# Heiner Atze

heiner.atze@gmx.net, +33 7 80 84 91 20, Gentilly
**kantundpeterpan.github.io/portfolio**

(**Links** formatted in bold blue are clickable from within the `.pdf` file)

## EDUCATION

**Master in Statistics and Data Science**
University Hasselt, Belgium — Oct 2024 — ongoing

Specialisation in Quantitative Epidemiology

Currently taking course in :

- **Programming in R**
  Advanced course on standard R packages - `Tidyverse`, `RMarkdown`, `ggplot2`, `data.table` etc.
- **Data Management**
  Data models, Relational and Graph databases, SQL, Neo4J, Cypher
- **Linear Models**
  Simple and Multiple Linear regression modeling, ANOVA

**Postgraduate diploma – Biostatistics and Methods in Public Health**
Paris Saclay University, Paris, France — Oct 2023 — Sep 2024

Coursework from course catalog of the MPH program at Paris Saclay University:

- Probability and Mathematical Statistics
- Clinical Research
- Quantitative Epidemiology

**Doctor of Philosophy – Biochemistry, Microbiology**
Sorbonne University, Paris, France — Nov 2018 — Sep 2021

**Master of Science(*) - Medicinal Chemistry**
Friedrich-Schiller-University, Jena, Germany — Sep 2014 — Sep 2016

(*)German Diplom, degree awarded after 5 years of study and submission of a research thesis

**State examination - Pharmacy**
Friedrich-Schiller-University, Jena, Germany — Sep 2010 — Sep 2014

## PROFESSIONAL DEVELOPMENT

**Courses on Infectious Disease Modelling**
Imperial College London (Coursera) — 2020

Certificates:

- Infectious Disease Modeling: **Course I**, **Course II**

# RESEARCH EXPERIENCE

**Doctoral Researcher – Biochemistry, Microbiology**
INSERM, Paris, France Jun 2018 — Sep 2021

Researcher in Team 12 “Bacterial structures implicated in antibiotic resistance” at the Centre de Recherche des Cordeliers, Paris

Two main axes of research:

1. Biological characterization of new generation β-lactamase inhibitors

   in vitro and in vivo characterization of inhibitors, data analysis and interpretation, feedback into the consult-design-test-repeat cycle in collaboration with the team of organic chemists

2. Fundamental research on cell wall metabolism in gram-negative bacteria

   De novo method development: isotopic labeling of cell cultures, sample preparation, analysis by mass spectrometry, custom data analysis tools and pipelines

Key achievements and skills:

- Exploration of the chemical space around the core inhibitor and identification of curcial ligand-target-interactions
- Handling and managing a large amount of results and data from biological experiments
- Development and maintentance of custom data analysis tools (massElTOF) available at **Gitlab**

**Research assistant – Medicinal and Pharmaceutical Chemistry**
Friedrich-Schiller-University, Jena, Germany Nov 2014 — Apr 2015

Biological charaterization of putative anti-inflammatory substances, fundamental research on signaling cascades in inflammation using biochemical methods and imaging techniques

# WORK EXPERIENCE

## PHARMACIST

**Pharmacie Attal**
Fontenay-aux-Roses, France Oct 2021 — present

Pharmaceutical counseling of patients
Responsible for communication with medical staff in nursing homes
Supervision of technical staff and pharmacy students

**Other Pharmacies**
Jena, Germany Nov 2015 – May 2018

### PRE-REGISTRATION PHARMACIST

**F. Hoffmann-La Roche**
Basel, Switzerland May 2015 – Oct 2015

# SKILLS

## LANGUAGES

German: Native Speaker
English: Professional proficiency
French: Professional proficiency

## DATA ANALYSIS, PROGRAMMING AND SOFTWARE PACKAGES

**Programming languages**

- 

  routine use of pandas, numpy, matplotlib
  project dependent use of scikit-learn, bokeh

  Certifications by DataCamp:
  - **Data Science**
  - **Machine learning**

- : data analysis, plotting, linear modeling

  Specialization Data Analysis with R by Duke University on Coursera

  - **Statement of accomplishment**
  - Course projects (available at **portfolio page**):
    - **Exploring the BRFSS data**
    - **Statistical inference using GSS data**
    - **Modeling and prediction of movie scores**

- SQLite: basic database setup, queries, joins and grouping operations, window functions

  **Show case studies**

- julia : notions

# PUBLICATIONS

## JOURNAL ARTICLES


Atze, H., Liang, Y., Hugonnet, J.-E., Gutierrez, A., Rusconi, F. and Arthur, M. (2022), "Heavy isotope labeling and mass spectrometry reveal unexpected remodeling of bacterial cell wall expansion in response to drugs", Elife, eLife Sciences Publications Limited, Vol. 11, p. e72863.

Bouchet, F., Atze, H., Arthur, M., Ethève-Quelquejeu, M. and Iannazzo, L. (2021), "Traceless staudinger ligation to introduce chemical diversity on β-lactamase inhibitors of second generation", Organic Letters, ACS Publications, Vol. 23 No. 20, pp. 7755–7758.

Bouchet, F., Atze, H., Fonvielle, M., Edoo, Z., Arthur, M., Ethève-Quelquejeu, M. and Iannazzo, L. (2020), "Diazabicyclooctane functionalization for inhibition of β-lactamases from enterobacteria", Journal of Medicinal Chemistry, American Chemical Society, Vol. 63 No. 10, pp. 5257–5273.

Garscha, U., Romp, E., Pace, S., Rossi, A., Temml, V., Schuster, D., König, S., et al. (2017), "Pharmacological profile and efficiency in vivo of diflapolin, the first dual inhibitor of 5-lipoxygenase-activating protein and soluble epoxide hydrolase", Scientific Reports, Nature Publishing Group UK London, Vol. 7 No. 1, p. 9398.

Le Run, E., Atze, H., Arthur, M. and Mainardi, J.-L. (2020), "Impact of relebactam-mediated inhibition of mycobacterium abscessus BlaMab β-lactamase on the in vitro and intracellular efficacy of imipenem", Journal of Antimicrobial Chemotherapy, Oxford University Press, Vol. 75 No. 2, pp. 379–383.

Triboulet, S., Edoo, Z., Compain, F., Ourghanlian, C., Dupuis, A., Dubée, V., Sutterlin, L., et al. (2019), "Tryptophan fluorescence quenching in β-lactam-interacting proteins is modulated by the structure of intermediates and final products of the acylation reaction", ACS Infectious Diseases, American Chemical Society, Vol. 5 No. 7, pp. 1169–1176.