



Galaxy Community Conference

Konzerthaus, Freiburg, DE
1-8 July, 2019



#usegalaxy

galaxyproject.org/gcc2019

@galaxyproject



Talks, posters & demos
Trainings
BoF gatherings
CollaborationFest

A Community event!



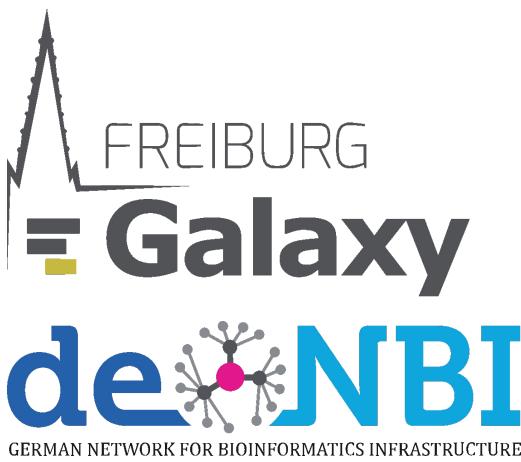
Willkommen!

Welcome to the 2019 Galaxy Community Conference (GCC2019), the 10th annual gathering of the Galaxy Community. GCC2019 features one day of training, three days of mixed meeting and training, and then up to four days of CollaborationFest. Every day of the meeting will include plenary & parallel sessions; invited, accepted, and lightning talks; poster and demo sessions; Birds-of-a-Feather (BoF) meetups; social events; and training sessions. GCC2019 is all about data-intensive research and its supporting compute infrastructure. We also include plenty of time for networking and impromptu gatherings.

We would like to give an enormous thank you to our sponsors and hosts, our instructors, the Scientific Committee, BoF and CollaborationFest organizers, speakers, demo and poster presenters, and to everyone who contributed to making this event a success.

Vielen Dank!

The GCC2019 Organising Committee



Venue & Getting Around

GCC2019 takes place in Konzerthaus Freiburg, located in the center of Freiburg, and is easily reachable by foot, bike, public transportation or car.

Freiburg has an extensive and integrated public transportation network - Zone 1 (*Preisstufe 1*) ticket for Freiburg - 2 x 4-trip tickets is a convenient option. Consider using the Freiburg transport website and app (<https://www.vag-freiburg.de>) to get routes, schedules, and ticket information.

Restaurants, bars, and things to do are located everywhere around and in the city center. Check out the map at the end of the program or online (<http://bit.ly/gcc2019map>).

In the Konzerthaus, most of the events will take place on the 2nd floor, with only the conference desk (where you can always ask for help) and the childcare room being located on the ground floor. Food will be served on the 2nd floor, where the breaks also take place. Check out the Konzerthaus floor plan on the last page to know where events are.

The plenary sessions will take place in the **Greece** room and the parallel track in the **Germany** room. Training will be in these rooms and also in the **Italy, Belgium, France** and **Spain** rooms. All these rooms as well as the **Czechia** room can be used for BoFs. The **Netherlands** room is a quiet room for relaxing, so please respect it.

All floors can be accessed using stairs or elevators. All rooms and stages are accessible by wheelchair. In the **Germany** room, there is assistive listening technology with an audio induction loop system.

The entire location is a non-smoking area. Please go outside to smoke.

REGISTER NOW
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Simply enter your e-mail address when registering.



Network

Wifi is available throughout all conference facilities.
SSID: **Konzerthaus Besucher** - Password: **F68beWmtT**

Social Media

Unless requested otherwise by the speaker, tweeting and other social media activity are actively encouraged. Post early, post often. Twitter is the most active platform in the Galaxy community.

#usegalaxy @galaxyproject

Chat

GCC2019, like the general Galaxy Community, will be using Gitter to chat. Gitter requires a GitHub, GitLab, or Twitter account to post. Join the conversation: <https://gitter.im/galaxyproject/gcc>.

Meals

Coffee, beverages, and light snacks will be available during breaks. Lunch is provided on the Training Day and all 3 days of the conference.

The official conference dinner is on Wednesday evening. A separate registration ticket is required to attend. The dinner venue (Augustiner im Bankepeter) is within walking distance (~ 30 minutes) from the Konzerthaus, but also is easily reachable by public transport or car.

Code of Conduct

GCC2019 has a code of conduct that describes what is expected of conference participants. Please read it (<https://bit.ly/gcc2019coc>) and help to make GCC2019 a welcoming and safe environment for all.

Pictures

Pictures will be taken during the conference. If you do not want to be photographed, we provide an alternative lanyard. You can share your pictures at <https://bit.ly/gcc2019pictures>, but please respect people's privacy preferences.

Childcare

GCC2019 provides an inhouse childcare thanks to our sponsors.

There's more online

The list of posters and demos, the full speaker lists for accepted talks and their abstracts are available online at <https://gcc2019.sched.com>.

Events Overview

| Mon 1st July | Tue 2nd July | Wed 3rd July | Thu 4th July |
|--|--|--|--|
| Training Day 2 tracks about using and administering Galaxy | | Conference 3 days of plenary and parallel sessions, training sessions, poster & demo session, BoFs, and plenty of time for networking Conf. dinner | |
| | | | |
| Fri 5th July | Sat 6th July | Sun 7th July | Mon 8th July |
| | CollaborationFest: Core 2 days of collaborative work and learning about contributing to the Galaxy ecosystem | | CollaborationFest: Encore 2 more days of collaborative work and contributing to the Galaxy ecosystem |
| | | | |



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A Freiburg Cup coffee cup with a lid, filled with coffee and topped with latte art. The cup features the Freiburg Cup logo and a silhouette of the city skyline. To the right, there is promotional text and a QR code.

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Training Day - Mon 1st July

Monday 1st July is a dedicated training day with two tracks, one for learning how to use Galaxy for research, and the other for learning how to administer a Galaxy server. Additional training sessions will happen during the 3 following days of the meeting as well.

| | | |
|-------|--|---------|
| 9:00 | Conference Desk Open | |
| 10:00 | Using Galaxy Introduction to Using Galaxy (Galaxy 101) . M. Heydarian, J. Hillman-Jackson | Germany |
| | Admin & Dev Introduction to Galaxy Administration I . M. Čech, E. Afgan, S. Gladman, M. van den Beek, J. Chilton, N. Coraor, H. Rasche | Greece |
| 12:00 | Catered lunch | |
| 13:00 | Using Galaxy Beyond the Intro: Further Adventures in Using Galaxy . M. Heydarian, J. Hillman-Jackson | Germany |
| | Admin & Dev Introduction to Galaxy Administration II . M. Čech, E. Afgan, S. Gladman, M. van den Beek, J. Chilton, N. Coraor, H. Rasche | Greece |
| 15:00 | Break | |
| 15:30 | Using Galaxy Analyzing Large / Complex Experimental Designs with Galaxy . D. Blankenberg, M. van den Beek, M. Heydarian, J. Hillman-Jackson | Germany |
| | Admin & Dev Introduction to Galaxy Administration III . M. Čech, E. Afgan, S. Gladman, J. Chilton, N. Coraor, H. Rasche | Greece |
| 17:45 | Dinner on your own & Birds-of-a-Feather | |

Also, check out **BeerDEcoded, Here and Now!** and the **Nanopore Loading Zone!** in the **Italy** room at any time during the day.



