

Heiner Atze

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EDUCATION

Postgraduate diploma – Biostatistics and Methods in Public Health

Paris Saclay University, Paris, France

Oct 2023 — Sep 2024

Master level courses in :

- Probability and 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

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 crucial ligand-target-interactions
- Handling and managing a large amount of results and data from biological experiments
- Development and maintenance of custom data analysis tools available at [Gitlab](#)

Research assistant – Medicinal and Pharmaceutical Chemistry

Friedrich-Schiller-University, Jena, Germany

Nov 2014 – Apr 2015

Biological characterization 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
 - basic database setup and queries, joins and grouping operations
 - , : notions

TECHNICAL LAB SKILLS

- **Cellular Biology**
Human Cell Culture: HEK-293, primary human lymphocytes
Bacterial Cell Culture: Escherichia coli
- **Molecular Biology**
mRNA-Extraction, cDNA synthesis
Polymerase chain reaction
- **Biochemistry**
SDS-PAGE, Western Blot
Enzyme kinetics

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., Edo, 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., Edo, 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.
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