neighborhoods, the matching of riders and drivers for carpooling, or even the monitoring for vandalism in the OpenStreetMap database, among a couple of further use cases.

With the challenge of handling an ever-growing data set, it is important to use methods that handle data efficiently and can keep up with the data growth and change rates. The talk shows how the combination of academic algorithm engineering and the crowd-sourced OSM data delivers not only superior features but also a superior user experience.

*Dennis Luxen, the lead developer of Open Source Routing Machine, a high-performance routing engine, is an algorithm engineer at heart. He holds a MSc as well as a PhD in computer science. His work focuses on highly scalable route planning and mapping services. Dennis is currently working at Mapbox.*

Ilya Zverev

## I've bought a car for mapping, now what?

### First: Glue an “OpenStreetMap” Sticker to it

The author focuses on field mapping: collecting data on the move, both on a car's passenger seat with a notebook, and behind the wheel, when you cannot spare a second to look away from the road. There will be a history of attempts at mapping as much as possible, sometimes with large-scale projects and examples of what commercial providers can do.

Entering data into OpenStreetMap is also a major problem: it has to be easy to be done on large scale. The topic affects mapping on feet and on bicycle, since the concepts developed will affect field mapping in general. Finally, the main question: do you really need a 4x4 vehicle for mapping Russia?

*Ilya Zverev (Zverik) is a long time mapper who likes to go outside. He's the editor of SHTOSM, a Russian OSM news blog, and an organizer of some mapping parties and conferences.*

Friday

Marco Quaggiotto

## BikeDistrict—The Smart City by Bicycle

### Crowdsourced Tools to Support Urban Cyclists and Urban Bike Planning

Friday

This talk presents the experience of two years in the BikeDistrict project, a web and mobile application working as a free navigation tool, suggesting urban bike-friendly paths. An intelligent “street rating” system has been developed for the BikeDistrict map interface, allowing the customization of the bike path and at the same time collecting and aggregating user ratings in a database.

BikeDistrict has the ability to identify critical infrastructural gaps, to evaluate the potential benefits of specific interventions on the bicycle network and in general to support the planning activities by providing real-time data and analysis related to the infrastructure condition and demand patterns. BikeDistrict is capable of collecting valuable information about the bike mobility demand and the perception of quality of the road infrastructure and the bike facilities, expressed directly by the bike users.

*Marco Quaggiotto has a PhD in Industrial Design and Multimedia Communication and is currently a lecturer and research fellow at the Polytechnic of Milan. He is also co-founder of BikeDistrict.*

*Thilo Stapff, Johannes Bouchain*

## **Opengeofiction**

### **Using OSM Software in Mapping a Fictional Planet**

Opengeofiction (<http://www.opengeofiction.net>) is a collaborative platform for making fictional maps, founded in 2013 using the OSM software stack. In this talk, we want to describe our motivation for working with fictional maps, how and why we created Opengeofiction, and how the project is currently developing. We will also highlight some of the technical challenges we encountered.

Employing the OSM software has taken our fictional mapmaking to a whole new level, not only for practical reasons, but also because it has transformed a somewhat solitary hobby into a collaborative activity with a growing community. While at a first glance Opengeofiction might look like a miniature version of OSM itself, there are also some key differences. We will explain why the OSM software stack is generally very well suited for our project, but also discuss areas where it does not fit quite as well.

*Thilo Stapff has always been fascinated by maps, real or imaginary. He studied Mathematics and works as a software developer in Frankfurt. Johannes Bouchain, from Hamburg, has been interested in (imaginary) cartography since childhood. He is a web designer/urban planner. Together they founded Opengeofiction in 2013.*

Friday

*Thomas Jakubicka*

## **The Use of OSM Data in Journey Planning An Example From Railway Routing**

**Friday**

The continually improving accuracy, grade of detail and completeness in OSM data on the one hand and the always rising demand for data with higher information density, has drawn the attention of public transport operators and authorities towards OSM. Furthermore open governmental data becomes more and more important to public transport services and the idea of OpenStreetMap supplements this approach.

Menz Datenverarbeitung (mdv) is developing journey planning systems and therefore has recently implemented the support of OSM data into their systems. A key aspect of journey planning is the georeferencing of the data in a GIS. In this talk the various aspects of railway and tramway routing will be presented. The intention is, to take the example of rail-bound routing and discuss the challenges as well as the benefits of OSM data for public transport and the implications for the different stakeholders: public transport providers, public transport users and the broad OpenStreetMap community.

*Thomas Jakubicka is responsible for project management at Menz Datenverarbeitung. He is especially involved in many projects related to OSM.*

Sven Geggus

## Map Rendering Beyond Mapnik

### A Presentation of the Two Major FOSS Alternatives: Mapserver and Geoserver

Discussing map rendering and tile servers in a group of OpenStreetMap activists makes it sound as if there is only one software in the world that can be used to do this job—namely Mapnik.

This talk will focus on the two major FOSS alternatives for map rendering, which are less well known outside the FOSSGIS/OSGeo community even though they predate Mapnik: Geoserver and Mapserver.

I will show some simple rendering examples for both of them (and Mapnik as a reference), and discuss the advantages and disadvantages of each particular software.

*Sven Geggus is long-time GIS and open source evangelist, and sysadmin of a couple of openstreetmap.de servers.*

Friday

12:00, Building B

*Michael Collinson*

## **The State of the License**

### **The First Two Years of ODbL**

**Friday**

An overview about the work of the OSMF License Working Group since the license change, and an opportunity to ask questions and discuss problems.

*Mike has been a mapper since 2005. He served as Secretary on the the OpenStreetMap Foundation board and is currently Chair of the License Working Group.*