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Conference Days

The conference will be from Tuesday 2 July to Thursday 4 July. Each day will have 1 plenary & 2 parallel sessions with talks, 2 sessions of up to 6 parallel trainings, 1 poster & demo session, BoF meetups, and plenty of time for networking. The conference dinner will be on Wednesday evening.

Tuesday 2nd July - Talks I

| | | |
|-------|--|---------|
| 8:00 | Conference Desk Open | |
| 9:00 | Talks - 1 plenary track | |
| | Plenary. Moderator: B. Grüning | Greece |
| 9:00 | Opening and Welcome. A. Erxleben, B. Grüning | |
| 9:10 | Invited Talk Evolution of X chromosome recognition during Drosophila Dosage Compensation. C. I. Keller Valsecchi | |
| 9:40 | Galaxy Australia - inside the national vision of a data commons G. Price | |
| 10:00 | A Machine Learning Tool Suite for Galaxy. J. Goecks | |
| 10:20 | An Update on Galaxy Workflows: More Accessible, Expressive, Robust, and Scalable. J. Chilton, M. van den Beek | |
| 10:30 | Break & Sponsors | |
| 11:00 | Talks - 2 parallel tracks | |
| | Admin & Dev. Moderator: H. Rasche | Greece |
| 11:00 | GalaxyCloudRunner: Streamlined Cloud Bursting for Galaxy. N. Goonasekera | |
| 11:07 | Laniakea: A Galaxy-on-demand Provider Platform Through Cloud Technologies. M. A. Tangaro | |
| 11:27 | Enabling Single Sign-On for Multiple Galaxy Instances. E. Afgan | |
| 11:34 | How - And How not - to manage successful local Galaxies. P. Mabon | |
| 11:54 | Building a Pulsar Network across Europe. G. Cuccuru | |
| | Outside the Genome & Community. Moderator: Y. Le Bras | Germany |
| 11:00 | Galaxy Computational Chemistry. C. Barnett | |
| 11:20 | Climate Analysis with Galaxy. A. Fouilloux | |
| 11:40 | Galaxy Image Analysis: Web-based microscopy image analysis and cellular phenotyping. T. Wollmann | |
| 12:00 | Lunch & Birds-of-a-Feather | |

Tuesday 2nd July - Trainings

13:20

Trainings - 6 parallel workshops

Epigenetics.

ChIP-seq data analysis. L. Rabbani, D. Ryan

Italy

EWAS data analysis for population epigenetics integrated into Galaxy. K. Poterlowicz

France

Admin & Dev.

How to create a Galaxy Tool. J. Chilton, N. Soranzo

Greece

Variation, Metagenomics & Assembly.

Variant calling I - from sequenced reads to variant lists.

W. Maier

Spain

16S analysis with Mothur. S. Hiltemann

Belgium

General.

Quality control of HTS data. TBA

Germany

14:50

Posters, Demos & Sponsors

15:50

Trainings - 5 parallel workshops

Epigenetics.

Hi-C analysis. J. Wolff, L. Rabbani

Italy

Admin & Dev.

Scripting Galaxy through BioBlend. N. Soranzo, M. van den Beek

Greece

Variation, Metagenomics & Assembly.

Variant Calling II - causative variant discovery. W. Maier

Spain

Metatranscriptomics & multi-omics microbiome analysis.

Belgium

T. Griffin, B. Batut, R. Sajulga, P. Jagtap

General.

Machine learning with Galaxy. A. Kumar, J. Goecks, A.

Germany

Khantheymoori

17:20

Group picture

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Tuesday 2nd July - Talks II

17:30

Talks - 2 parallel tracks

Epigenetics. Moderator: D. Ryan

Greece

17:30 **HiCExplorer 3: A toolbox for Hi-C data analysis.** J. Wolff

17:50 **Histone Deacetylases 1/2 In Microglia Function During Development And Neurodegeneration.** M. Frosch

17:57 **Analysis and visualization of the human cardiac myocyte epigenome using Galaxy.** R. Gilsbach

Outside the Genome & Community. Moderator: A. C. Fouilloux

Germany

17:30 **Using Galaxy for Creation and Execution of Text Mining Workflows in the OpenMinTeD platform.** D. Galanis

17:50 **To Better Benefit from Shared Tasks in Biomedical Text Mining.** M. Ba

17:57 **The LAPPS Grid/Galaxy Platform for Mining Scientific Publications.** A. Mahmoud

18:17 **Infrastructure for Healthier Living: Galaxy at Quadram Institute Bioscience.** T. Le Viet

18:24 **How Usable is Galaxy? A Usability Evaluation of Galaxy.** N.-H. Truong

19:00

Dinner on your own & Birds-of-a-Feather

Wednesday 3rd July - Talks I

8:00

Conference Desk Open

9:00

Talks - 2 parallel tracks

Transcriptomics & Genomics. Moderator: A. Syme

Germany

9:00 Invited Talk

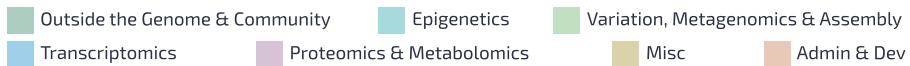
Pou5f3, SoxB1 and Nanog control the Zygotic Genome Activation in Zebrafish. M. Veil

9:30 **Single-cell RNA Analysis in Galaxy on 10X Datasets.** M. Tekman

9:50 **Biology-driven classification of Single-Cells RNAseq data in Galaxy.** C. Antoniewski

10:10 **Improving Transcriptome Analysis with Molecular Indices and Galaxy.** B. W. Langhorst

10:17 **Transposon Insertion Sequencing Analysis in Galaxy.** D. Larivière



Wednesday 3rd July - Talks I

9:00

Talks - 2 parallel tracks

| | |
|--|--------|
| Admin & Dev. Moderator: S. Gladman | Greece |
| 9:00 Containerizing Galaxy server as a Singularity application on HPC clusters for GenAP. D. Morais | |
| 9:20 Galaxy on Kubernetes: where we are and future challenges. P. Moreno | |
| 9:40 A Minimal Docker Image for Galaxy. S. Golitsynskiy | |
| 9:47 CVMFS-CSL for Galaxy: Efficient Access to Read-only Data in Kubernetes. A. Mahmoud | |
| 9:54 gxadmin: usegalaxy.* administration wisdom. H. Rasche | |
| 10:14 Galaxy container for Hinxton Single Cell Interactive Analysis Portal (HiSciAP). J. Manning | |

10:30

Break & Sponsors

11:00

Talks - 2 parallel tracks

| | |
|--|---------|
| Transcriptomics & Genomics. Moderator: A. Bhardwaj | Germany |
| 11:00 Aequatus.js: a plugin to visualise gene trees in Galaxy. A. Thanki | |
| 11:20 Visual Refinement of Genome Annotations with Apollo in a Community Environment. N. Dunn | |
| 11:27 Architectural and Systems Improvements to G-OnRamp, a Collaborative Eukaryotic Genome Annotation Platform. L. Sargent | |
| 11:34 ChiRA: an integrated framework for Chimeric Read Annotation. P. Videm | |
| 11:54 Training experience on "Data analysis and interpretation for clinical genomics" using Galaxy. G. Cuccuru | |

| | |
|---|--------|
| Admin & Dev. Moderator: D. Morais | Greece |
| 11:00 Working Effectively with Remote Data in Galaxy - A Progress Report. J. Chilton | |
| 11:07 Testing and Visualizing the State of Galaxy Tools and Workflows. M. Čech | |
| 11:27 Setting up a Galaxy Platform in a HPC Infrastructure for Genomics Implementation into Diagnosis Routines for a Health Reference Center. M. Juliá | |
| 11:34 RealTimeTools: Integrating, Customizing, and Accessing UI-based Tools in Galaxy. D. Blankenberg | |
| 11:54 Creating a Universe of Galaxies: The UseGalaxy.* Project. N. Coraor | |

12:00

Lunch & Birds-of-a-Feather



Did you know? When ordering something to drink, klein (small) means 0,33l and gross (big) 0,5l.

