

# FLAVIA HODEL

## Bioinformatician in Human Genomics

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## Experiences

### Bioinformatician in Human Genomics

#### University Hospital of Lausanne (CHUV)

📅 2022 - ongoing

As a data analyst in the Precision Medicine Unit of the CHUV, I conduct population pharmacogenetic studies on the determinants of therapeutic response and drug toxicity under real-life conditions of use.

### Diabète type sport

#### Co-founder and treasurer

📅 2024 - ongoing

"Diabète type sport" is a non-profit association that unites healthcare professionals and individuals living with diabetes. Our mission is to promote physical activity among adults with diabetes through sports events, races, and tailored training sessions, fostering a supportive community for improving well-being.

### PhD student in Human genomics & Computational biology

#### Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

📅 2018 - 2022

Supervisor: Prof. Jacques Fellay

I used genome-wide genotyping data, bioinformatics tools and statistical methods to explore the interplay between human genetic variation, persistent infections and chronic inflammation, and understand their independent and combined effect on coronary artery disease.

### Visiting PhD student

#### Wellcome Trust Centre for Human Genetics, University of Oxford

📅 2019

I went to the WTCHG for a collaborative project to identify key genomic determinants of humoral immune responses against multiple human pathogens. This experience allowed the exchange of ideas and data, and provided me with new tools to bring back to my colleagues.

### Graduate teaching assistant

#### Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

📅 2018 - ongoing

Subjects taught: Probabilities and statistics, Genetics and genomics, Introduction to life sciences for School of Computer and Communication Sciences (IC), and New tools & research strategies in personalized health.

## Education

### Ph.D. in Computational and Quantitative Biology (EDCB)

#### Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

📅 2017 - ongoing

### M.Sc. in Bioinformatics

#### University of Lausanne, Switzerland

📅 2016 - 2017

### B.Sc. in Biology

#### University of Lausanne, Switzerland

📅 2012 - 2015

## Languages

French	Native
Swiss-German	Native
English	Full professional proficiency
Italian	Level C1
Spanish	Level C1

## Strengths

Data analysis

Bioinformatics

Biostatistics

Data visualization

Genomics

Infectious diseases

Biobanks

Biomarkers

Immunology

GWAS

Linear/logistic regression

Univariate/multivariate analysis

Survival analysis

R

BASH

Python

LaTeX

GitHub

Team spirit

Leadership

Adaptability

Eye for detail

Emotional intelligence

Conferences and events organisation

Research presentations

## Selected publications

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**Hodel, F.**, De Min, M.B., Thorball, C.W., Redin, C., Vollenweider, P., Girardin, F., ... & Fellay, J. (2024). Prevalence of actionable pharmacogenetic variants and high-risk drug prescriptions: A Swiss hospital-based cohort study. *Clinical and translational science*, 17 (9), e70009.

Chong, A. Y., Brenner, N., Jimenez-Kaufmann, A., Cortes, A., Hill, M., Littlejohns, T. J., ..., **Hodel, F.**, ..., & Mentzer, A. J. (2022). A common NFKB1 variant detected through antibody analysis in UK Biobank predicts risk of infection and allergy. *The American Journal of Human Genetics*, 111 (2), 295-308.

**Hodel, F.**, Xu, Z. M., Thorball, C. W., de La Harpe, R., Letang-Mathieu, P., Brenner, N., ... & Fellay, J. (2023). Associations of genetic and infectious risk factors with coronary heart disease. *eLife*, 12, e79742.

Shaqiri, A., **Hodel, F.**, da Cruz, J. R., Roinishvili, M., Chkonia, E., Brand, A., ... & Herzog, M. H. (2022). Visual masking deficits in schizophrenia: a view into the genetics of the disease through an endophenotype. *Translational Psychiatry*, 12(1), 1-10.

**Hodel, F.**, Naret, O., Bonnet, C., Brenner, N., Bender, N., Waterboer, T., ... & Fellay, J. (2022). The combined impact of persistent infections and human genetic variation on C-reactive protein levels. *BMC medicine*, 20(1), 1-9.

Naret, O., Kutalik, Z., **Hodel, F.**, Xu, Z. M., Marques-Vidal, P., & Fellay, J. (2022). Improving polygenic prediction with genetically inferred ancestry. *Human Genetics and Genomics Advances*, 100109.

**Hodel, F.**, Chong, A. Y., Scepanovic, P., Xu, Z. M., Naret, O., Thorball, C. W., ... & Fellay, J. (2021). Human genomics of the humoral immune response against polyomaviruses. *Virus Evolution*, veab058.

Scepanovic, P., **Hodel, F.**, Mondot, S., Partula, V., Byrd, A., Hammer, C., ... & Lantz, O. (2019). A comprehensive assessment of demographic, environmental, and host genetic associations with gut microbiome diversity in healthy individuals. *Microbiome*, 7(1), 130.

Scepanovic, P., Alanio, C., Hammer, C., **Hodel, F.**, Bergstedt, J., Patin, E., ... & Quintana-Murci, L. (2018). Human genetic variants and age are the strongest predictors of humoral immune responses to common pathogens and vaccines. *Genome medicine*, 10(1), 59.

**Hodel, F.**, Patxot, M., Snäkä, T., & Ciuffi, A. (2016). "HIV-1 latent reservoir: size matters". *Future Virology*, 11(12), 785-794.

## Conferences

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European Society of Human Genetics (ESHG)

**Vienna, Austria - Berlin, Germany - Gothenburg, Sweden**

📅 2019, 2020, 2021

Early career poster award candidate in 2021

American Society of Human Genetics (ASHG)

**San Diego, CA, USA**

📅 2018

## Volunteering

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Diabètevaud

**Ambassador**

📅 2022 - ongoing

Active in different areas of intervention related to diabetes (awareness, dialogue with the authorities, interventions in the industry, media testimony) in the canton of Vaud, Switzerland.

EPFL – ETHZ Summer School "Shaping the Future of (bio)-Medicine"

**Co-organiser**

📅 2019

Planned the event and location, made budget for the event, contacted sponsors and speakers, co-organised the health hackathon in collaboration with the MIT.

ACLI Svizzera

**Instructor**

📅 2016-2017

Basic computer courses in Italian for seniors.