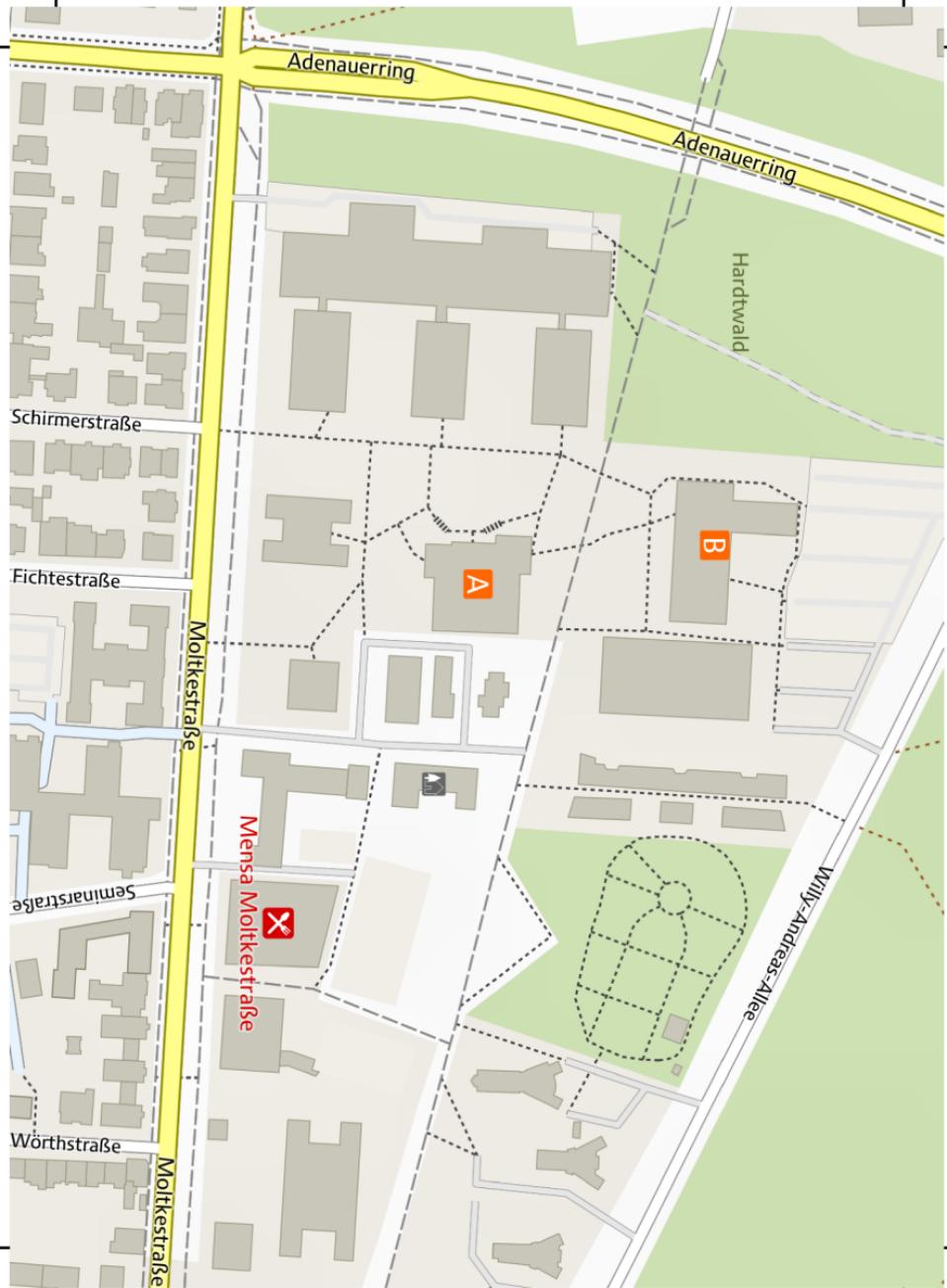
*Stephan Bösch-Plepelits*

## **pgmapcss—Advanced Cartography for Mapnik Implementing MapCSS by Moving the Cartography Into the Database**

pgmapcss combines MapCSS (a more or less standardized map description language) with Mapnik (a widely used map renderer for vector or raster maps). In contrast to other attempts at using CSS-like styling, the actual cartography process (evaluating which map features should be rendered in the current view and how) is moved into a database function, using PL/Python3 in a PostgreSQL database. Mapnik just needs to read the final properties—e.g. geometry, widths, colors, texts, and so on.

This has several advantages: it simplifies style writing because there's no longer a separation in database queries and styling, and it can also use relation membership or proximity to make rendering decisions. More than 10 different libraries on various platforms already implement MapCSS, and while the dialects differ slightly, it is hoped that they will converge in the future. Read more about pgmapcss: <https://github.com/plepe/pgmapcss>

*Stephan Bösch-Plepelits is interested in computer science and urban planning. He started mapping in 2008, and in OSM his main projects are OpenStreetBrowser and pgmapcss. Stephan loves hacking. <http://plepe.at>*



## Lunch

On Friday and Saturday, Lunch will be served at the University Dining Hall (the "Mensa"), just a short walk away from buildings A and B. On Friday there's normal operations so you can select something from the buffet and pay with the voucher you have been given when registering. On Saturday, they open specially for us (no voucher required). You will have a choice of two dishes: Goulash with Spätzle (a regional type of noodles made from flour and eggs and nothing else), or vegetarian Tortellini. Lunch is free for conference attendees on both days.

On Saturday just before lunch we're planning to do our group photo; details will be announced.



*Stefan Keller*

## **State of the Kort Game**

### **The First OpenStreetMap Mobile Mini Game Goes Public**

**Friday**

Kort ist a mobile web app to fix OpenStreetMap data. It runs on the most common browsers. The app uses the concept of gamification. Game-like elements like points (so-called “Koins”) are collected by the players by fulfilling a mission, like adding names to POIs without one. All proposed solutions are validated by other players. Once three players agreed on a proposal, it is integrated on OpenStreetMap.

This is a report about our efforts to let volunteers contribute additional mission types. Besides a restructuring of mission types and internal refactoring issues, the main question is how to design the user and machine-oriented interface. (<http://www.kort.ch>)

*Stefan Keller is professor for information systems at the University for Applied Sciences (UAS/HSR) in Rapperswil (Switzerland). He leads the (OSGeo) Geometa Lab at Institute for Software. He teaches database management systems as well as geographic information systems (GIS) at Bachelor and Master level, as well as in advanced studies. Open Source and volunteered geographic information (VGI) play a role in many of his projects.*

*Andy Allan*

## **Lightning Map Tiles**

### **A Vector Approach to Raster Maps**

Many of the maps you see created from OpenStreetMap data use the battle-hardened mod\_tile software stack to render images on-demand directly from a PostGIS database. To work around some of its inherent limitations, Andy started working on an alternative approach based on the mapnik-vector-tile software, storing the map data in protocol-buffer based vector tiles. This opens up a range of cartographic features, from faster map drawing times to easing the burden of hosting multiple styles. Andy will discuss the approaches taken, the pitfalls encountered and the future possibilities that this vector tile approach brings.