Wednesday 3rd July - Trainings & Talks II

13:20

Trainings - 5 parallel workshops

Transcriptomics & Genomics.

Single cell RNA-seq analysis I. M. Tekman, A. Ostrovsky

Germany

The RNA workbench, best practices for RNA and high-throughput sequencing bioinformatics in Galaxy.

France

J. Fallmann, F. Eggenhofer

Admin & Dev.

Galaxy Code Architecture. J. Chilton, N. Coraor

Greece

General.

Visualization of HTS data. TBA

Italy

Train the Galaxy Trainer. S. Gladman, A. Syme, B. Batut,
S. Hiltemann, H. Rasche

Spain

14:50

Posters, Demos & Sponsors

15:50

Trainings - 5 parallel workshops

Transcriptomics & Genomics.

Single cell RNA-seq analysis II. M. Tekman, A. Ostrovsky

Germany

Admin & Dev.

Running Galaxy on Kubernetes. E. Afgan, N. Goonasekera, A.
Mahmoud, S. Golitsynskiy, P. Moreno

Greece

Visualisation development in Galaxy. A. Guerler, J. Goecks,
A. Kumar

France

General.

Beyond the Intro: Further Adventures in Using Galaxy?

Italy

M. Heydarian, J. Hillman-Jackson

Making your open source project awesome. Y. Yehudi, B. Batut

Spain

17:30

Talks - 1 plenary track

Plenary. Moderator: F. Coppens

Greece

17:30 Invited Talk

Galaxy Community Update. J. Goecks, D. Blankenberg, A. Nekrutenko, J.
Taylor

18:00 **Tool Prediction in Galaxy Workflows using Deep Learning.**
A. Kumar

18:07 **Street Science Community: make science tangible & accessible
by bringing it to the "street" with open science workshops.**
T. Müller

19:30

Conference dinner at Augustiner im Bankepeter



Outside the Genome & Community



Epigenetics



Variation, Metagenomics & Assembly



Transcriptomics



Proteomics & Metabolomics



General



Admin & Dev

Thursday 4th July - Talks I

| | | |
|---|--|---------|
| 8:00 | Conference Desk Open | |
| 9:00 | Talks - 2 parallel tracks | |
| Proteomics & Metabolomics. Moderator: M. Föll | | Greece |
| 9:00 | Metaproteomics Powered By Metatranscriptomics: Towards a Multi-omic Functional Microbiome Analysis Within Galaxy. P. Jagtap | |
| 9:20 | Interactive Galaxy Visualizations for Multi-omics Research. R. Sajulga | |
| 9:27 | ProteoRE, a Galaxy-based platform for the annotation and the interpretation of proteomics data in biomedical research. F. Combes | |
| 9:47 | Galaxy Wrapper for MaxQuant. D. Glätzer | |
| 9:54 | Application of Halogen Bonding in Molecular and Drug Design Facilitated by a Galaxy Webserver. F. M. Boeckler | |
| Outside the Genome & Community. Moderator: B. Batut | | Germany |
| 9:00 | Invited Talk Data visualisation by citizen science participants: the case of birds and bats monitoring schemes and Galaxy-E. R. Lorrillière, Y. Bas | |
| 9:30 | Galaxy-Bricks a Tool for Data Literacy and Scientific Approach Education in the Context of Citizen Science. S. Bénateau | |
| 9:37 | Citizen Science Project in Ecology with the Galaxy-E Platform. B. Yguel | |
| 9:44 | Galaxy-E project: 2019 news. Y. Le Bras | |
| 10:04 | The ChemicalToolBox - Computational Chemistry in Galaxy. S. Bray | |
| 10:11 | Improved Reference Data Management in Galaxy: Towards a Plant Data Analysis Platform. I. Eguinoia | |
| 10:18 | Use Galaxy, Right Now! D. Clements | |
| 10:25 | Galaxy Publication Library. D. Clements | |
| 10:30 | Break & Sponsors | |

Conference dinner

Augustiner im Bankepeter
Schwarzwaldstraße 93, Freiburg

Restaurant | Bar | Cocktaillounge

B on the map
Walk: ~ 30 minutes through the city and along the Dreisam
Public transport: tram line 1, direction Littenweiler, stop Freiburg Maria-Hilf-Kirche

Augustiner
im Bankepeter

Thursday 4th July - Talks I & Trainings

11:00

Talks - 2 parallel tracks

| | |
|--|---------|
| Proteomics & Metabolomics. Moderator: P. Jagtap | Greece |
| 11:00 Analysing and organising large-scale metabolome annotation studies with Django, ISA and Galaxy. T. N. Lawson | |
| 11:20 Reproducible and accessible analysis of spatially resolved proteomics and metabolomics data. M. Föll | |
| 11:40 Workflow4Metabolomics: an international computing infrastructure for Metabolomics. G. Le Corguillé, M. Petera, R. Dallet | |
| Variation, Metagenomics & Assembly. Moderator: S. Hiltemann | Germany |
| 11:00 The IRIDA Platform for Microbial Genomics. A. Petkau | |
| 11:20 Combat-tb: Workbench, A Customizable Platform For Variant Discovery And Annotation, Phylogeny Construction And Variant Prioritisation. Z. Mashologu | |
| 11:27 High throughput HIV next generation sequence analysis in Galaxy. D. Bouvier | |
| 11:47 NanoGalaxy: A Galaxy toolkit and workflows for long-read sequencing. W. de Koning | |
| 11:54 MITOLINK: An integrated Web-based Workflow System to Evaluate Genotype-Phenotype Correlations in Human Mitochondrial Diseases. A. Bhardwaj | |

12:00

Lunch & Birds-of-a-Feather

13:20

Trainings - 5 parallel workshops

| | |
|---|---------|
| Proteomics & Metabolomics. | |
| Metabolomics data analysis I. G. Le Corguillé, M. Petera, R. Weber, T. Lawson | France |
| Proteomic data analysis. M. Föll, M. Fahrner, M. Stillger | Belgium |
| Variation, Metagenomics & Assembly. | |
| Assembly, annotation and analysis of bacterial genomes. D. Larivière, A. Syme, S. Gladman | Italy |
| Admin & Dev. | |
| CVMFS and Pulsar. H. Rasche, S. Gladman, N. Coraor, G. Cuccuru | Greece |
| Outside the Genome & Community. | |
| Import, handle, visualize and analyze biodiversity data in Galaxy. Y. Le Bras, S. Bénateau | Spain |
| General. | |
| Machine learning with Galaxy. A. Kumar, A. Khantheymoori | Germany |

| | | |
|--------------------------------|---------------------------|------------------------------------|
| Outside the Genome & Community | Epigenetics | Variation, Metagenomics & Assembly |
| Transcriptomics | Proteomics & Metabolomics | General |

