

# Fabio Zanini

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## Research

**Senior researcher in Data-Driven Biomedicine, University of New South Wales, since Fall 2019.**

Lab topics: Single cell transcriptomics of viruses and immune cells, machine learning on cell atlases.

**Postdoctoral Scholar in Bioengineering, Stanford University, 2016-2019.**

*Research topic:* Single-cell transcriptomics of *flavivirus* infection *in vitro* and *in vivo*.

*P.I.:* Prof. Stephen R. Quake

**PhD in Bioinformatics, Max Planck Institute for Developmental Biology and Universität Tübingen, 2011-2015.**


*Thesis:* Population Genomics of Inpatient HIV Evolution.


*Supervisors:* Dr. Richard Neher and Prof. Daniel Huson

**M.Sc. and Diplom in Physics, Università degli Studi di Trento and Universität Tübingen, 2008-2011.**

**B.Sc. in Physics, Università degli Studi di Trento, 2005-2008.**

## Selected Publications

 Google Scholar: <https://scholar.google.com/citations?user=XMDw5-4AAAAJ> (469 citations, h-index 13).

 Github: <https://github.com/iosonofabio/> (50 repositories, 465 contributions in the last year).

F. Zanini, B. Berghuis, R. C Jones, B. Nicolis di Robilant, R. Y Nong, J. Norton, M. F Clarke, S. R. Quake. northstar: leveraging cell atlases to identify healthy and neoplastic cells in transcriptomes from human tumors. *bioRxiv* (2019)

F. Zanini, M. Robinson, D. Croote, M. Kumar Sahoo, A. M Sanz, E. Ortiz-Lasso, L. Luis Albornoz, F. R Suarez, J. G Montoya, L. Goo, B. A Pinsky, S. R. Quake, S. Einav. Virus-inclusive single cell RNA sequencing reveals the molecular signature predictive of progression to severe dengue. *PNAS* (2018)

The Tabula Muris Consortium (F. Zanini: Logistical coordination, Organ collection and processing, Computational data analysis, Writing group). Single-cell transcriptomics of 20 mouse organs creates a Tabula Muris. *Nature* (2018)

A. Christensen-Quick, A. Chaillon, C. Yek, F. Zanini, P. Jordan, C. Ignacio, G. Caballero, S. Gianella, D. Smith. Influenza Vaccination Can Broadly Activate the HIV Reservoir During Antiretroviral Therapy. *Journal of Acquired Immune Deficiency Syndromes* (2018)

S. Y Pu, F. Xiao, S. Schor, E. Bekerman, F. Zanini, R. Barouch-Bentov, C. M Nagamine, S. Einav. Feasibility and biological rationale of repurposing sunitinib and erlotinib for dengue treatment. *Antiviral research* (2018)

F. Zanini, S. Y. Pu, E. Bekerman, S. Einav, S. R. Quake. Single-cell transcriptional dynamics of flavivirus infection. *eLife* (2018)

F. Zanini, J. Brodin, J. Albert, R. A. Neher. Error rates, PCR recombination, and sampling depth in HIV-1 whole genome deep sequencing. *Virus research* (2017)

F. Zanini, V. Puller, J. Brodin, J. Albert, R. A. Neher. In vivo mutation rates and the landscape of fitness costs of HIV-1. *Virus Evolution* (2017)

J. Brodin, F. Zanini, L. Thebo, C. Lanz, G. Bratt, R. A. Neher, J. Albert. Establishment and stability of the latent HIV-1 DNA reservoir. *eLife* (2016)

F. Zanini, J. Brodin, L. Thebo, C. Lanz, G. Bratt, J. Albert, R. A. Neher. Population genomics of inpatient HIV-1 evolution. *eLife* 4 (2015)

F. Zanini and R. A. Neher. Quantifying selection against synonymous mutations in HIV-1 env evolution. *Journal of virology* (2013)

F. Zanini and R. A. Neher. FFPopSim: an efficient forward simulation package for the evolution of large populations. *Bioinformatics* (2012)

## Patents

F. Zanini et al. Antibodies against dengue virus and related methods, US Provisional Application No. 62/715,628 (2018)

## Awards

Symbiont Award at the Pacific Symposium on Biocomputing, 2018.

EMBO long-term postdoctoral fellowship, 2016-2018.

Excellent Master Student Award, Università degli Studi di Trento, 2011.

Double Degree Scholarship (Italy-Germany), 2008-2010.

Best Bachelor Applicant Scholarship, Università degli Studi di Trento, 2005-2008.

## Teaching and Outreach

Taught Scientific Programming for biologists, Max-Planck Institute for Developmental Biology, 2013 to 2015.

Mentored 5 graduate students during my postdoc at Stanford.

Member of the selection committee for the 2019 Symbiont Research Award.

Mentor at the Stanford Inclusive Postdoc:Grad Program "Someone like me", 2018.