*Andy created the OpenCycleMap map layer in 2007, and is now providing high-quality map tiles to hundreds of applications and websites through his Thunderforest mapping platform. He is also the author of the CartoCSS version of the “Standard OpenStreetMap Style” (see workshop on p. 43).*

Friday

Dietmar Seifert

## OSM Housenumber Evaluation

### Improving Address Quantity and Quality Through Automated Analyses

Friday

OpenStreetMap is set to cover more and more addresses. This talk demonstrates a tool designed to automatically detect missing house numbers, by comparing data from OSM with data retrieved from a city council or similar authority. The government data doesn't have to have a geo component—simple lists are sufficient. This approach has been used with good results in various places in Germany, and also includes a method to generate feedback to the administration (whose data is often less than perfect).

*Dietmar Seifert has been an OSM contributor for about four years, active in the forum and best known in the German community for his automated street list and house-number reports.*

Konstantin Käfer

## Rendering Maps with OpenGL

### How to Render a Vast Dataset Like OSM on Mobile Devices

Rendering maps on the client becomes more important as technologies emerge and devices get faster. While most maps are still served as raster tiles, there is a case for delivering vectors to the client and having them rendered on the device. This talk will review existing rendering techniques and data formats, and point out their advantages and disadvantages.

*After studying IT Systems Engineering in Potsdam, Konstantin Käfer joined Mapbox and now works mainly on map rendering.*

Friday

*Christian Quest*

## **State of the Tools of OSM France**

### **OSM France Develop and Maintain a Number of Tools—Let's Take a Tour**

**Friday**

Some tools available on the French servers are generic ones like Taginfo, a tile server or an instance of Overpass API. But some are our own developments, yet still useful for all. Among others, we can find a HOT tile server, uMap, an API proxy, our cadastre extractor, a polygon generator, a generator for area extracts with diff, a boundary maker, the QA tool Osmose ...

*Christian Quest, 48, lives near Paris. He has been an OSM contributor since 2009, and he's a founding member and the current president of OSM-FR. Focused on data quality and exhaustivity, working on several renderings where external data are compared to OSM data to find "white spots", missing data as well as OSM-FR styled tiles. Christian is also part of OSM-FR tech team as system administrator taking care of a dozen of servers. He discovered OSM through his other (past) activities: paragliding and genealogy.*

Brett Camper

## Tesselator's Delight

### Introduction to OpenStreetMap for WebGL

WebGL has moved from an emerging technology to a widely supported one, providing a promising and powerful toolkit for rendering OSM data in the browser in the past couple years. But WebGL is often daunting and foreign to web programmers, and surprisingly few resources are available to learn.

In this talk I hope to help demystify WebGL for OSM, introducing the basics of a rendering pipeline using open source code examples, including: getting data from the server via GeoJSON or binary vector tiles, turning OSM geometries into triangle primitives (“tessellation”), constructing neatly joined polygonal line segments, extruding building outlines into 3D models, and creating lighting or perspective effects. All presented code is open source and also available as a Leaflet plugin, making it easily accessible to developers who want to experiment with adding WebGL and 3D components to their maps.

*Brett Camper is interested in graphics programming, data visualization, game and interface design, and related areas. He recently helped start Mapzen, a company focused on developing tools and apps to improve open source geo.*

Friday

*Frédéric Rodrigo*

## **Osmose**

### **A Quality Assurance Tool for Detecting and Fixing Errors and Integrating OpenData**

**Friday**

Osmose is one of many quality assurance tools available to detect errors and inconsistencies in OpenStreetMap data. It is also useful for integrating OpenData. Osmose has more than 250 different data checks, and the number of analyses is still rising. We're also rolling it out for more countries. With the latest funding, Osmose will also get an integrated tag editor usable on desktop and mobile.

*Frédéric Rodrigo is secretary of OpenStreetMap France, a freelancer in geomatics, and works on quality tools and a couple other development projects around OSM.*

*Jan Marsch*

## **OSM Buildings**

### **Now and Next**

I'll give you an introduction to OSM Buildings, a project to visualize OpenStreetMap building geometry in modern web browsers. You'll learn what its render modes are and how easily it integrates with existing web map engines.

If you are familiar with the project already, there are a lot new data sources to discover and user interaction has made a big step forward.

Furthermore I'll explain how OSM Buildings compares to similar projects and where it stands out. For future plans, you'll see why there won't be another gray 3D blocks engine.

Meanwhile, follow @OSMBuildings on Twitter!

*Jan Marsch is from Berlin, Germany and has been software engineer for desktop and mobile web applications for about 16 years. By doing some projects for Nokia Maps five years ago, he got addicted to maps. His technical focus is on JavaScript, HTML5, Canvas, REST, PHP and databases. Other strengths are entrepreneurial thinking, performance optimization and user experience. He is happy working with small companies but also did long term projects for Here, Daimler, Bayer, Deutsche Lufthansa and TNT.*

**Friday**

Serge Wroclawski

## MapRoulette 2: Electric Boogaloo

### It's back, it's real, and it's fun

Friday

MapRoulette has been undergoing a major rewrite for almost two years, but the new version is finally out. In this presentation, you will learn about MapRoulette's history and about what's new in the current version, as well as what the future may hold.

*Serge Wroclawski is a longstanding member of the OSM community. He's one of the founders of OpenStreetMap US, and member of the OSMF Data Working Group member. He's also the author of "Why the World Needs OpenStreetMap", a blog post that has made headlines in early 2014.*

*Vladimir Elistratov*

## **2.5 D Maps and Bird Views with Blender**

### **Creating 2.5 D Maps and Bird Views with OpenStreetMap and Blender**

2.5D maps are ordinary 2D maps in the web Mercator projection enhanced with a layer of 3D buildings rendered in the oblique projection. A birdview is an attractive way to realistically represent neighborhood. Realistic 3D models of buildings are used in both cases.

This talk presents a method of using the Blender open source software to add 3D buildings to an OpenStreetMap map, capable of composing whole cities of 3D buildings. Different ways of adding these buildings to a Mapnik rendering are discussed. SRTM data is used to place buildings on terrain; if necessary, terrain data is edited manually in Blender. Another key problem for bird views is to develop attractive 3D representation for numerous street objects like trees, street lights, fences, bus stops, benches, etc.

*Vladimir Elistratov works as a developer of web mapping applications. He an is OSM contributor since 2008.*

**Friday**

*Maxim Rylow*

## **Cartographically Plausible Label Placement A Multi-criteria Model for Good Point-label Placement on OSM Maps**

**Friday**

Cartographic label placement is a very important aspect of a map production. This task is essential for both traditional and automated cartography. Every OSMbased map is annotated using a labeling algorithm in one of the existing toolkits for rendering maps. However, none of these algorithms is able to take into account a rich set of well-established cartographic guidelines for feature annotation used by human cartographers. Assigning names to point-features is one of the map lettering tasks.