Thursday 4th July - Trainings & Talks II

| | | |
|-------|---|---------|
| 14:50 | Posters, Demos & Sponsors | |
| 15:50 | Trainings - 5 parallel workshops | |
| | Proteomics & Metabolomics | |
| | Metabolomics data analysis II. G. Le Corguillé, M. Petera, R. Weber, T. Lawson | France |
| | MALDI imaging of peptides data analysis. M. Föll, M. Fahrner, M. Stillger | Belgium |
| | Variation, Metagenomics & Assembly | |
| | Genomic assembly and data analysis in Galaxy with Nanopore ONT long read sequencing. S. Hiltemann, M. Miladi, W. de Koning | Greece |
| | Admin & Dev. | |
| | ELIXIR Galaxy AAI. K. Klepper | Italy |
| | Outside the Genome & Community. | |
| | Populations genomics with RADseq. Y. Le Bras, S. Bénateau | Spain |
| | General. | |
| | Handling integrated biological data using Python, Jupyter, and InterMine. Y. Yehudi | Germany |
| 17:30 | Talks (1 plenary track) | |
| | Plenary. Moderator: A. Lonie | Greece |
| 17:30 | Invited Talk UseGalaxy: Elucidating chromatin biology of mouse cardiomyocytes. S. Nothjunge | |
| 18:00 | Galaxy and Training: 2019 updates from the Galaxy Training Network. B. Batut | |
| 18:20 | Closing. B. Grüning, A. Erxleben, D. Clements | |
| 19:00 | Dinner on your own & Birds-of-a-Feather | |

Did you see?

The conference bag is organic and fair: it is made out of high quality organic cotton with a sturdy organic cotton cord and it is certified fair trade and follows social standards.



During or after GCC, it can be used as gift packaging, as a bread bag or as a shoe bag.

You do not want to keep it? No worries! Put it in the dedicated box and we will reuse or donate them.

= Galaxy
PROJECT

Publish your articles,
presentations and posters in our
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CollaborationFest

GCC2019 will finish with the CollaborationFest, a multi-day collaborative work event where our community gathers to contribute code, documentation, training materials, and challenging analysis problems and use cases. If you are interested in learning and contributing in an intensely collaborative environment, then the CollaborationFest is for you.

CollaborationFest is split into two parts this year:

Fri & Sat 5-6th July - Core CollaborationFest

There will be lots of collaborative work, but also lots of learning about projects and software. This will be the larger of the two stages and will take place at the Konzerthaus. All you need to attend is an interest and motivation to contribute.

| | |
|-------|--|
| 8:00 | Conference Desk Open |
| 9:00 | Core CollaborationFest |
| 12:00 | Lunch |
| 13:00 | Core CollaborationFest |
| 18:00 | Core CollaborationFest: summary of the day |
| 19:00 | Dinner on your own |

Sun & Mon 7-8th July - Encore CollaborationFest

The smaller - and dare we say - more intense of the two stages, these two days will focus on collaboration, collaboration, collaboration. It will take place at the Compute Center (10-15 minutes by foot from the Konzerthaus)

| | |
|-------|--|
| 8:00 | Conference Desk Open |
| 9:00 | Encore CollaborationFest |
| 12:00 | Lunch on your own |
| 13:00 | Encore CollaborationFest |
| 18:00 | Encore CollaborationFest: summary of the day |
| 19:00 | Dinner on your own |



Did you know? A waiter will never ask guests to pay. You have to order the bill.

Social Events

GCC is one large social event for our community. When you're free, skip checking your email and introduce yourself to the person next to you. You have at least one thing in common - you both have excellent taste in choosing conferences! If you dig deeper, you'll likely find that you have much more in common and maybe shared interests. Many fruitful collaborations have been initiated at a GCC. Strike up a conversation!

Icebreaker

You should have received an icebreaker card with instructions on the back. Your goal is to fill and hand in your card, no later than Wednesday evening. Some prize winners will be drawn randomly from all completed entries on the last joint session.



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Conference Dinner

The conference dinner will be on Wednesday evening at **Augustiner im Bankepeter** (Schwarzwaldstraße 93, Freiburg). It is within walking distance from the conference center (see the map of Freiburg), but also easily reachable by public transport (tram line 1, direction Littenweiler, stop Freiburg Maria-Hilf-Kirche). You will need a separate registration ticket to attend.

Dinners on your own

Except for the conference dinner on Wednesday, the dinners are on your own. Some BoFs will happen during the dinners either in the Konzerthaus or in nearby restaurants. The times and locations will be announced. We also created a map (<https://bit.ly/gcc2019map>) with suggested restaurants and bars in Freiburg. Check out the Gitter channel (<https://gitter.im/galaxyproject/gcc>) to find where others go and also post there to coordinate.



Did you know? Water without carbonation is called Stilles Wasser (silent water).

Birds-of-a-Feather Meetups

There is no better place than a Galaxy Community Conference to meet and learn from others doing high-throughput data analysis. GCC2019 includes Birds-of-a-Feather (BoF) meetups, which are informal gatherings based on participants' shared interests. BoFs are encouraged throughout GCC2019, particularly during the lunch period each day.

If you are interested in a BoF then just show up. The BoFs below were planned when this program was printed. See <https://bit.ly/gcc2019bofs> for the most up-to-date list.

If you want to organize a BoF, submit it at <https://bit.ly/gcc2019createbof>. It's never too late to start a BoF, and once one is proposed the organizers will get the word out about it.

Monday 1st July

18:00

Dinner on your own & Birds-of-a-Feather

Genome Annotation.

Orga: N. Dunn, H. Rasche

TBA

Computational Chemistry.

Orga: C. Barnett, B. Gruening, S. Bray

TBA

Tuesday 2nd July

12:15

Lunch & Birds-of-a-Feather

Art & Craft.

Orga: S. Hiltemann, H. Rasche

Czechia

Using Galaxy in automated production setups.

Orga: P. Moreno

Italy

19:00

Dinner on your own & Birds-of-a-Feather

The Freiburg City Tour.

Guided tour, 30 people max., English

In front of
the venue

The Galaxy Training Network.

Orga: S. Hiltemann, H. Rasche, B. Batut

TBA



Did you know? Usually you do not get tap water in restaurants.

Wednesday 3rd July

12:15

Lunch & Birds-of-a-Feather

Art & Craft.

Orga: S. Hiltemann, H. Rasche

Czechia

Galactic Visualization!

Orga: A. Thanki, S. Hiltemann, H. Rasche

Italy

Thursday 4th July

12:15

Lunch & Birds-of-a-Feather

Art & Craft.

Orga: S. Hiltemann, H. Rasche

Czechia

Metabolomics: Tools, Resources, and Needs.

Orga: A. Eschenlauer

Italy

Galaxy Containers.

Orga: E. Afgan, N. Goonasekera

France

19:00

Dinner on your own & Birds-of-a-Feather

The Freiburg City Tour.

Guided tour, 30 people max., English

In front of
the venue

Intergalactic Utilities Commission (IUC).

Orga: IUC team

TBA

ELIXIR: A DISTRIBUTED INFRASTRUCTURE FOR LIFE-SCIENCE DATA

ELIXIR unites Europe's leading life science organisations in managing and safeguarding the increasing volume of data being generated by publicly funded research.

