

Curriculum Vitae

Personal information

Surname / First name

Address

Telephone

Mobile

E-mail

Website

Nationality

Date of birth

Personal interests

Personal competencies, occupation and training

1 February 2019 - current

1 February 2015 - 4 December 2018

7 July 2014 - 31 January 2015

19 August 2013 - April 2014

19 February 2013 - 26 August 2013

19 April 2013 - 24 May 2013

Education

1 February 2015 - 4 December 2018

Dissertation titled

Name and type of organisation providing education and training

28 February 2012 - 28 August 2014

Dissertation titled

Gatti Lorenzo

Ueberlandstrasse 15
CH-8050 Zürich
Schweiz

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+41 (0)78 829 23 55

lg@lorenzogatti.me

<https://www.lorenzogatti.me>

<https://www.linkedin.com/in/lorenzogatti/>

Italian

01/03/1989, Brescia (IT)

Development of high performance algorithms for multi-dimensional stochastic model parameter optimisation for big data analytics. Multi-source data acquisition for high-throughput auto-scaling processing systems. Aggregation and big data exploration using analytics tools. Definition of machine learning projects, including model development, testing, predictive power evaluation, scaling and deployment. Application of the business intelligence paradigm in industry and research fields (both technical and scientific).

Cloud Engineer/Architect

at Amanox Solutions AG

SNSF Doctoral candidate - SNSF Doktorand

- *R&D leader* responsible for infrastructure design, software development, system implementation and testing, and cloud deployment in the pilot project supported by Universität Zürich "**Scalable framework for computational intensive indel-aware phylogenetic inference in the public cloud (AWS)**". — Universität Zürich
- *R&D leader* in the research project supported by Universität Zürich Forschungskredit Candoc no. K-74409-01-01, "**Toward new computational methods to predict the evolutionary dynamics of global spreading pathogens: A case for human influenza after 2009 A/pH1N1 pandemic explosion**". — Universität Zürich
- *Member of the team* as scientific software developer and data analyst in the research project supported by F. Hoffman - La Roche "**Comparative analysis of molecular evolution, epidemiological dynamics and clinical traits of human Influenza A and B**". External partners Dr. Jitaho David Zhang (F. Hoffman - La Roche), Dr. Erhard van der Vries (University of Veterinary Medicine Hannover), Dr. Martin Schutten, Dr. Albert Osterhaus and Dr. Charles Boucher (Erasmus Medical Center, University of Rotterdam) — Universität Zürich
- *Member of the team* as scientific software developer in the project "**Fast joint estimation of alignment and phylogeny from genomics sequences in a frequentist framework**" in collaboration with Massimo Maiolo, Dr. Maria Anisimova and Prof. Christian von Mering — Universität Zürich & ZHAW Zurich University of Applied Sciences

Research Assistant

- *Scientific software developer* responsible for software refactoring and usability, component reliability and correctness assessment via CI/CD solutions (Atlassian) in the team: "**EpiTools: A network description for epithelial growth dynamics**" in collaboration with Dr. David Martin Heller (University of Zurich), Dr. Simon Restrepo (University of Southern California), Dr. Andreas Hoppe and Prof. Dr. Yanlan Mao (University College London) — Universität Zürich

IT Manager

- *Main leader* for maintaining IT strategies, researching, implementing, and updating IT solutions in dynamic workspaces. Responsible for planning and appraising job results, coaching and counselling. Responsible for maintaining organisation's effectiveness and efficiency, preserving assets and contributing to team effort by accomplishing to related results as needed — Verband der Studierenden an der ETH, ETH Zürich

Research Assistant

- *Member of the team* as scientific software developer in the research project "**Computational stochastic model for cell competition in the imaginal wing disc of D. melanogaster**" in collaboration with Dr. Simon Restrepo (University of Southern California) and Prof. Konrad Basler (Universität Zürich) — Universität Zürich

Research Assistant

- *Member of the team* as scientific software developer in the research project "**Developing a computational tool to link genomic information to transcription variability.**" in collaboration with Dr. Nicolas Battich, Dr. Thomas Stöger, Yauhen Yakimovich and Prof. Lukas Pelkmans — Universität Zürich

Doctorate in Bioinformatics and Computational Sciences (Dr. sc. nat.)