In our talk we present an approach, expressed as a multi-criteria optimization model, that complies with almost all well-defined cartographic placement principles and requirements for point-feature label placement. We show how this approach allows a significant increase in toponym density on an OSM-based map without effecting readability and legibility.

*Maxim Rylow is a PhD student in GIScience Research Group, Department of Geography, Heidelberg University. His main research interests are digital and web cartography, automated label placement, computational geometry and GIS mapping.*

## Social Event



On Friday evening, we'll have a Barbecue just outside building B, featuring proper German beer from Karlsruhe's Vogelbräu brewery and regional barbecue artist Dennis Ludwig with his XXL smoker. Drinks from 19:00, food from 20:00.

### ♦ Main Course ♦

#### **Pork Neck**

*Low & Slow cooked pork neck  
on a smoker grill seasoned  
with Ludwig-Grill BBQ spices  
and a Maple-Chipotle BBQ  
Sauce.*

#### **Salmon**

*Smoked salmon with a  
Rosemary and Lemon Sauce.*

### ♦ Dessert ♦

#### **Raspberry | Chocolate**

*Homemade raspberry ice  
cream with chocolate chips*

### ♦ Side Dishes ♦

#### **Potato**

*Baked Potato with sour cream*

#### **Grilled Vegetables**

*Mixed vegetables with Ludwig-  
Grill smoked salt*

#### **Cous Cous**

*Cous cous salad w/ fresh herbs*

#### **Cucumber**

*Cucumber salad with yoghurt  
dressing*

#### **Carrot**

*Carrot salad w/ smoked pepper*

#### **Bread**

*Baguette and farmhouse bread*

## Saturday



	Building B	Building A
09:00	Start the day with a cup of coffee.	
09:30	<b>Versioning OSM data with GeoGit</b> <i>Victor Olaya</i>	<b>Identifying Elements at Flood Risk with VGI</b> <i>João Porto de Albuquerque</i>
10:00	<b>Imposm</b> <i>Oliver Tonnhofer</i>	<b>SardSOS</b> <i>Francesca Murtas</i>
10:30		coffee break
11:00	<b>Sparse Editing</b> <i>Roland Olbricht</i>	<b>Efficient Routing for Mobile</b> <i>Harald Koertge</i>
11:30	<b>JOSM</b> <i>Simon Legner</i>	<b>Lightning Talks II</b>
12:00	<b>Wall-E</b> <i>Oliver Kaleske</i>	<b>Lightning Talks III</b>
12:30	group photo, lunch until 14:00	
14:00	<b>Introduction to libosmscout</b> <i>Tim Teulings</i>	<b>OSM—World Map or Set of Local Maps?</b> <i>Kirill Bondarenko</i>

	Building B	Building A
14:30	<b>Combined In- and Outdoor Map App for Android</b> <i>Thomas Graichen</i>	<b>Where Streets Have No Name</b> <i>Daniel Kastl</i>
15:00		<b>Keynote</b> <i>Dirk Helbing</i>
15:30		 coffee break
16:00	<b>Wikipedia Tags in OSM</b> <i>Cristian Consonni</i>	<b>Mapillary</b> <i>Yubin Kuang</i>
16:30	<b>Data consistency in OSM</b> <i>Alfonso Crisci</i>	<b>Geocoding Block</b> <i>moderated by Sarah Hoffmann</i>
		<b>Geocoding - the missing link for OSM</b> <i>Gary Gale</i>
17:00	<b>Beyond the 3 "R"s</b> <i>Jerry Clough</i>	<b>Pelias</b> <i>Randy Meech</i>
		<b>OSM Gazetteer</b> <i>Dmitry Kiselev</i>
17:30		<b>Closing</b>
19:00		 Kühler Krug

Saturday

*Victor Olaya*

## **Versioning OSM data with GeoGit**

### **Decentralized versioning for OSM**

GeoGit is a decentralized versioning tool for geospatial data. This talk introduces GeoGit and discusses some of its OSM-specific features. These features bring the advantages of decentralized versioning to OSM and improve the management of OSM data.

*Victor Olaya is developer at Boundless, QGIS developer, and the main author of the QGIS processing framework.*

Saturday

*João Porto de Albuquerque*

## **Identifying Elements at Flood Risk with Volunteered Geographic Information**

### **An Approach based on OpenStreetMap with a Case Study in Cologne**

The identification of elements at risk is an essential part in Hazard Risk Assessment. Especially for recurring natural hazards like floods, an updated database with information about critical elements at flood risk (e.g. schools, hospitals etc.) is fundamental to support crisis preparedness and response activities. However, acquiring and maintaining an up-to-date database with elements at risk requires both detailed local knowledge and hazard-specific constraints, being often a challenge for local communities due to lack of expertise and appropriate funding, deferred priorities and complex political determinations.

This talk presents a new approach for leveraging OpenStreetMap to automatically identify hazard-specific elements at risk. We provide a new data model for extracting elements at risk from OSM and conduct a case study in the city of Cologne, Germany to validate our approach.

*João Porto de Albuquerque is visiting Professor at Heidelberg University and Professor at University of São Paulo, currently researching on Collaborative Systems and VGI for Disaster Risk Management.*

Saturday

*Oliver Tonnhofer*

## **Imposm**

### **The Other PostGIS Import Tool**

Imposm is an open source tool that imports OSM data into PostGIS databases.

Imposm is fast and flexible. It supports custom database schemas and can generalize complex geometries for efficient rendering. The presentation will show you how Imposm works and how it differs from osm2pgsql. You will also learn about the status of the upcoming Imposm 3 release, which will feature incremental update support and performance improvements.

*Oliver Tonnhofer is the lead developer of Imposm and MapProxy. He is also co-founder of Omniscale, a German IT firm specialized in fast geographical maps and the acceleration of existing geospatial data infrastructure.*

**saturday**

*Francesca Murtas*

## **SardSOS—More than a Map**

### **An Emergency Call. When Mappers Go United ...**

I would like to share and talk about my experience with the free map SardSOS that I've created while confronting with the devastating floods which damaged my island, Sardinia, in November 2013. I've built an open crowdmap on the Ushahidi platform (<http://sardsos.crowdmap.com/>) which has been visited by nearly 14,000 people in the first week.

This project has also triggered the release of open geo-data from the Sardinian government. It pushed the Italian mainstream media to talk about OSM and inspired other regions and public administrations towards opening their data and looking at OSM with interest.

