

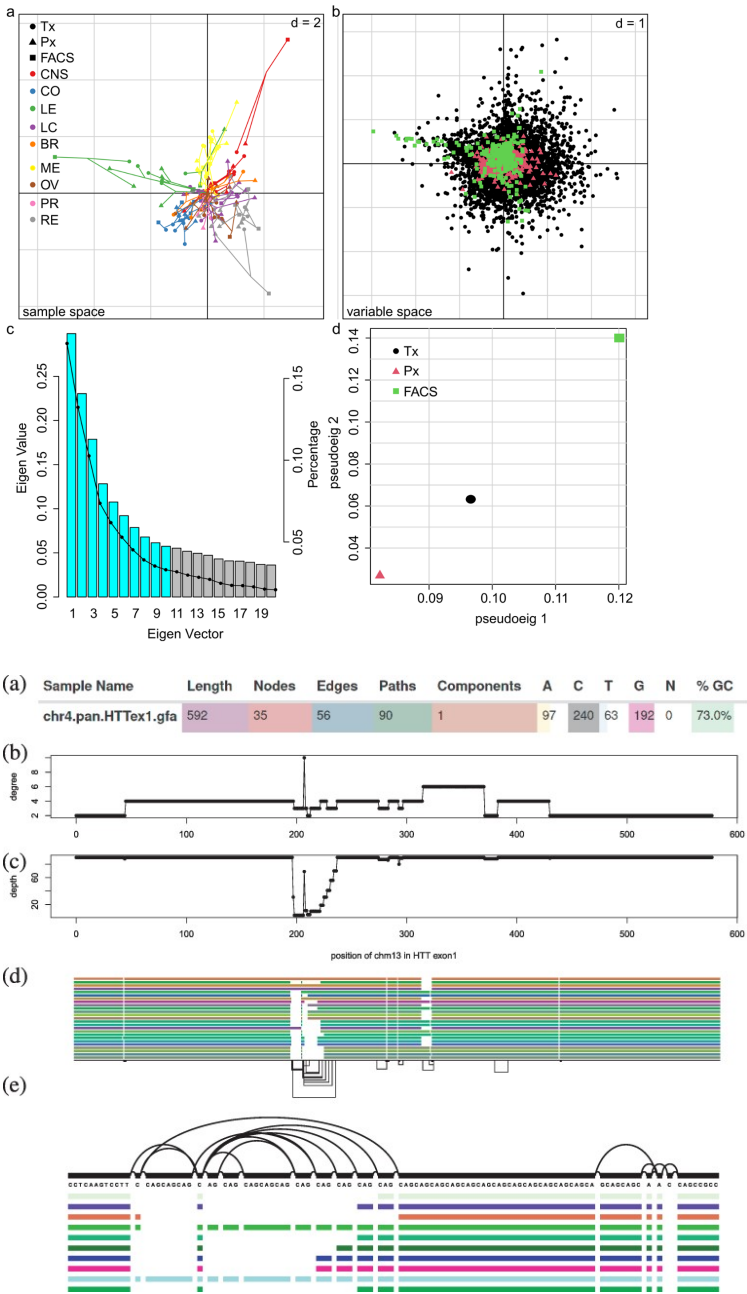
# Simon Heumos

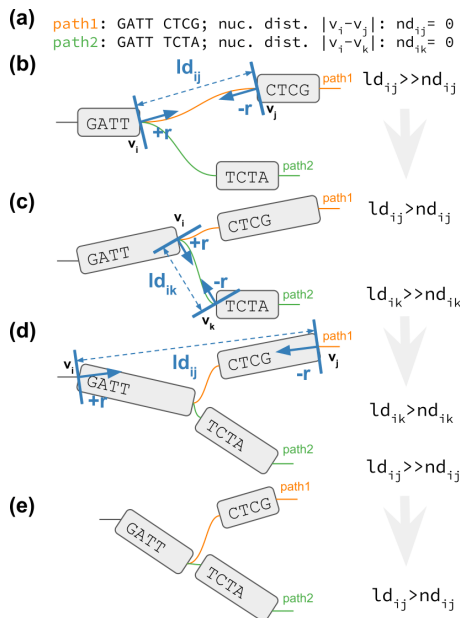




## Personal Details



I am finalizing my Ph.D. at the Quantitative Biology Center, Tübingen, with expertise in pangenomics and multiomics. I develop methods to analyze (pan)genomic variation, manage interdisciplinary projects, and create efficient tools like nf-core/pangenome for large-scale pangenomic analysis. I provide guidance to biomedical researchers on experimental design, data analysis, and multiomics integration. I also spearhead hackathons and workshops to foster innovation and knowledge-sharing within the bioinformatics community. Outside of work, I enjoy an active lifestyle and watching Sesame Street for a good laugh.