Realistic evolutionary models for phylogenetic-guided analyses

Supervisors: Prof. Dr. Christian von Mering, Dr. Maria Anisimova

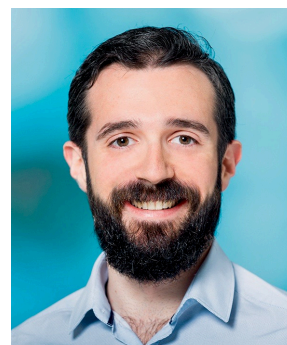
Universität Zürich

Rämistrasse 71 | CH-8006 Zurich | Schweiz

ETH-UZH Master in Computational Biology and Bioinformatics (M.Sc)

Three-dimensional deterministic model of epithelial tube morphogenesis in *D. melanogaster*

Advisors: Dr. Stefan Luschnig and Dr. Tinri Aegerter-Wilmsen



Name and type of organisation
providing education and training

Eidgenössische Technische Hochschule Zürich | Rämistrasse 101 | CH-8006 Zurich | Schweiz
Universität Zürich | Rämistrasse 71 | CH-8006 Zurich | Schweiz

September 2008 - 19 October 2011
Dissertation titled

Bachelor in Environmental and Industrial Biotechnology (B.Sc)
RNA-Seq data analysis for transcriptome identification and quantification
Supervisor: Prof. Dr. Giulio Pavesi

Name and type of organisation
providing education and training

University of Milan
Via Celoria, 26 | I-20100 Milan | Italia

Certifications

Feb 2019

AWS Certified Solutions Architect - Associate

Grants

1 Feb 2018 - 31 Jan 2019
1 July 2015

Recipient of a competitive grant **Forschungskredit Candoc** no. K-74409-01-01, University of Zurich (CH)
UZH-ETH MLS Ph.D program in Molecular Life Sciences Travel grant

Participation international, national conferences and workshops

3-7 Sept 2018

Selected participant at **AWS Cloud Summer School Switzerland (ACS3)**
Amazon Web Services (AWS) & Digicomp Academy AG | Zürich (CH)

16-17 Nov 2017

Invited participant at **Intel Nervana Software Developer Workshop**
Intel | Zürich (CH)

4 Oct 2017

Invited poster presentation at **BioComp 2017**
EPFL, Lausanne (CH)

18 May 2017

Participant at **AWS Summit Berlin 2017**
Amazon Web Services (AWS) | Berlin (DE)

16-18 Nov 2016

Selected trainee at **Workshop Computational Life Sciences @ Bayer 2016**
Bayer AG | Müllerstraße 178 | 13353 Berlin (DE)

25-27 Sept 2016

Selected speaker at **Big Data in Biology and Health 2016** conference
EMBL HEIDELBERG | Meyerhofstraße 1 | 69117 Heidelberg (DE)

7-11 July 2016

Invited speaker to **XLAB Alumni Symposium**
XLAB – Göttinger Experimentallabor für junge Leute e.V | Justus-von-Liebig-Weg 8 | Göttingen (DE)

7-8 June 2016

Selected speaker and poster session at **SIB Days**
SIB Swiss Institute of Bioinformatics | Quartier Sorge - Batiment Genopode | 1015 Lausanne (CH)

26 May 2016

Invited speaker at **NanoTalks**
Universität Zürich | Winterthurerstrasse 190 | CH-8057 Zürich (CH)

8-19 May 2016

Selected trainee at **EMBO practical course in Computational Molecular Evolution 2016**
Institute of Marine Biology, Biotech and Aquaculture, Hellenic Centre for Marine Research | Heraklion (GR)