I will also report about an independent online research, after the emergency, aimed at checking the use and the perception of people of OpenStreetMap and mapping for emergencies.

*Francesca Murtas is an interaction designer. Mapping is a state of mind.*

Saturday

*Roland Olbricht*

## **Sparse Editing**

### **Editing Large Scale Objects**

While OpenStreetMap has an impressive data quality on small scale objects, large scale objects are often only mapped in low quality. An example is the often discussed subject of mapping public transport services, and indeed these are far from complete or consistent.

The deeper reason for this is that editing large scale objects is exceptionally hard. The larger an object is, the more spatial dependencies it is involved in. For example, a public transport relation can be damaged by each and every roundabout or lane mapping attempt.

In this talk we will analyze which typical kinds of dependencies exist and discuss various approaches like route suggestion or mapping on a filtered subset of data. As a hands-on example it is shown how to efficiently recover a lost name tag on the river Rhine by editing an area of more than a hundred kilometers extent in JOSM.

**saturday**

*Roland has been a mapper since 2008. He started Overpass API in 2009 to make OSM data more accessible. He has a PhD in pure mathematics, a strong background in computer science, and a passion for high performance algorithms and transport networks. Currently he works as a computer scientist at Fraunhofer SCAI in Bonn.*

*Harald Koertge*

## **Efficient Routing for Mobile Systems**

### **Focussing on OSM and Comparing Against Routing with Professional Data**

As OSM is gaining more traction for usage in navigation and routing for mobile devices and applications, it's important to understand the differences between commercial map data and OSM data, particularly for effective route calculations.

Following a brief history of routing engines that were primary developed for high performance usage on mobile devices, I will share what and where the challenges are in OSM versus commercial/professional data, from the perspective of having been entrenched in both worlds for many years.

*Harald Koertge founded his first company developing navigation systems in 1997 for PalmOS devices. Since that time, he has developed and designed multiple generations of map data models, routing engines, etc. for commercial and OSM data.*

Saturday

*Simon Legner*

## **The JOSM Editor**

### **Current Development and Data Validation with MapCSS**

JOSM is a Java-based offline editor for OpenStreetMap which has been around since 2005. A recurring challenge for editors is validating user input, guiding mappers towards making as few mistakes as possible.

This talk will provide insights in the current development. Emphasis will be on the use of the MapCSS styling system for data validation, a technique which has been developed in recent months.

*Simon Legner has been a JOSM developer since 2011, an OSM mapper since 2008, and is a computer scientist.*

**saturday**

*Oliver Kaleske*

## **Wall-E**

### **An OpenStreetMap Robot**

Wall-E is a maintenance robot I have been operating on OpenStreetMap in Germany since the end of 2012. The edits performed range from simple tasks such as the reduction of repeatedly referenced nodes in ways to relatively sophisticated corrections in addr:\* tags. Compared to other robots, Wall-E still has a relatively low total edit count (roughly 30k by early 2014), but this also reflects the rather conservative editing strategy employed, which includes several precautions to avoid misfixes.

The talk will cover some of the technical aspects (filtering patterns, tools involved, safety measures) as well as the robot's history starting from xybot, an earlier OSM robot which served as a model for many of Wall-E's functions, and some remarks on the role of robots within the social system of OSM.

*Oliver Kaleske is a physicist, working in software development, and has been an OSM contributor since 2010.*

Saturday

*Tim Teulings*

## **Introduction to libosmscout**

### **A C++ Library for Offline Rendering and Routing**

Libosmscout is a C++ library for offline map rendering, location look-up and routing. It targets mobile devices as well as the desktop, and is highly customizable.

The talk introduces you to the project by showing potential use cases, presenting main features, giving a few simple code examples and some technical background. Discussion is expected and encouraged.

*Tim Teulings has been an open source and professional software developer for more than 25 years (now 43 years old). He has developed a number of open source products over the years, most with a small user base. He has been working on libosmscout since around summer 2009 with an increasing user base and even some code contributions.*

**saturday**

Kirill Bondarenko

## **OSM: World Map or Set of Local Maps? Peculiarities of National Mapping**

Each country has peculiarities, and OpenStreetMap data is no exception. These national differences can become a big problem if you want a true OSM based world map, e. g. a routable map for PNA.

I will discuss local mapping rules and techniques, mainly about Russia in comparison with Europe, that concern the tagging of common objects, address schemas, the road classification, and other areas.

*Kirill Bondarenko has been an OSM editor since 2009. His primary interest is using OSM data in navigation software. He also maintains some validation tools for the Russian community.*

Saturday

*Thomas Graichen*

## **A Combined In/Outdoor Map for Android**

### **A Seamless Indoor and Outdoor Map Viewer for OSM Data and its Implementation**

Although the OSM community has built several indoor projects, an Android application for viewing indoor maps remains unavailable. As part of an electric mobility project, the group at TU Chemnitz has developed an application that fills this gap.

The concept and an overview of the chosen implementation shall be presented here. The talk will focus in particular on the usage of the mapsforge library, which is widely used for creating outdoor maps, and how it was applied to draw indoor maps. The indoor data itself is described using the scheme proposed by Marcus Goetz (<http://wiki.openstreetmap.org/wiki/IndoorOSM>).

Furthermore future developments and possible usage scenarios for this map application are presented.

*Thomas Graichen studied information engineering at the Technische Universität Chemnitz. He is currently member of the scientific staff of the Chair for Circuit and System Design, interested in hiking, biking and therefore in OSM outdoor maps, too.*

**saturday**

*Daniel Kastl*

## **Where the Streets Have No Name Mapping in Japan**

From a European or North American perspective many things seem to be clear, but what you take as granted in a “Western” country is likely to be different somewhere else.

This talk gives an example of how a street-based address schema can become a real headache in countries which don’t know street names.

*Daniel Kastl is a geographer, mapper, software developer, open source and open data advocate. He was born in Germany but is currently living in Japan.*

Saturday

*Dirk Helbing*

## **How to Create a Better World**

### **State of the Map EU 2014 Keynote Speech**

It probably started with Linux, then came Wikipedia and OpenStreetMap. Crowd-sourced information systems are central for the Digital Society to thrive. So, what's next? I will introduce a number of concepts such as the Planetary Nervous System, Global Participatory Platform, Interactive Virtual Worlds, User-Controlled Information Filters and Reputation Systems, and the Digital Data Purse. I will also introduce ideas such as the Social Mirror, Intercultural Adapter, the Social Protector and Social Money as tools to create a better world. These can help us to avoid systemic instabilities, market failures, tragedies of the commons, and exploitation, and to create the framework for a Participatory Market Society, where everyone can be better off.