- Industry collaboration with Computomics GmbH on coding a pangenome browser [Pantograph](#). Development of pangenome graph browser using React, MobX-State-Tree, JavaScript ( [Genome Graph Browser](#)).
- Experimenting towards an interface between RDF/SPARQL and pangenome graphs together with Jerven Bollemann and Toshiyuki T. Yokoyama winning an ISMB 2020 [Best Poster Award: Semantic Variation Graphs: Ontologies for Pangenome Graphs](#)
- Multiomics analysis of the NCI-60 tumor cell panel ([Heumos\\*](#), [Dehn\\*](#) et al. 2022, [Cancer Cell International](#)) ( [QMSFC](#)):
  - Crawling and integrating multiomics data from resources like TCGA
  - Differential expression analysis of RNA-Seq data
  - Integrative analysis of transcriptomic microarray data (Affymetrix)
  - Curation, quality control, differential expression analysis of Fluorescence Activated Cell Sorting (FACS) data
  - Proteomics and phosphoproteomics data curation, and differential expression analysis
  - Reverse Phase Protein Array (RPPA) differential expression analysis
- Organizer, tutor, and chair of international hackathons and workshops
- Managing virtual machines and users in QBiC's deNBI cloud instances
- Organization of retreats
- Mentoring undergraduates
- Learning ONT sequencing and base calling at PANGAIA's Winter Wet Lab school

 1 Jun. 2017 to 30 May 2019 (2 years)

 **Research assistant at the [Quantitative Biology Center \(QBiC\)](#)** (Tübingen, Germany).

 Reporting to Dr. Stefan Czemmel

 [Employer's reference](#)

- Member of bioinformatics support and project management team (BioPM)
- Bridge function to the infrastructure and scientific software team
- Counseling of biomedical researchers on experimental design, data analysis, and paper writing
- FACS data analysis
- Proteomics LFQ data analysis
- Germline variants analyses on whole-genome sequencing (WGS) data: Quality control, read trimming and mapping, variant calling, and functional prediction
- Compilation of highly standardized and reproducible bioinformatics pipelines
- Excellent customer service when performing data processing and statistical analysis of big biomedical data
- Initiation and maintenance of a QBiC report template for analysis results
- Driving force behind standardized SOPs to improve QBiC's infrastructure
- Shaped research grant application at the Ministry for Economics and Energy (BMWi) titled

PANTOGRAPH acquiring 190,000€ for researching pangenome graph visualization

- Supervision of student projects
- After 1 year: Vice coordinator of the BioPM team

📅 1 Nov. 2016 to 31 Mar. 2017 (6 months)

🏢 Master student at the **Computomics GmbH** (Tübingen, Germany)

👤 Reporting to Björn Geigle and Dr. Jörg Hagmann

📖 Thesis *Interactive Visualization of Genome Variation Graphs*

📄 Evaluation: 1.0

🏆 ISMB 2017 Best Poster Prize *Interactive pangenome visualization using variant graphs*

🔧 Tooling: Interactive full-stack web application with Node.js, nbind to make C++ VG accessible in JavaScript, Pug, D3, HTML, CSS (🔗 [AG](#))

📅 1 Jun. 2015 to 31 Sep. 2016 (1 year, 2 months)

🏢 Research student at the **Max Planck Institute for the Science of Human History** (Jena, Germany)

👤 Reporting to Dr. Alexander Herbig in the **Computational Pathogenomics** research group

- Development of bioinformatics programs for the analysis of paleogenetic NGS data (🔗 [GenConS](#))  
(📖 [Fellows Yates et al. 2017, Scientific Reports](#))