1st Sept 2015

Invited poster presentation at **Forum Health & Life Sciences Symposium**
ZHAW Zurich University of Applied Sciences | Einsiedlerstrasse 31A | 8820 Wädenswil (CH)

1st Sept 2015

Invited speaker at **Life in Numbers 2 Symposium**
ZHAW Zurich University of Applied Sciences | Einsiedlerstrasse 31A | 8820 Wädenswil (CH)

27 - 29 Aug 2015

Poster presentation at **12th MLS PhD Retreat**
ETH Zürich - University of Zurich (UZH) - UZH ETH Zurich Ph.D Program in Molecular Life Sciences

24 Aug - 4 Sept 2015

Poster presentation at **Genomics and Evolution of Microbial Pathogens summer school**
ZHAW Zurich University of Applied Sciences | Einsiedlerstrasse 31A | 8820 Wädenswil (CH)

30 - 31 July 2015

Trainee at **Bayesian Methods to Estimate Species Divergence Times (Workshop)**
University of Bristol | Tyndall Avenue | BS8 1TQ Bristol | United Kingdom

11 June 2015

Phylo-SIB (Conference)
SIB Swiss Institute of Bioinformatics | University of Basel | Klingelbergstrasse 50-70 | 4056 Basel (CH)

7-10 June 2015

Basel Computational Biology Conference (BC2)
SIB Swiss Institute of Bioinformatics | Biozentrum | University of Basel | SystemsX.ch | Basel (CH)

6-7 Nov 2014

Trainee at **Software Carpentry: Advanced R boot camp (Workshop)**
Universität Zürich | Winterthurerstrasse 190 | CH-8057 Zürich (CH)

6 June 2014

Selected poster presentation at **Swiss Drosophila Meeting 2014**
Universität Freiburg | Avenue de l'Europe 20 | 1700 Fribourg (CH)

2 - 4 April 2014

Selected poster presentation at **Size and Shape: Integration of morphometrics, mathematical modelling, developmental and evolutionary biology**
Georg-August-University Göttingen | Justus-von-Liebig-Weg 11 | 37077 Göttingen (DE)

Peer-Reviewed Publications In International Journals

- L. Gatti, M. Maiolo, M. Gil, M. Anisimova and C. von Mering (2018), *Phylogenetic inference under indel-aware evolutionary model increases tree quality and robustness*, manuscript submitted.
- L. Gatti and C. von Mering (2018), *High performance unified method to perform binary tree topology rearrangements under reversible evolutionary models*, manuscript in preparation.
- L. Gatti and C. von Mering (2018), *Scalable framework for computational intensive indel-aware phylogenetic inference in the public cloud (AWS)*, manuscript in preparation.

- **L. Gatti**, J. D. Zhang, M. Anisimova, M. Schutten, A. Osterhaus, E. van der Vries (2017), *Cross-reactive immunity drives global oscillation and opposed alternation patterns of seasonal influenza A viruses*, bioRxiv 226613
- D. M. Heller, A. Hoppe, S. Restrepo, **L. Gatti**, A. L. Tournier, N. Tapon, K. Basler and Y. Mao (2016), *EpiTools: An Open-Source Image Analysis Toolkit for Quantifying Epithelial Growth Dynamics*. *Developmental Cell*: 103–116. doi:10.1016/j.devcel.2015.12.012
- SIB members, including: **L. Gatti** (2015). *The SIB Swiss Institute of Bioinformatics' resources: focus on curated databases*. *Nucleic Acids Research*. Oxford University Press. doi: 10.1093/nar/gkv1310.