**saturday**

*Dirk Helbing is Professor of Sociology, in particular of Modeling and Simulation, and member of the Computer Science Department at ETH Zurich. He earned a PhD in physics and was Managing Director of the Institute of Transport and Economics at Dresden University of Technology in Germany. He is internationally known for his work on pedestrian crowds, vehicle traffic, and agent-based models of social systems.*

*Cristian Consonni*

## **Creating a bridge between OpenStreetMap and Wikipedia: Wikipedia-tags-in-OSM**

### **A Tool to Add Wikipedia Tags in OSM and Coordinates in Wikipedia**

When you visit a Wikipedia article for a monument or a place (e.g. the Colosseum) you can find a link which will display the same object highlighted on OpenStreetMap: this tool is called WIWOSM and it was created by German mapper and Wikipedian Kolossos. It works using the “Wikipedia” tags, i.e. wikipedia=language:article, added by volunteers in OSM.

This presentation introduces a new tool called Wikipedia-tags-in-OSM (WTOSM) that makes easier to add the “Wikipedia” tags in OSM using JOSM “remote control” feature, and also allows adding coordinates in Wikipedia articles using the Coord template and OAuth authentication. This project is released as free software (GPLv3) on GitHub. We believe that it can help the OpenStreetMap community to discover new objects to map from Wikipedia pages and also it can create a bridge among the two projects.

*Cristian Consonni is researcher at the “Digital Commons Lab” unit of the Fondazione Bruno Kessler (FBK), in Trento, Italy, Wikimedia Italia’s vicepresident and Wikipedian, free software activist, physicist and storyteller.*

Saturday

*Yubin Kuang*

## **Mapillary - the Missing View of the Planet An Update on the State of the Street**

We want to create a photo representation of the world, a map with photos of every place on Earth. Current street view alternatives have so many limitations from the fact that they are created using cars with camera rigs, focusing on streets. There are many places on this planet that they will never get to, and even the places they do get to will not get updated as often as you might want them to. Together we can fix that.

Also, Mapillary wants to provide the image data to OSM for enhancing that data. Peter is going to talk about the technical and some of the legal aspects of the system and give some insights into the possible use cases and some existing (after just a few months) interesting usage.

*Yubin Kuang is co-founder of Mapillary, and interested in large scale 3D structure from motion and data mining on geo-tagged images. He has a PhD in Applied Mathematics with a focus on computer vision and image analysis and is the author of 15+ peer-reviewed publications.*

**saturday**

*Alfonso Crisci*

## **Data Consistency in OpenStreetMap**

### **Monitoring Consistency using Spatial Features and Tag Semantics**

Monitoring consistency and reliability of maps is an important task when Volunteered Geographic Information (VGI) is involved and OpenStreetMap provides a good testing ground to develop operative methodologies that can be used as a web application. Two questions about data consistency are considered: for any given region (I) Is the level of spatial features density at a given scale enough for a suitable geographical description? (II) Is the semantics of the features (described by keys and tags) consistent and comprehensive?

This talk presents preliminary results from work done by Alfonso Crisci (IBIMET-CNR), Maurizio Napolitano (FBK-Trento), Francesca De Chiara (FBK-Trento), Valentina Grasso (IBIMET-CNR, LaMMA Consortium), and Cristian Consonni (FBK-Trento).

*Alfonso Crisci is native biometerologist/geostatistician going to OSM-ollywood with some crazy ideas.*

Saturday

*Gary Gale, Sarah Hoffmann, Dmitry Kiselev, Randy Meech*

## **Geocoding Session**

### **It Sounds Easy but is it?**

Geocoding is the art of searching for places and looking up the address of a location. OSM has mostly used Nominatim in the last couple of years, which allows world-wide search but relies on a one-size-fits all approach. This session brings together three talks about new solutions to adapt geocoding to local requirements.

*Gary Gale* talks about the developing geocoding infrastructure for OSM and how to bring it together. Gary has worked in the mapping space for over 20 years. He's currently consulting with Lokku as Geotechnologist in Residence.

*Randy Meech* will introduce Pelias, a new geocoder focussed on combining multiple data sources and providing an easily customizable query parser. Randy is CEO of Mapzen, a company working on an open source mobile mapping application.

*Dmitry Kiselev* will talk about different address formats in different countries and present OSM Gazetteer, a new geocoder focussed on country-specific processing of OSM data. Dmitry is a keen GIS programmer and has been involved in OSM since 2010.