📅 1 Sep. 2014 to 31 May 2015 (11 months)

🏢 Research student at the **Institute for Archaeological Sciences** (Tübingen, Germany)

👤 Reporting to Dr. Alexander Herbig in the Paleogenetics research group

- Performance of system administration tasks and development of bioinformatics programs for the analysis of paleogenetic NGS data

📅 1 Jul. 2014 to 30 Aug. 2014 (1 year, 1 month)

🏢 Research student at the **MFT Services** (Tübingen, Germany)

👤 Reporting to Dr. Günter Jäger in the Medical Genetics research group

- Analysis of RNA-Seq data

📅 1 Jun. 2013 to 31 Mar. 2014 (10 months)

🏢 Research student at the **Centre for Bioinformatics** (Tübingen, Germany)

👤 Reporting to Prof. Kay Nieselt in the Integrative Transcriptomics research group

- Analysis of RNA-Seq data and extension of an in-house developed Java tool for the analysis of RNA-Seq data

📅 1 Aug. 2010 to 31 Aug. 2010 (1 month)


📅 1 Aug. 2011 to 31 Aug. 2011 (1 month)

📅 1 Aug. 2012 to 31 Aug. 2012 (1 month)

🔧 Temporary shipping assistant at **WALDNER** (Wangen, Germany)

- Packaging small part materials and transporting them to the loading area

📅 1 Jul. 2009 to 31 Mar. 2010 (9 months)

 Alternative service as an ambulance man at the **DRK Rettungsdienst Bodensee-Oberschwaben gGmbH** (Ravensburg, Germany)

- Operations took place both in the ambulance and in the patient transport vehicle

 1 Feb. 2007 to 31 Jul. 2010 (3 years, 5 months)

 Side job at the **PEKANA Naturheilmittel GmbH** (Kisslegg, Germany)

- Assistant for office, shipping, and pharmaceutical packaging tasks

## Education

 1 Jun. 2019 to 28 March. 2025

 PhD student at the **Quantitative Biology Center (QBiC)** (Tübingen, Germany).

 Reporting to Prof. Sven Nahnsen.

- Thesis *Computational methods for pangenomics and multiomics integration*

 1 May. 2014 to 30 May 2017

 MSc Bioinformatics at the **University of Tübingen** (Tübingen, Germany).

 [MSc certificate](#)

- Major fields:
  - NGS
  - RNA Biology
  - Java + JavaFX development
  - Data management in quantitative biology
- Thesis [Interactive Visualization of Genome Variation Graphs](#) at Computics GmbH: 1.0

 1 Oct. 2010 to 30 Apr 2014

 BSc Bioinformatics at the **University of Tübingen** (Tübingen, Germany).

 [BSc certificate](#)

- Major fields:
  - Functional programming with Scheme
  - Basics Bioinformatics
  - Java + JavaSwing development
  - Linux
- Thesis [TOPAS - TOolkit for Processing and Annotating Sequence data](#): 1.3











 1 Aug. 2000 to 30 Jun 2009














 Abitur (Wangen, Germany).








 [School certificate](#)

# Publications





















\*first authorship

 Journal	 Title	 Contribution	 Links
Bioinformatics, 2024	Cluster-efficient pangenome graph construction with nf-core/pangenome	Pipeline conception, software development, testing, documentation, design and conduction of experiments, paper writing	 <a href="#">Paper</a>
SC24: International Conference for High Performance Computing, Networking, Storage and Analysis, 2024	Rapid GPU-Based Pangenome Graph Layout	Guidance on algorithm implementation, feedback of the cache optimized CPU and GPU implementations, read & criticized & edited manuscript	 <a href="#">Paper</a>
PLOS Computational Biology, 2024	nf-core/airrflow: an adaptive immune receptor repertoire analysis workflow employing the Immcantation framework	Software development, paper editing	 <a href="#">Paper</a>
Nature Methods, 2024	Building pangenome graphs	Software development, documentation, testing, contributed to Figure 1, wrote Section A1, made Figure A1, and contributed to paper writing and editing	 <a href="#">Paper</a>
Bioinformatics, 2024	*Pangenome graph layout by Path-Guided Stochastic Gradient Descent	Algorithm implementation leader, testing, documentation, design and conduction of experiments, paper writing	 <a href="#">Paper</a>
LATIN 2024: Theoretical Informatics, 2024	Wheeler Maps	Advisor for the integration of a wheeler maps implementation with real life pangenome graphs, built and provided initial pangenome graphs for testing the implementation, manuscript editing	 <a href="#">Paper</a>

