ELIXIR Galaxy Community

- Builds a European network of data-specific Galaxy communities and fosters interaction between them
- Improves tools and data integration
- Develops a Galaxy cloud infrastructure across Europe
- Improves access and transfer of data
- Promotes FAIR principles in Galaxy
- Expands the Galaxy training provision and develops new training materials

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Posters

Posters are numbered and arranged consecutively. In addition each poster has an A, B or C after it to indicate which day it will be presented (A = Tuesday, B = Wednesday, C = Thursday) from 14:50 to 15:50. Each poster will be officially presented during one of those sessions.

Posters will remain up for 3 days (Tuesday-Thursday). Please put up your poster on Tuesday morning, and leave it up until the end of the last poster session on Thursday.

The full author lists, affiliations, abstracts and last-minute additions can be found online at <https://bit.ly/gcc2019poster>.

- 1A Alternative Splicing Analysis: The Silencing of the Human Colon Oxidase Complex. B. Scholtz
- 2B Galaxy container for Hinxton Single Cell Interactive Analysis Portal (HiSciAP). J. Manning
- 3C Galaxy in fields, gardens and greenhouses for better seeds. M. Faubladier, F. Sapet, C. Segard
- 4A Gene Expression Analysis of In vitro Anti-filarial Activity of Natural and Synthetic Sesquiterpene Lactones from the Plant *Neuroleena lobata*. L. Perez-Perez
- 5B Improving Transcriptome Analysis with Molecular Indices and Galaxy. B. W. Langhorst
- 6C miRGalaxy: Galaxy tool for miRNA Analysis of NGS datasets (sRNA-seq). I. Glogovitis
- 7A Knockdown Effects of MAGOHB on Alternative Splicing Via RNA-Seq Analysis. G. Basumata
- 8B Transposon Insertion Sequencing Analysis in Galaxy. D. Lariviere
- 9C Development and Deployment of a Workflow for the Genomic Analysis of *Campylobacter Jejuni*. J. A. Barbero Aparicio
- 10A Dima: Data-driven recommendation for a high-performing imputation algorithm. J. Egert
- 11B LC-MS/MS tool and interactive visualizations integration on Galaxy Workflow4Metabolomics infrastructure. R. Dallet
- 12C Reproducible and accessible analysis of spatially resolved proteomics and metabolomics data. M. Föll



Did you know? When ordering any juice as a Schorle it will be served mixed with sparkling water.

- 13A **Evaluation of tools and workflows for database construction for environmental metaproteomics.** V. Jouffret
- 14B **Modulation of Nav1.5 mechanosensitivity by beta1 and beta3 subunits.** M. Maroni
- 15C **A new Galaxy Wrapper for MaxQuant.** D. Glaetzer
- 16A **Predicting Gene Expression from Histone Modifications and Chronological Age by RNA-Seq Data using Galaxy Machine Learning Tools.** A. Khanteymoori
- 17B **Analysis and visualization of the human cardiac myocyte epigenome using Galaxy.** R. Gilsbach
- 18C **Applying new model for predicting effects of gene variants in epigenetic regulators within Galaxy environment.** T. Drljaca
- 19A **EpiGeEC allows fast comparison of user datasets with thousands of public epigenomic datasets through Galaxy.** J. Laperle
- 20B **Testing and Visualizing the State of Galaxy Tools and Workflows.** M. Čech
- 21C **Improved Reference Data Management in Galaxy: Towards a Plant Data Analysis Platform.** I. Eguinoia
- 22A **Laniakea: A Galaxy-on-demand Provider Platform Through Cloud Technologies.** M. A. Tangaro
- 23B **Galaxy on Kubernetes: where we are and future challenges.** P. Moreno
- 24C **Galaxy on Kubernetes.** N. Goonasekera
- 25A **Building a Galaxy Trusted Server to Ensure Privacy and Ownership in Genomic Research.** G. Zhang
- 26B **RealTimeTools: Integrating, Customizing, and Accessing UI-based Tools in Galaxy.** D. Blankenberg
- 27C **Galaxy on Site: Flexibility without Tears.** A. Eschenlauer
- 28A **InteractoMIX integration in Galaxy.** P. Mirela Bota
- 29B **ARIAWeb: a new web service for automated NMR structure calculation with ARIA.** F. Mareuil
- 30C **Towards a platform for genomics medicine.** W. Maier
- 31A **Development and implementation of a Galaxy instance geared towards microbiological applications within an applied public health setting.** J. Van Braekel
- 32B **The IRIDA Platform for Microbial Genomics.** A. Petkau
- 33C **HiCExplorer 3: A toolbox for Hi-C data analysis.** J. Wolff
- 34A **A Newly Opened Galaxy Platform at Clermont Auvergne University.** N. Goué



Did you know? Bottles and cans with soft drinks, sparkling water and beer have a deposit and can be handed back in a supermarket.

- 35B **NanoGalaxy: A Galaxy toolkit and workflows for long-read sequencing.**
W. de Koning
- 36C **EDAM: the ontology of bioinformatics operations, types of data, topics, and data formats (2019 update).** M. Kalaš
- 37A **Galaxy Genome Annotation Project: Easier Genome Annotation Using Galaxy and GMOD Tools.** A. Bretaudeau
- 38B **Visual Refinement of Genome Annotations with Apollo in a Community Environment.** N. Dunn
- 39C **Deployment of Genome Databases for Algae Using Galaxy Genome Annotation.** L. Brillet-Guéguen
- 40A **Aequatus.js: a plugin to visualise gene trees in Galaxy.** A. Thanki
- 41B **Training experience on “Data analysis and interpretation for clinical genomics” using Galaxy.** G. Cuccuru
- 42C **Experience of Galaxy training at a biomedical institute.** M. Doyle
- 43A **Galaxy and Training: 2019 updates from the Galaxy Training Network.** B. Batut
- 44B **A brief overview on how bilille is using Galaxy for sharing knowledge, computational resources & tools.** L. Coudrec
- 45C **Galaxy-Bricks a Tool for Data Literacy and Scientific Approach Education in the Context of Citizen Science.** S. Bénateau
- 46A **Galaxy-E project: 2019 news.** Y. Le Bras
- 47B **Climate Analysis with Galaxy.** A. C. Fouilloux
- 48C **The ChemicalToolBox - Computational Chemistry in Galaxy.** S. Bray
- 49A **Mining hot topics in stem cells by combining text mining and scientometrics.** Z. Hu, X. Wang
- 50B **Using Galaxy for Creation and Execution of Text Mining Workflows in the OpenMinTeD platform.** D. Galanis
- 51C **How Usable is Galaxy? A Usability Evaluation of Galaxy.** D. Brand
- 52A **Science Data Center BioDATEN in relation to the Galaxy Community.** B. Grüning
- 53B **UseGalaxy.eu: Community, Training, Infrastructure, and Users.** H. Rasche



Did you know? Often it is not possible to pay by card and only cash is accepted.

Demos

Demos are numbered and arranged consecutively. In addition each demo has an A, B or C after it to indicate which day it will be presented (A = Tuesday, B = Wednesday, C = Thursday) from 14:50 to 15:50. Each demo will be officially presented during one of those sessions.

The full author lists, affiliations, abstracts and last-minute additions can be found online at <https://bit.ly/gcc2019demo>.