saturday

*Jerry Clough*

## **Beyond the Three “R”s**

### **Using OpenStreetMap Data for Analysis**

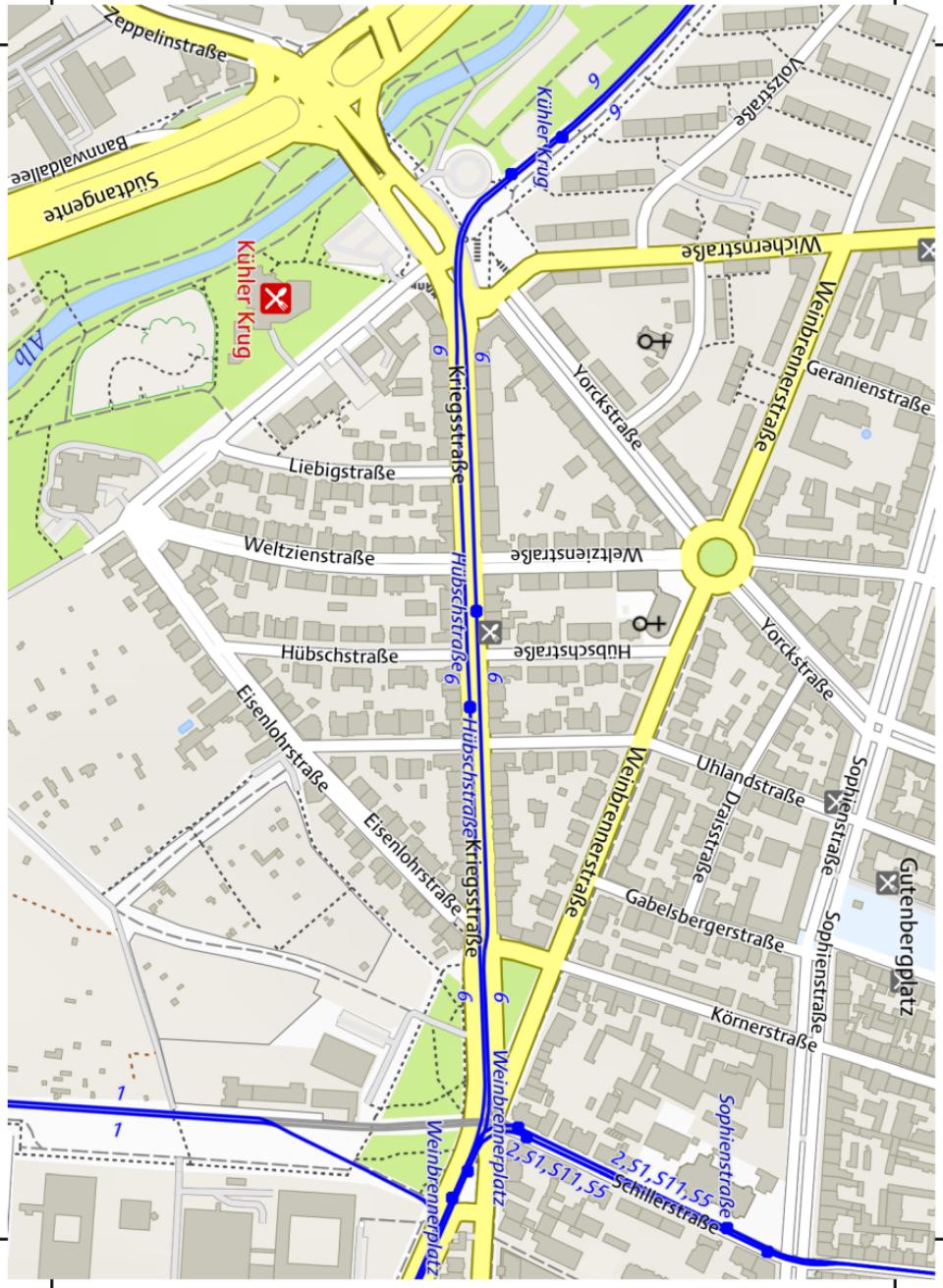
Most uses of OSM data fall into three categories, the three “R”s: Rendering (cartography), Routing, and ‘Rummaging’ (search, geolocation). However, the large and diverse sets of data within OSM also have considerable potential for answering analytical questions.

The patchiness of OSM data significantly hinders its use for analysis. But there are other aspects of the data which don’t help either. Examples of how OSM data can be used for analysis will be presented to demonstrate both the potential and the underlying issues.

Analysis places different demands on how data is mapped in OSM: a focus on using specific subsets of the data will highlight inconsistencies, and identify missing information. Making OSM data usable for analytics tests and stresses is in ways different from the typical uses. Therefore particular analysis problems can help enrich and extend how and what we map.

*Jerry Clough has been interested in maps since the age of four. He has a professional background in scientific research (Genetics, Computer Science) and business consultancy, and is an enthusiastic amateur naturalist. OSM forms a natural nexus between these diverse interests.*

Saturday

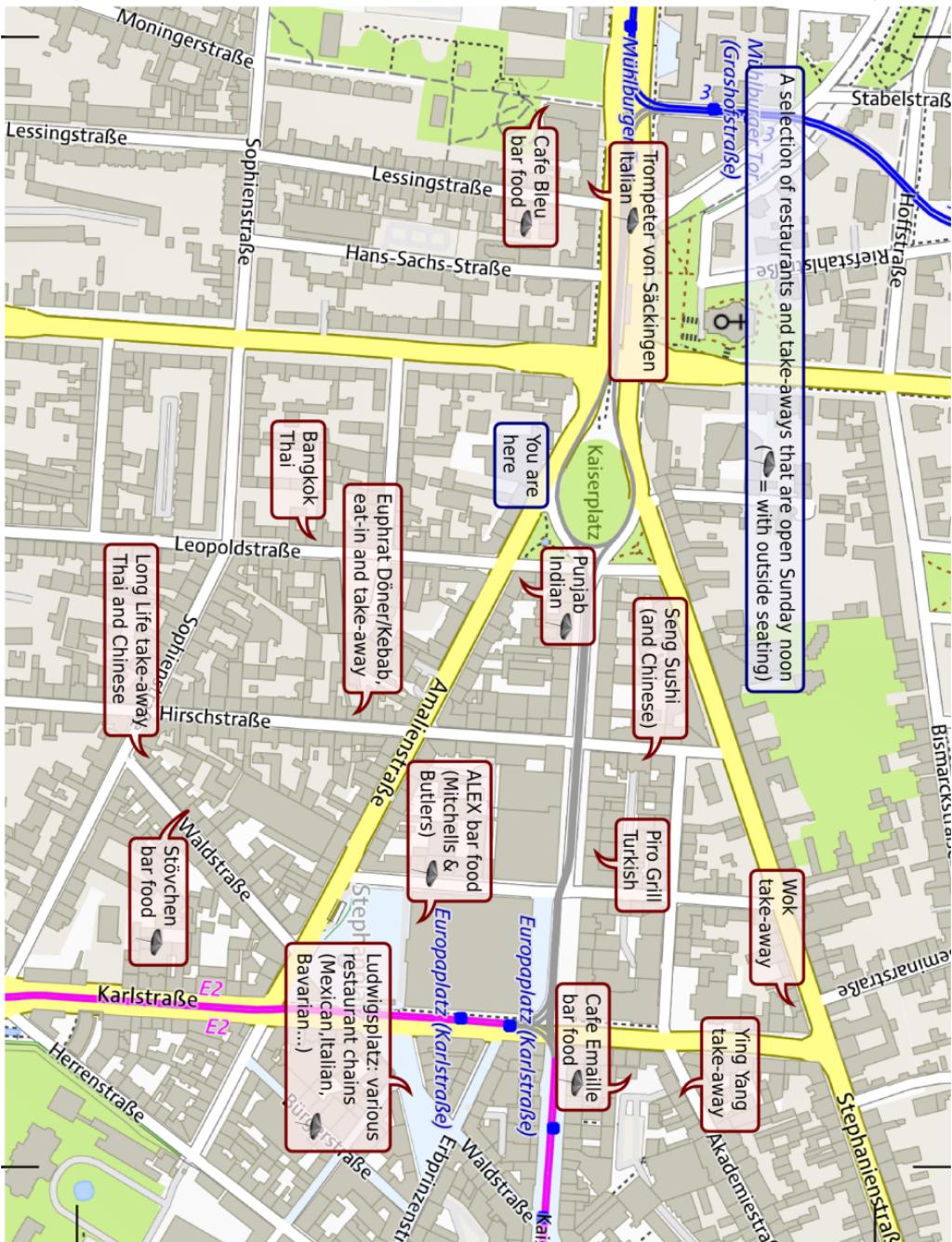


## Saturday Evening

We have reserved about 100 seats at the **Kühler Krug** brewery and biergarten pictured below, for Saturday starting 19:00. At 2.5 km from Europaplatz (and less than 2 km from Hotel Rio) it is still a walkable distance away but you can also take tram No 6 from Mathystraße (direction “Daxlanden”—don’t get confused if other sources say that Kühler Krug is served by tram No 5, this is a temporary change). See also the map on the opposite page, or the marker on the folded conference map.