 Journal	 Title	 Contribution	 Links
Acta Neuropathologica, 2023	Integrative proteomics highlight presynaptic alterations and c-Jun misactivation as convergent pathomechanisms in ALS	Paper editing, LFQ proteomics analysis	 <a href="#">Paper</a>
Nature, 2023	A draft human pangenome reference	Paper editing, pangenome graph creation and visualization	 <a href="#">Paper</a>
<b>Cancer Cell International, 2022</b>	<b>*Multiomics surface receptor profiling of the NCI-60 tumor cell panel uncovers novel theranostics for cancer immunotherapy</b>	<b>Data curation and quality control, performed the MCIA, RNAseq analysis and TCPA data exploration, wrote methods sections of the software tools and steps I applied, generated visualizations for Figures 1-3, and manuscript editing</b>	 <a href="#">Paper</a>
<b>Bioinformatics, 2022</b>	<b>*ODGI: understanding pangenome graphs</b>	<b>Paper and documentation writing, performance evaluation, testing, implemented several tools</b>	 <a href="#">Paper</a>
Frontiers in Plant Science, 2022	A Perspective on Plant Phenomics: Coupling Deep Learning and Near-Infrared Spectroscopy	Experimental counseling, data management	 <a href="#">Paper</a>
Frontiers in Immunology, 2020	Specific Induction of Double Negative B Cells During Protective and Pathogenic Immune Responses	Data curation	 <a href="#">Paper</a>
Bioinformatics, 2020	Efficient dynamic variation graphs	Implementation of some ODGI subcommands (pathindex, server, panpos), optimization of one (bin), documentation writing for ODGI	 <a href="#">Paper</a>
Annual Review of Genomics and Human Genetics, 2020	Pangenome Graphs	I made Table 1 and contributed to Sections 4.4 and 6.1 and Figure 2, paper editing	 <a href="#">Paper</a>
Frontiers in Immunology, 2019	Platelets Aggregate With Neutrophils and Promote Skin Pathology in Psoriasis	FACS data analysis	 <a href="#">Paper</a>

 Journal	 Title	 Contribution	 Links
Frontiers in Immunology, 2019	PSM Peptides From Community-Associated Methicillin-Resistant <i>Staphylococcus aureus</i> Impair the Adaptive Immune Response via Modulation of Dendritic Cell Subsets <i>in vivo</i>	Statistical analysis counseling, paper editing	 <a href="#">Paper</a>
Nature Scientific Reports, 2017	Central European Woolly Mammoth Population Dynamics: Insights from Late Pleistocene Mitochondrial Genomes	 <a href="#">GenConS</a> software development and testing, wrote section about GenConS, paper editing	 <a href="#">Paper</a>







## Talks & Posters







 Time	 Conference	 Title	 Links
30 June 2024 to 4 July 2024	<a href="#">International Genome Graph Symposium 2024</a>	Cluster efficient pangenome graph construction with nf-core/pangenome	 <a href="#">Talk</a>  <a href="#">Certificate</a>
8 Apr. 2024	HPRC <a href="#">HUGO24</a> Workshop Rome	Building and Analyzing Pangenome Graphs	 <a href="#">Talk</a>
22 Mar. 2024	<a href="#">M3 Workshop</a>	Cluster efficient pangenome graph construction with nf-core/pangenome	 <a href="#">Talk</a>
7 Nov. 2023	<a href="#">nf-core community</a> , virtual	Cluster scalable pangenome graph construction with nf-core/pangenome	 <a href="#">Bytesize:nf-core/pangenome</a>  <a href="#">Youtube</a>  <a href="#">Talk</a>
19 Oct. 2023	<a href="#">Nextflow Summit 2023</a>	Cluster scalable pangenome graph construction with nf-core/pangenome	 <a href="#">Youtube</a>  <a href="#">Talk</a>
23 Jun. 2023	<a href="#">TÜBMI 2023</a>	Pangenome Graphs	 <a href="#">Poster</a>
8 Jul. 2022	<a href="#">Biomedical Data Science Symposium</a>	Pangenome Graphs	 <a href="#">Poster</a>
6 July 2022	<a href="#">International Genome Graph Symposium 2022</a>	Graph layout by path-guided stochastic gradient descent	 <a href="#">Talk</a> (Due to a car accident, <a href="#">Erik Garrison</a> hold the talk.)
8 Jul. 2022	<a href="#">VIZBI 2022</a>	Graph Layout by Path-Guided Stochastic Gradient Descent	 <a href="#">Abstract</a>  <a href="#">Poster</a>  <a href="#">VIZBI Posters</a>  <a href="#">Lightning Talk</a>