- 1A **Galaxy Computational Chemistry.** B. Barnett
- 2A **Climate Analysis with Galaxy.** A. C. Fouilloux
- 3A **Analysing and organising large-scale metabolome annotation studies with Django, ISA and Galaxy.** T. Lawson
- 4A **GalaxyCloudRunner: Streamlined Cloud Bursting for Galaxy.**
N. Goonasekera
- 5B **Combat-tb Workbench, A Customizable Platform For Variant Discovery And Annotation, Phylogeny Construction And Variant Prioritisation.**
Z. Mashologu
- 6B **ProteoRE, a Galaxy-based platform for the annotation and the interpretation of proteomics data in biomedical research.** F. Combes
- 7B **Knockdown Effects of MAGOHB on Alternative Splicing Via RNA-Seq Analysis.** G. Basumata
- 8B **Predicting Gene Expression from Histone Modifications and Chronological Age by RNA-Seq Data using Galaxy Machine Learning Tools.** A. Khanteymoori
- 9B **Mining hot topics in stem cells by combining text mining and scientometrics.** Z. Hu, X. Wang
- 10C **Interactive Galaxy Visualizations for Multi-omics Research.** R. Sajulga
- 11C **NanoGalaxy: A Galaxy toolkit and workflows for long-read sequencing.**
W. de Koning
- 12C **Visual Refinement of Genome Annotations with Apollo in a Community Environment.** N. Dunn
- 13C **The IRIDA Platform for Microbial Genomics.** A. Petkau



Did you know? Trash needs to be separated and placed in specific bins: plastic (yellow), paper (blue or green), glass (by color) and residual waste (grey or black).

Organizers

The conference is made possible with the help of many volunteers. On our behalf, thanks go to the following people:

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Did you know? Tip (Trinkgeld) is not included in the bill and 10% is usual.

Anton Nekrutenko
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GCC2019 CollaborationFest

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Peter MacCallum Cancer Centre
Mo Heydarian
Johns Hopkins University

Jennifer Hillman-Jackson
Penn State University
Brad Langhorst
New England Biolabs
Marius van den Beek
Institut Curie

Travel Fellowship

The Galaxy Community Fund offers conference fellowships to students, post-docs, and other early career researchers to attend and present their work at GCC. This year's travel fellowship recipients are:

Christopher Barnett
University of Cape Town, South Africa
Glory Basumata
Indian Institute of Technology
Guwahati, Assam, India
Patricia Mirela Bota
Universitat de Vic (UVic) - Universitat
Central de Catalunya, Vic, Spain
Tamara Drljača
Laboratory for Bioinformatics and
Computational Chemistry, Vinca
Institute of Nuclear Sciences,
University of Belgrade, Serbia
Nadia Goué
Clermont Auvergne University, France

Miguel Juliá
Bioinformatics Unit (BU-ISCI), Core
facility, Health Institute Carlos III
(ISCI), Spain
Ziphozakhe Mashologu
South African Medical Research
Council Bioinformatics Unit, South
African National Bioinformatics
Institute, University of the Western
Cape, South Africa
Lizzette Perez-Perez
Smith College, United States

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Silver



Bronze



CollaborationFest



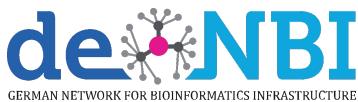
Childcare



eLIFE



Hosts



GERMAN NETWORK FOR BIOINFORMATICS INFRASTRUCTURE

Funding



Bundesministerium
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und Forschung



Share Ideas and Feedback

Got feedback about the conference? Or ideas to make Galaxy great? Share them with us! Write them here, cut the page and pin it on the wall.

German Network for Bioinformatics Infrastructure



32 Institutes

250 Researchers

450,000+ Users per Month



Service

100+ Services developed and maintained



200+ Training Courses

4,000+ Participants

Training

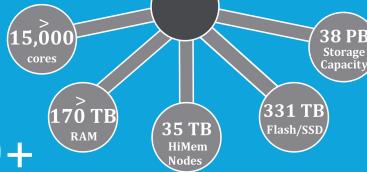


Cloud

200+ Developers

50+ Projects

100,000+ Jobs performed



6 Cloud Centers



Access via



Impact

Bioinformatics Services

- Human Bioinformatics
- Microbial Bioinformatics
- Plant Bioinformatics
- RNA Bioinformatics
- Proteomics & Lipidomics
- Integrative Bioinformatics
- Reference Databases
- Systems Biology

German Node in ELIXIR

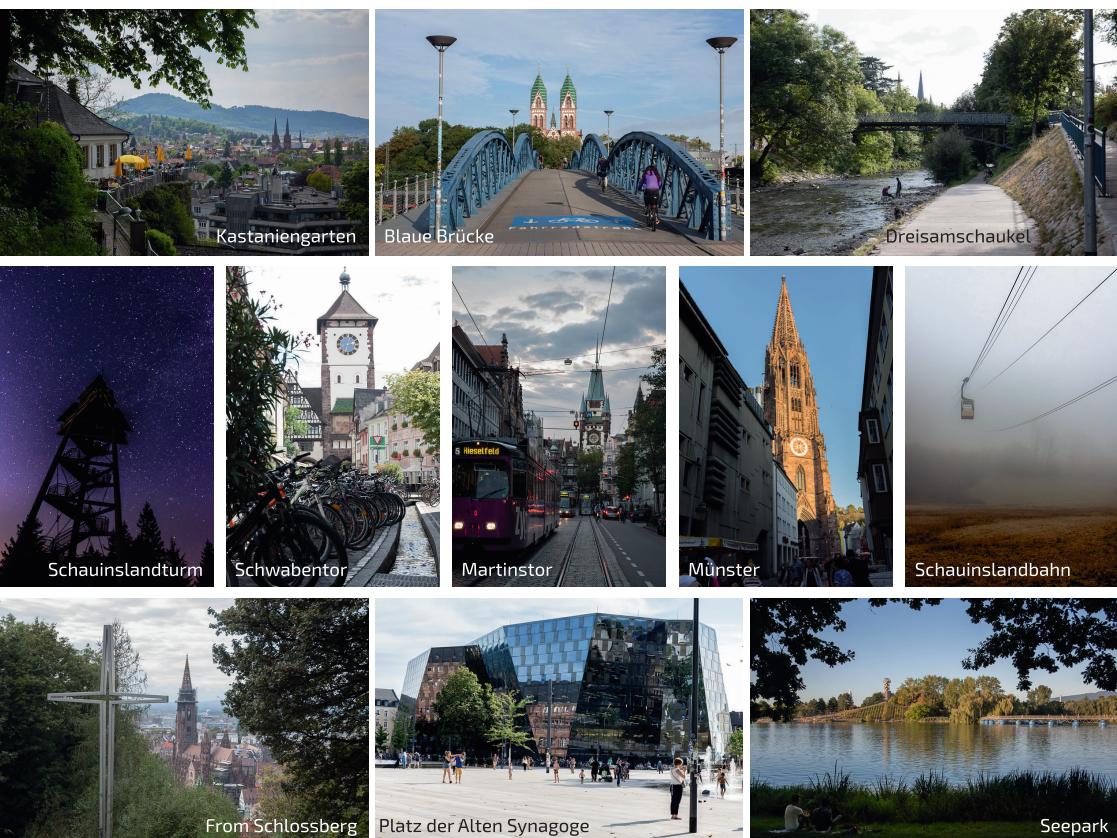


What to do in Freiburg?

