

FRESNAIS, MARGAUX, DR.

GENERAL INFORMATION



Post-doctoral researcher

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ACADEMIC EDUCATION & QUALIFICATION

Year(s)	Education
2013 - 2016	Doctor in analytical chemistry at Strasbourg University (France)
2011 - 2013	Master of Science, Analytical sciences, Strasbourg University (France)
2008 - 2013	Engineering diploma in Chemistry, National school of Chemistry of Rennes University (France) and European school for Chemistry, Polymers, and Material sciences (ECPM), Strasbourg University (France)

SCIENTIFIC EDUCATION & QUALIFICATION

Year(s)	Education
2013 - 2016	Doctoral Fellow at Strasbourg University (France). Title: "New mass spectrometric approaches for the characterization of biological archaeological systems."
2010 - 2013	Master Thesis and Engineering Thesis in Analytical sciences, Research Center for French Museums (Paris, France) and Strasbourg University (France). Title: "Characterization of Andean mummies' hair."

PROFESSIONAL EXPERIENCE

Year(s)	Experience
2024 - Present	Deputy head of the Analytical Chemistry Laboratory (ACL) of the Department for Clinical Pharmacology and Pharmacoepidemiology.
2021 - Present	Physician Scientist Fellow of the Medical Faculty of Heidelberg University at Heidelberg University Hospital, Internal Medicine IX – Department for Clinical Pharmacology and Pharmacoepidemiology, Analytical Chemistry Laboratory (ACL).
2020 - 2021	Post-doctoral Fellow at Heidelberg University Hospital, Internal Medicine IX – Department for Clinical Pharmacology and Pharmacoepidemiology, Analytical Chemistry Laboratory (ACL).
2016 - 2020	Post-doctoral Fellow of the German cancer consortium (DKTK) between the DKFZ and Department for Clinical Pharmacology and Pharmacoepidemiology (Innere Medicine IX, Heidelberg University Hospital).
2013 - 2016	Research associate and teaching assistant at the Laboratory of Mass Spectrometry of Interactions and Systems (LSMIS), Strasbourg University (France).

OTHER QUALIFICATIONS

Year	Qualifications/Roles/Responsibilities
2024	Course for University Didactics, Modul I+II (Flipped Classroom: Lehre in den Lebenswissenschaften)
2023	Good Clinical Laboratory Practice (GCLP) certification
2021	Physician Scientist Program, Medical Faculty of Heidelberg University
2020	AMG-Grundlagenkurs für Prüfer/Stellvertreter und Mitglieder der Prüfgruppe (GCP)
2017	Qualification for Project leader for biological safety

SELECTED PUBLICATIONS

1. [Fresnais M](#), Jung I, Klein UB, Theile D, Liang S, Haefeli WE, Burhenne J, Longuespée R. Quantification of Biologically Active DNA Alkylation in Temozolomide-Exposed Glioblastoma Cell Lines by Ultra-Performance Liquid Chromatography-Tandem Mass Spectrometry: Method Development and Recommendations for Validation. *ACS Omega*. 2023; 8(26):23695-23705.
2. [Fresnais M](#), Jung I, Klein UB, Miller AK, Turcan S, Haefeli WE, Burhenne J, Longuespée R. Important Requirements for Desorption/Ionization Mass Spectrometric Measurements of Temozolomide-Induced 2'-Deoxyguanosine Methylations in DNA. *Cancers (Basel)*. 2023; 15(3):716.
3. Longuespée R, Theile D, Zörnig I, Hassel JC, Lindner JR, Haefeli WE, [Fresnais M](#). Molecular prediction of clinical response to anti-PD-1/anti-PD-L1 immune checkpoint inhibitors: New perspectives for precision medicine and mass spectrometry-based investigations. *Int J Cancer*. 2023; 153(2):252-264.
4. [Fresnais M](#), Liang S, Breitkopf M, Lindner JR, Claude E, Pringle S, Levkin PA, Demir K, Benzel J, Sundheimer J, Statz B, Pajtler KW, Pfister SM, Haefeli WE, Burhenne J, Longuespée R. Analytical Performance Evaluation of New DESI Enhancements for Targeted Drug Quantification in Tissue Sections. *Pharmaceuticals (Basel)*. 2022; 15(6):694.
5. [Fresnais M](#), Turcan S, Theile D, Ungermann J, Abou Zeed Y, Lindner JR, Breitkopf M, Burhenne J, Haefeli WE, Longuespée R. Approaching Sites of Action of Temozolomide for Pharmacological and Clinical Studies in Glioblastoma. *Biomedicines*. 2021; 10(1):1.
6. [Fresnais M](#), Burhenne J, Haefeli WE, Longuespée R. Desorption/ionization-MS methods for drug quantification in biological matrices and their validation following regulatory guidance. *Anal Chem*. 2021; 93(19):7152-7163.
7. Longuespée R, Theile D, [Fresnais M](#), Burhenne J, Weiss J, Haefeli WE. Approaching sites of action of drugs in clinical pharmacology: New analytical options and their challenges. *Br J Clin Pharmacol*. 2021;87(3):858-874.
8. [Fresnais M](#), Longuespée R, Sauter M, Schaller T, Arndt M, Krauss J, Blank A, Haefeli WE, Burhenne J. Development and validation of an LC-MS-based quantification assay for new therapeutic antibodies: application to a novel therapy against herpes simplex virus. *ACS Omega*. 2020;5(38):24329-24339.
9. [Fresnais M](#), Roth A, Foerster KI, Jäger D, Pfister SM, Haefeli WE, Burhenne J, Longuespée R. Rapid and sensitive quantification of osimertinib in human plasma using a fully validated MALDI-IM-MS/MS assay. *Cancers (Basel)*. 2020; 12 (7):E1897.
10. [Fresnais M](#), Muck A, Majewsky M, Statz B, Krausert S, Benzel J, Castel D, Le Dret L, Pfister S, Haefeli WE, Burhenne J, Longuespée R. Rapid and sensitive drug quantification in tissue sections using matrix assisted laser desorption ionization-ion mobility-mass spectrometry profiling. *J Am Soc Mass Spectrom*. 2020; 31 (3):742-751.