 Time	 Conference	 Title	 Links
21 Oct. 2021	<a href="#">Institute for Medical Biometry and Bioinformatics</a>	Exploring pangenome graphs and possible applications	 <a href="#">Talk</a>
21 Sept. 2021 to 24 Sept. 2021	<a href="#">AGI2021 Congress</a>	A pangenome for the expanded BXD family of mice	 <a href="#">Abstract</a>  <a href="#">Poster</a>
6 Sept. 2021 to 8 Sept. 2021	<a href="#">German Conference on Bioinformatics 2021</a>	ODGI: scalable tools for pangenome graphs	 <a href="#">Abstract</a>  <a href="#">Talk</a>
21 Jul. 2021	<a href="#">TüBiT 2021</a>	The PanGenome Graph Builder	 <a href="#">Poster</a>
11 May 2021 to 14 May 2021	<a href="#">The Biology of Genomes 2021</a>	The PanGenome Graph Builder	 <a href="#">Abstract</a>  <a href="#">Poster</a>
28 Sep. 2020 to 1 Oct. 2020	<a href="#">EG VCBM 2020</a>	Graph Layout by Path-Guided Stochastic Gradient	 <a href="#">Abstract</a>  <a href="#">Poster</a>
21 Sep. 2020 to 23 Sep. 2020	<a href="#">T2T-HPRC-Virtual Conference 2020</a>	Graph Layout by Path-Guided Stochastic Gradient	 <a href="#">Abstract</a>  <a href="#">Poster</a>
13 Jul. 2020 to 16 Jul. 2020	<a href="#">ISMB 2020</a>	Pantograph: Scalable Interactive Graph Genome Visualization	 <a href="#">Abstract</a>  <a href="#">Poster</a>
13 Jul. 2020 to 16 Jul. 2020	<a href="#">ISMB 2020</a>	Semantic Variation Graphs - A Pangenome Ontology	 <a href="#">Abstract</a>  <a href="#">Poster</a>  <a href="#">Best Poster Prize</a>  <a href="#">Citation</a>
9 Dec. 2019 to 12 Dec. 2019	<a href="#">SWAT<sup>4</sup>HCLS</a>	Semantic Genome Graphs	 <a href="#">Poster</a>
1 Sept. 2019	<a href="#">Japan DBCLS Biohackathon 2019 Symposium</a>	VG Browser: Interactive Visualization of Genome Variation Graphs	 <a href="#">Talk</a>

## Awards














 Time	 Place	 Description	 Links
4 Jul. 2024	<a href="#">International Genome Graph Symposium 2024</a>	Student Travel Award 700 CHF (720.32 EUR)	 <a href="#">Travel Award</a>
16 Jul. 2020	<a href="#">ISMB 2020</a>	Best Poster Award <i>Semantic Variation Graphs: Ontologies for Pangenome Graphs</i>	 <a href="#">Bio-Ontologies COSI – Best Poster Award</a>









 Time	 Place	 Description	 Links
24 Jul. 2017	ISMB 2017	Best Poster Award <i>Interactive pang genome visualization of variant graphs</i>	 <a href="#">Best Poster Award</a>
8 Oct. 2012	iGEM 2012	Bronze Award	 <a href="#">MISSING</a>

## \$ Grants





















 Time	 Sponsor	\$ Amount	 Description
4 July 2024	Ministry of Economics and Energy (BMW)	190,000 EUR	Research grant <i>Pantograph</i> together with <a href="#">Computomics GmbH</a> to research pang genome graph visualization.