Dishes and Drinks

Spätzle (a kind of noodle), one of the most famous German dishes, are usually served with cheese and fried onions. **Maultaschen**, either served in a soup or fried in a pan, are also famous in the Freiburg area, even though they are originally from Swabia. The Münstermarkt is a must for visitors of Freiburg to eat a **Lange Rote** or enjoy the local food. In a restaurant Wurstsalat is a nice option. When you order it as **Elsässer Wurstsalat**, it will be served with cheese. In nearly every traditional restaurant and Biergarten a broad variety of **Flammkuchen** is served. And finally, you cannot leave without trying a **Schwarzwälder Kirschtorte** (Black Forest cake).

There are a couple of breweries located in the area, whereas **Ganter**, **Braukollektiv**, **Feierling** and **MartinsBräu** are located directly in Freiburg. You have the choice between dozens of different types.



City Information

The old city center is accessible via the two medieval city gates **Schwabentor** and **Martinstor**. Don't forget to look down at the mosaic designs that are spread all over the city. **Bächle** are water channels that are fed by the local river Dreisam and had several functions in medieval times like fire protection and open water sewers. Nowadays the Bächle cool down your feet and the city center in summer and the children use them for their boats.



Freiburger Münster is the Catholic cathedral at the center of Freiburg. And lucky you, it's the first time in a decade that the tower is free of scaffolding surrounds. A pedestrian square, the **Münsterplatz**, is surrounding the cathedral and some of the most beautiful buildings in Freiburg are located here. Except Sundays, there is a market that trades everything from flowers to handicrafts and hosts local food.

Schlossberg with **Kanonenplatz** is a former fortified hill in the middle of Freiburg leading to scenic viewpoints and castle ruins. If you don't want to walk, there are elevators near the Schwabentor and a funicular railway Schlossbergbahn near the city center. The **Schlossbergturm** on the top of the hill offers an impressive 360° panoramic view of the city.

Mundenhof (tip for kids) is a large animal park with native and domestic breeds kept in paddocks. Together with an aquarium, a terrarium and a couple of petting zoo areas, it's one of the best things to do in Freiburg with kids. There is no entry fee, but a donation is welcome.
<https://www.mundenhof.de>. Access via bus line 19 or tram line 5 + walk.

Seepark is one of the most popular parks in Freiburg and offers numerous opportunities for relaxation and outdoor activities, such as pedal boats, a viewing tower, a mini golf course, a Japanese garden, a Biergarten, and you can swim in the lake as well. Access via tram line 1.

Schauinsland is the local mountain of Freiburg with 1,284 meters high. It can be reached with Germany's longest cable car and offers a panoramic view over the Schwarzwald area. Access via tram line 2 and bus line 21.

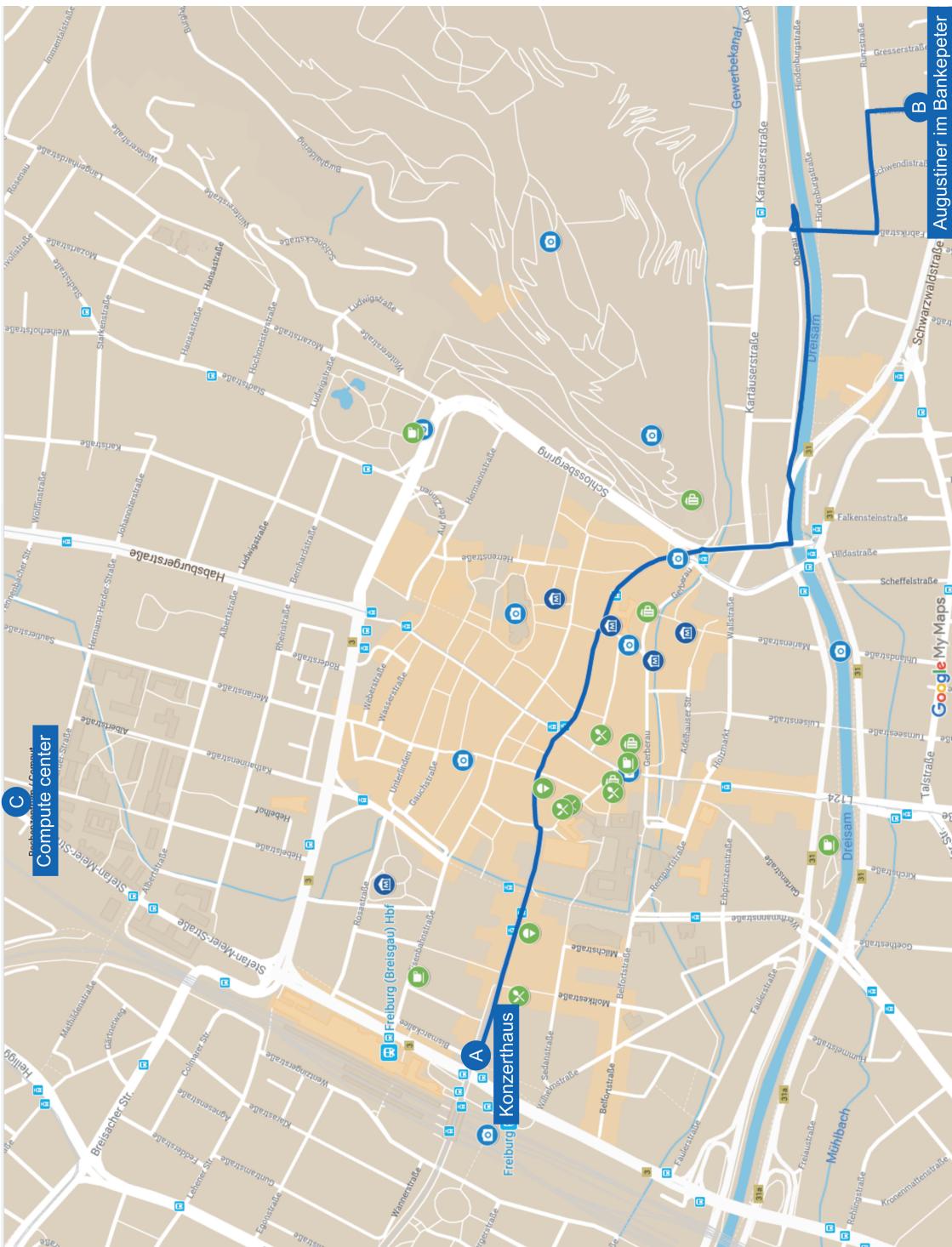
Freiburg Challenge

Take 1 picture of at least 5 of the next items and show them to Stephan F. to win a special gift

- Sit or walk on the Blue "Wiwili" Bridge
- Have a swing on the Dreisam
- Walk in the Bächle to cool down
- Do the "I am the king of the world" pose on top of the Schlossbergturm
- Identify the obscene gargoyle at the Freiburger Münster
- Observe aquatic turtles in the Seepark
- Enjoy a refreshment in the Biergarten of Feierling or Kastaniengarten
- Eat a Lange Rote or a tofu Curry Wurst at the Münsterplatz
- Ignore the Säule der Toleranz on the Augustinerplatz
- Find out what is a Herrgottsbescheißerle
- Find out what happens if you accidentally step into a Bächle
- Find out the meaning of the curious markings on the outside wall on the entrance of the Münster