Teaching Experiences

12-15 June 2017	Teaching assistant in the GENECO course in <i>Computational Molecular Evolution: Detecting Positive Selection</i> . University of Lund (Sweden)
28 - 29 Jan 2016	Teaching assistant PhD course Frontiers in Plant Sciences 2016 in <i>Protein-coding Evolution and Detecting Natural Selection</i> — Zurich-Basel Plant Science Center, Universität Zürich, Universität Basel, ETH Zürich.
24 Aug - 4 Sept 2015	Teaching assistant Summer School GEMP 2015: Genomics and Evolution of Microbial Pathogens SIB Swiss Institute of Bioinformatics & ZHAW Zurich University of Applied Sciences

Groups and Associations, Honours and Awards

7-8 June 2016	Best lighting talk at SIB Days SIB Swiss Institute of Bioinformatics Quartier Sorge - Batiment Genopode 1015 Lausanne (CH)
29 August 2015	2nd Poster Award presented at 12th MLS PhD Retreat ETH Zürich - University of Zurich (UZH) - UZH ETH Zurich Ph.D Program in Molecular Life Sciences
Aug 2017 - Jan 2019	SIB PhD Training Network representative SIB Swiss Institute of Bioinformatics Quartier Sorge - Batiment Genopode 1015 Lausanne (CH)
Oct 2016 - current	Member of the scientific board at Swiss Institute of Queer Studies University of Zurich (UZH) Rämistrasse 66 8001 Zürich (CH)
June 2016 - April 2018	Operational member of the International society of computational biology, regional section group of the student council of Switzerland International Society for Computational Biology - ISCB 9650 Rockville Pike Bethesda, Maryland (USA)
Sept 2015 - Sept 2016	Member of MLS PhD Retreat Organising Committee 2016 ETH Zürich - University of Zurich (UZH) - UZH ETH Zurich Ph.D Program in Molecular Life Sciences
Sept 2015 - Sept 2016	Member of the UZH – ETHZ MLS PhD Program Steering Committee ETH Zürich - University of Zurich (UZH) - UZH ETH Zurich Ph.D Program in Molecular Life Sciences
Feb 2015 - Jan 2019	Member of Swiss Institute of Bioinformatics SIB Swiss Institute of Bioinformatics Quartier Sorge - Batiment Genopode 1015 Lausanne (CH)
Sept 2014 - current	Member of Verein Informatik-Alumni ETH Zürich (IAETH) Eidgenössische Technische Hochschule Zürich Rämistrasse 101 CH-8006 Zurich Schweiz
Aug 2013 - April 2014	Board member of Verband der Studierenden an der ETHZ (VSETH) Eidgenössische Technische Hochschule Zürich Rämistrasse 101 CH-8006 Zurich Schweiz
Sept 2012 - Sept 2014	Board member of Kommission für Masterstudenten ohne ETH-Bachelor (MoEB) Eidgenössische Technische Hochschule Zürich Rämistrasse 101 CH-8006 Zurich Schweiz
June 2009	Founder of Alumni Association at Centre of the University and School of Milan for Bioscience Education University of Milan Italy
October 2008	Member of NYEX (Network for Youth Excellence)

Languages	Italian (Native or bilingual proficiency)
Self-assessment	English (Full professional proficiency) German (Elementary proficiency)

Computer skills and competencies	Proficient knowledge and competence with C/C++, Python, R, MATLAB, Bash scripting language, Perl, PHP, HTML, Javascript, Java, Visual Basic for Application. Expertise with MySQL database implementation, structuring and maintenance. Experience with AWS computational infrastructure and resources for scientific software deployment, and high performance scientific computing (HPC) technologies. Proficient knowledge of Agile (Scrum + Kanban) project management strategies, code versioning, code documentation, CI/CD using Atlassian software solutions (Jira, Bitbucket, Confluence, Bamboo). Experiences with IBM E-Server for OS/400.
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I declare that the information in this Curriculum Vitae are correct and true. I authorise the use of these personal data for the purposes of review of my qualifications for any post or position for which I have applied, according to Italian Law 196/2003, and for no other purpose.

Lorenzo Gatti
Zürich, 1 Aug 2019