## Invitations

 Time	 Place	 Description	 Links
18 May 2024 to 22 May 2024	MemPanG24 Pangenomics, <a href="#">University of Tennessee Health and Science Center</a> , Memphis, USA	Invited <b>Organizer, instructor, and chair</b>	 <a href="#">Webpage</a>  <a href="#">Material</a>  <a href="#">Certificate</a>
8 Apr. 2024	HPRC Pangenomics Workshop at HUGO 2024, <a href="#">Aula Multimediale Rettorato</a> , Sapienza <a href="#">University of Rome</a> , Rome, Italy	Invited <b>Instructor</b>	 <a href="#">Material</a>  <a href="#">Slides</a>  <a href="#">Certificate</a>
30 May 2023 to 2 Jun. 2023	MemPanG23 Pangenomics, <a href="#">University of Tennessee Health and Science Center</a> , Memphis, USA	Invited <b>Organizer, instructor, and chair</b>	 <a href="#">Webpage</a>  <a href="#">Material</a>  <a href="#">Certificate</a>




 Time	 Place	 Description	 Links
7 Nov. 2023	nf-core community, virtual	Invited talk nf-core bytesize talks 2023 <i>Cluster scalable pangenome graph construction with nf-core/pangenome</i>	 <a href="#">Bytesize:nf-core/pangenome</a>  <a href="#">Youtube</a>  <a href="#">Slides</a>
21 October 2021	<a href="#">Institute for Medical Biometry and Bioinformatics</a>	Invited talk <i>Exploring pangenome graphs and possible applications</i>	 <a href="#">Slides</a>










## > Hackathons

 Time	 Info	 What	 Links
18 Mar. 2024 to 20 Mar. 2024	<a href="#">nf-core hackathon</a> , virtual	Co-team leader group pipelines, finalizing nf-core/pangenome	 <a href="#">nf-core/pangenome</a>
16 Oct. 2023 to 18 Oct. 2023	<a href="#">nf-core hackathon</a> , Barcelona, Spain	Progressing nf-core/pangenome	 <a href="#">projects</a>  <a href="#">nf-core/pangenome</a>
27 Mar. 2023 to 29 Mar. 2023	<a href="#">nf-core hackathon</a> , virtual	Progressing nf-core/pangenome	 <a href="#">projects</a>  <a href="#">nf-core/pangenome</a>
16 Mar. 2022 to 18 Mar. 2022	<a href="#">nf-core hackathon</a> , virtual	Progressing nf-core/pangenome	 <a href="#">nf-core/pangenome</a>
9 Dez. 2021 to 10 Dez. 2021	<a href="#">Pangenomics BioHacking</a> , Online, Virtual in Milano	Expert for pangenome graph construction and participant	 <a href="#">nf-core/pangenome matrix</a>  <a href="#">Certificate</a>
8 Nov. 2021 to 12 Nov. 2021	<a href="#">ELIXIR Europe Biohackathon</a> , Barcelona, Spain	Progressing nf-core/pangenome	 <a href="#">nf-core/pangenome</a>
22 Mar. 2021 to 24 Mar. 2021	<a href="#">nf-core hackathon</a> , virtual	Starting nf-core/pangenome	 <a href="#">Projects</a>  <a href="#">HackMD</a>  <a href="#">nf-core/pangenome</a>
9 Nov. 2020 to 13 Nov. 2020	<a href="#">ELIXIR Europe Biohackathon</a> , virtual	Project leader <i>Federated Interoperable Annotated Variation Graphs</i>	 <a href="#">Projects</a>  <a href="#">Federated Interoperable Annotated Variation Graphs</a>
2 Aug. 2020 to 14 Aug. 2020	Crusco Biohackathon, Lavello, Italy	Progressing PG-SGD with Andrea Guarracino and Erik Garrison	 <a href="#">1D PG-SGD</a>  <a href="#">2D PG-SGD</a>