Useful German Sentences

| | |
|--|---|
| Hello, how are you? | Hallo, wie geht's? |
| Good morning / day / evening / night | Guten Morgen / Tag / Abend / Nacht |
| Thank you very much | Vielen Dank / Danke |
| My name is ... and I am from ... | Mein Name ist ... und ich komme aus ... |
| I am sorry | Es tut mir Leid / Entschuldigung |
| May I have the menu please? | Kann ich bitte die Speisekarte haben? |
| May I have the bill please? | Die Rechnung bitte |
| One beer please. | Ein Bier bitte |
| One, two, three, four, five, six, seven , eight, nine, ten | Eins, zwei, drei, vier, fünf, sechs, sieben acht, neun, zehn |
| What time is it please? | Wie spät ist es? |
| Where is ... | Wo ist ... |
| How much is ... | Was kostet das |
| Yes / No | Ja / Nein |



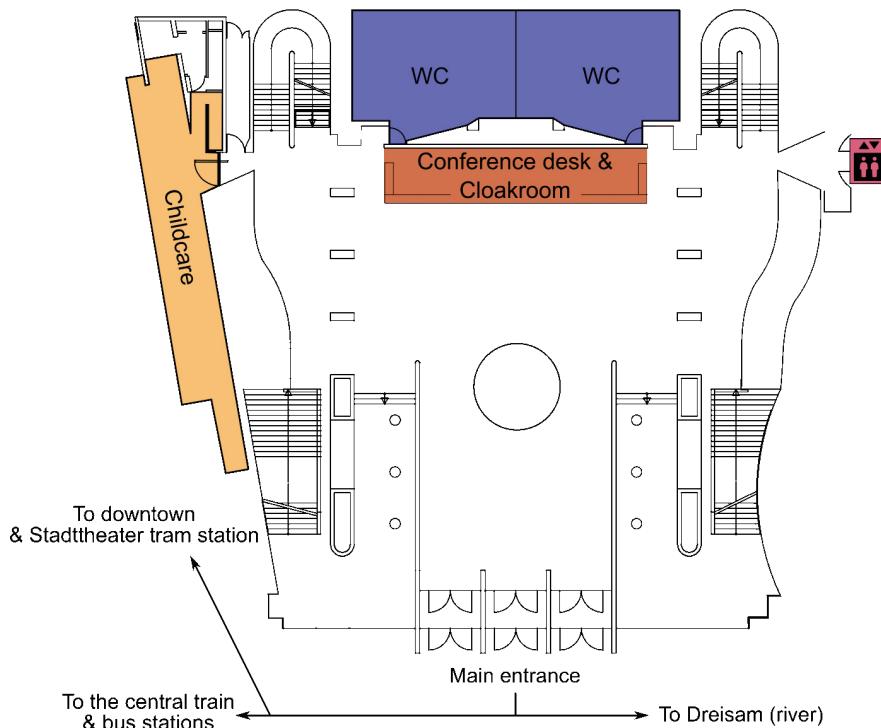
An interactive online map can be found at <https://bit.ly/gcc2019map>

Map: Konzerthaus

In the Konzerthaus, most of the events will take place on the 2nd floor, only the conference desk (where you can always ask for help) and the childcare room are located on the ground floor.

The entire location is a non-smoking area. Please go outside to smoke.

Ground floor (EG)



Talks + Training rooms
Greece & Germany

Training rooms
Italy, Belgium, France, Spain

Quiet / BoF rooms
Netherlands, Czechia

Conference desk & Cloakroom

Sponsor area

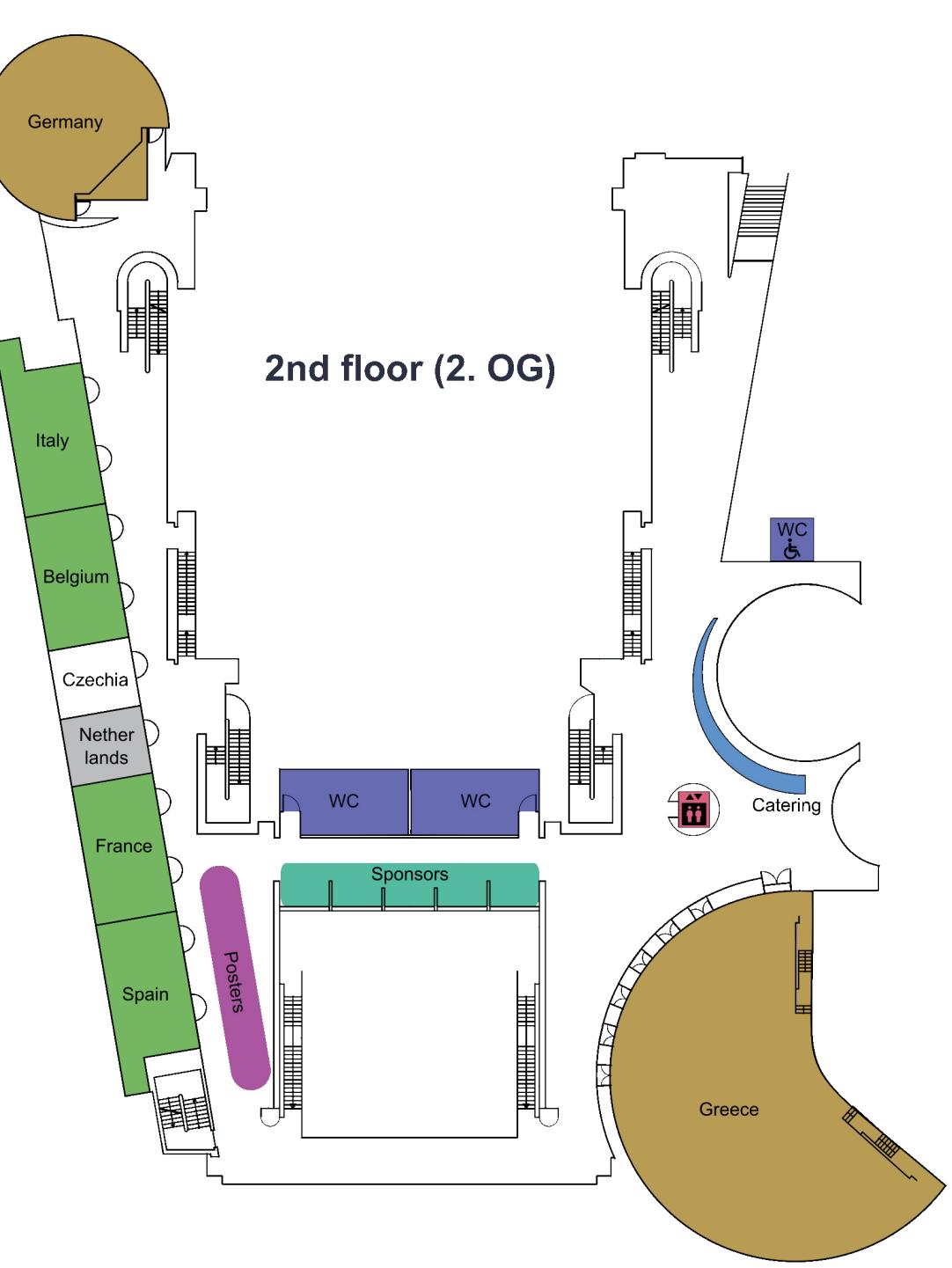
Poster area

Childcare

Catering

Elevator

WC Toilets





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