A selection of restaurants and take-aways that are open Sunday noon  
 (= with outside seating)



## Sunday - Hack Day and Workshops

We are changing the venue on Sunday, away from the green of the campus to the somewhat smaller inner-city university location in Amalienstraße. Here, four workshops of about one hour each will take place during the day (starting at 10 h, 11 h, 14 h, and 15 h), and there will be ample room for hacking on your favourite OSM project. If you are more of an outdoor type, join the excursion to a nearby nature reserve starting at 8:00!

Hot and cold beverages are provided. At lunch, grab a Kebab next door, go for pizza, or sit outside at the vibrant Ludwigsplatz down the road (see map). There's also an ice cream parlour just outside the building, or you could order pizza from Kai's ([www.kais-pizza.de](http://www.kais-pizza.de)).



*Jerry Clough*

## **Woodland and Wetland Mapping**

### **Sunday Morning Excursion**

This is an opportunity for interested mappers to work together in the field in a variety of woodland and wetland (reed-beds, open water, marsh, etc.) habitats which are of interest to participants and discuss how to recognise and distinguish the features of those habitats in such a way that they can be mapped.

The anticipated destination is nature reserve Weingartener Moor/Bruchwald Grötzingen, which is about 10 km NE of Karlsruhe, and easily reached by a short train journey from Karlsruhe Hbf. We will meet at Karlsruhe Hbf at 08:00 in time for the 08:10 train to Weingarten (Baden), Meeting point at the entrance to the platforms. The nature reserve is around 1 km walk from Weingarten Bhf. We will spend between 2.5-3 hours in the nature reserve. Return train at either 11:57 or 12:36.

Participants are advised to bring appropriate footwear, sunscreen/rain gear, mosquito-repellant, and something to drink. Binoculars, hand-lens and tree and plant field guides will also be useful, although these will be available to consult or borrow.

Follow [@SK53onOSM](#) on Twitter for updates and last-minute changes.

*Jochen Topf*

## **Osmium to the Rescue**

### **Solving OSM Problems with Osmium**

Osmium is a highly flexible and performant C++ library for working with OpenStreetMap data. Built on top of this library are a command line tool and a Node.JS module. This suite of software can be used for many tasks, from keeping history planets current, to creating statistics, to converting OSM data in many different GIS formats. This workshop presents several typical problems from the OpenStreetMap world and shows how they can be solved using the Osmium library, the Osmium command line tool, or the Node.JS module.

You can find more about Osmium and related software at <http://osmcode.org/>.

*Jochen has been an active OSM contributor and developer of OSM software since 2006. He is co-author of a book about OSM (<http://www.openstreetmap.info>). He has turned his OSM hobby into a business developing software and as consultant on all things OSM and geo. More at <http://jochentopf.com/> .*

*Roland Olbricht*

## **Overpass API v0.7.50**

### **The Temporal Dimension**

With OpenStreetMap getting more mature, it becomes more important to track changes. But doing so is difficult for various reasons: Changeset comments can be misleading, destruction may be hidden in innocent looking changes, and the sheer amount of data prohibits a complete manual review. For that reason Overpass API provides, from version 0.7.50 on, the complete history since the license change.

In this workshop we'll demonstrate the commands to access that history. We explain how these features allow building powerful client JavaScript only websites that can track changes with arbitrary search criteria. We will discuss what remains to be done to build a complete and logically consistent revert tool based on Overpass API v0.7.50.

*Roland has been a mapper since 2008. He started Overpass API in 2009 to make OpenStreetMap data more accessible. He has a PhD in pure mathematics, a strong background in computer science, and a passion for high performance algorithms and transport networks. Currently he works as a computer scientist at Fraunhofer SCAI in Bonn.*

Andy Allan

## OpenStreetMap Carto

### The State of the Style Sheets—One Year On

In this workshop we will review our progress over the last 12 months, lay out the future roadmap and look at some of the interesting projects that have used OpenStreetMap Carto as a foundation. We will also show you how to customise the stylesheets for your own projects using TileMill, and show you how to contribute improvements back to the main map style.

*Andy is a freelance digital cartographer and open source geospatial developer. He has been creating maps from OSM data since 2007 and started the OSM Carto project in November 2012.*

*Martijn van Exel*

## **MapRoulette Next Generation**

### **User Defined Challenges**

In this workshop, you will learn how to get your own challenges into MapRoulette, the OpenStreetMap QA tool. We will discuss the key elements of a good challenge, how to prepare your challenge for MapRoulette, updating strategies and more.

*Martijn's bond with OpenStreetMap dates back to 2007, when he attended his first mapping party in Amsterdam. He was hooked and became a community leader in the Netherlands. He continued this role when he moved to the United States in 2011. He has been serving on the United States Chapter board since then—the last two years as president. Martijn works at Telenav, a global provider of personal navigation software, as an OSM expert.*

(for your notes)

(for your notes)

## Imprint

State of the Map Europe 2014 is jointly organised by FOSSGIS e.V. and the Karlsruhe University of Applied Sciences (Hochschule Karlsruhe).



responsible for the content:

FOSSGIS e.V.  
Theodor-Echtermeyer-Straße 15  
14469 Potsdam

This booklet has been prepared by Michael Reichert and Frederik Ramm using Open Source Software. Photos by Ludwig Grill and Christine Karch.

All maps have been made by Holger Schöner based on OpenStreetMap data, copyright OSM contributors, licensed Open Database License 1.0.

The icons used in the tables are licensed CC-0 by SJJB Management. Grass clipart Public Domain by cyberscooty via openclipart.org.



The whole of this booklet may be re-used under the Creative Commons Attribution Share-Alike 3.0 license.



Rolls-Royce  
Motor Cars Limited



CONTARGO®  
trimodal network



MAPZEN

GEOTAB  
management by measurement



Mapbox

KOEHLER & LEUTWEIN  
Ingenieurbüro für Verkehrswesen



1 2 3 map



init

Omniscale