 Time	 Info	 What	 Links
5 Apr. 2020 to 11 Apr. 2020	<a href="#">COVID-19 Biohackathon</a> , virtual	Co-Project leader Pangenome Browser and co-project leader Pangenome Ontology	<a href="#">🔗 COVID-19 Biohackathon 2020</a> <a href="#">🔗 Pangenome Browser</a> <a href="#">🔗 Semantic Variation Graphs</a>
21 Nov. 2019 to 26 Nov. 2019	<a href="#">Computomics GmbH</a> , Tübingen, Germany	Progressing Pantograph, playing around with pangenome graphs and SPARQL	<a href="#">🔗 Graph-Genome</a>
1 Sep. 2019 to 7 Sep. 2019	<a href="#">NBDC DBCLS BioHackathon 2019</a> , Fukuoka, Japan	Co-Project leader Pantograph, playing around with SequenceTubeMap and SPARQL	<a href="#">🔗 Hackathon Wiki</a> <a href="#">🔗 Project Overview</a> <a href="#">🔗 Graph-Genome</a> <a href="#">🔗 MatrixTubeMap</a> <a href="#">🐦 A SPARQLing MatrixTubeMap</a> <a href="#">📄 Certificate</a>







## Programming Languages

 Start	 Language	 Projects
1 Oct. 2010	Scheme	Learning to code during my first three semesters BSc Bioinformatics
1 Apr. 2011	Java	BSc thesis <i>TOPAS - TOolkit for Processing and Annotating Sequence data</i> ( <a href="#">🔗 TOPAS</a> )
1 Apr. 2011	Bash	Contributing to the PanGenome Graph Builder ( <a href="#">🔗 PGGB</a> ). Implementing the PanGenome Graph Evaluation tool ( <a href="#">🔗 PGGE</a> ).
1 Oct. 2012	R	Performing multiomics analysis ( <a href="#">🔗 QMSFC</a> ).
1 Oct. 2012	Python	Implementing an ODGI MultiQC module ( <a href="#">🔗 ODGI MultiQC Module</a> ). Supervision of graph genome browser implementation ( <a href="#">🔗 Pantograph</a> ).






 Start	 Language	 Projects
5 Nov. 2016	Javascript	Supervision of graph genome browser implementation (  <a href="#">Pantograph</a> ). Interactive full-stack web application with Node.js, nbind to make C++ VG accessible in JavaScript, Pug, D3, HTML, CSS (  <a href="#">AG</a> )
5 Nov. 2016	C++	Main contributor to  <a href="#">ODGI</a> ,  <a href="#">smoothxg</a> .
1 Nov. 2020	Nextflow	Sole developer of  <a href="#">nf-core/pangenome</a> .
26 Jan. 2021	Rust	GAF alignment evaluation tool (  <a href="#">rs-peanut</a> )

## Teaching













 Time	 Course	 Role	 Links
18 May 2024 to 22 May 2024	MemPanG24 Pangenomics, <a href="#">University of Tennessee Health and Science Center</a> , Memphis, USA	<b>Organizer, instructor</b> , and <b>chair</b> , created new material and tutorials, held lessons, assisted the participants, tested the VMs	 <a href="#">Webpage</a>  <a href="#">Material</a>  <a href="#">Certificate</a>
8 Apr. 2024	HPRC Pangenomics Workshop at HUGO 2024, <a href="#">Aula Multimediale Rettorato</a> , <a href="#">Sapienza University of Rome</a> , Rome, Italy	<b>Instructor</b> , updated material and tutorials, held lessons, assisted the participants	 <a href="#">Material</a>  <a href="#">Slides</a>  <a href="#">Certificate</a>
22 Mar. 2024	M3 Pangenome Workshop, <a href="#">M3 Research Center</a> , <a href="#">University of Tübingen</a> , Tübingen, Germany	<b>Speaker</b> , live demonstration of <a href="#">nf-core/pangenome</a>	 <a href="#">Slides</a>
30 May 2023 to 2 Jun. 2023	MemPanG23 Pangenomics, <a href="#">University of Tennessee Health and Science Center</a> , Memphis, USA	<b>Organizer, instructor</b> , and <b>chair</b> , created new material and tutorials, held lessons, assisted the participants	 <a href="#">Webpage</a>  <a href="#">Material</a>  <a href="#">Certificate</a>
17 Apr. 2023 to 29 Jul. 2023	Biomedical Data Management, <a href="#">University of Tübingen</a> , <a href="#">Quantitative Biology Center (QBiC)</a> , Tübingen, Germany	<b>Tutor</b> , managed seminar, hold tutorials, exam assistant	NA

 Time	 Course	 Role	 Links
19 Apr. 2022 to 30 Jul. 2022	Grundlagen der Bioinformatik, <a href="#">University of Tübingen, Quantitative Biology Center (QBiC)</a> , Tübingen, Germany	<b>Tutor</b> , hold tutorials, revised and updated practical lessons, exam grader	 <a href="#">Teaching</a>
21 Mar. to 25 Mar. 2022	Advanced Bioinformatics: Data Mining and Data Integration for Life Science (1.5 CFU/ECTS), Master's degree, <a href="#">Utrecht Bioinformatics Center</a> , Utrecht, Netherlands)	<b>Tutor</b> , assisting students in the practical lessons	 <a href="#">Webpage</a>
20 Apr. 2020 to 25 Jul. 2020	Data Management for Quantitative Biology, <a href="#">University of Tübingen, Quantitative Biology Center (QBiC)</a> , Tübingen, Germany	<b>Tutor</b> , managed seminar, hold tutorials, exam assistant	NA







## Mentoring

 Time	 University	 Thesis	 Links
1 Oct. 2023 to 31 Mar. 2024	Master's degree in Bioinformatics, <a href="#">University of Tübingen, Quantitative Biology Center (QBiC)</a> , Tübingen, Germany	Joining medical data and pangenome graphs using the semantic web	 <a href="#">OXIQLE</a>
1 May 2023 to 30 Aug. 2023	Bachelor's degree in Bioinformatics, <a href="#">University of Tübingen, Quantitative Biology Center (QBiC)</a> , Tübingen, Germany	Die Konstruktion eines <i>Lodderomyces elongisporus</i> Pangenomgraphen	NA

## Courses

 Time	 Place	 Title	 Links
1 Feb. 2023 to 8 Feb. 2023	Comenius University in Bratislava, Faculty of Natural Sciences (wet lab), and Faculty of Mathematics, Physics and Informatics (analysis), Bratislava, Slovakia	PANGAIA Winter Wet Lab School	 <a href="#">PANGAIA WWL School 2023</a>  <a href="#">Invitation</a>
8 Jul. 2022	University of Tübingen, Quantitative Biology Center (QBiC), Tübingen, Germany	Biomedical Data Science Symposium	 <a href="#">Biomedical Data Science Symposium 2022</a>
11 Apr. 2019 to 12 Apr. 2019	University of Tübingen, Quantitative Biology Center (QBiC), Tübingen, Germany	Nextflow Workshop	 <a href="#">Nextflow Workshop April 2019</a>
12 Nov. 2017 to 14 Nov. 2017	EMBL Heidelberg, Germany	EMBO   EMBL Symposium: From Single- to Multiomics: Applications and Challenges in Data Integration	 <a href="#">Certificate</a>
25 Sep. 2017 to 29 Sep. 2017	Leibniz Institute of Plant Biochemistry, Halle (Saale)	Joint CIBI user meeting 2017 on OpenMS, MetFrag and SeqAn	 <a href="#">Certificate</a>
18 Sep. 2017	University of Tübingen, Quantitative Biology Center (QBiC), Tübingen, Germany	2 <sup>nd</sup> Annual European Bioinformatics Core Community Workshop	 <a href="#">Certificate</a>
5 Oct. 2012 to 8 Oct. 2012	Vrije Universiteit, Amsterdam, Netherlands	iGEM 2012 European Regional Jamboree	 <a href="#">Wiki</a>

## Misc

 Time	 Info	 What	 Links
13 Jun. 2024 to Present	<a href="#">United Kingdom Research and Innovation</a>	Reviewer for <b>UK Research and Innovation</b>	 <a href="#">Funding Service</a>
15 Jun. 2022 to Present	<a href="#">Oxford Bioinformatics</a>	Reviewer for <b>Oxford Bioinformatics</b>	NA
12 Oct. 2020 to Present	<a href="#">Human Pangenome Reference Consortium</a>	Associate Member of the <b>Human Pangenome Reference Consortium</b>	 <a href="#">Collection</a>