

Stéphanie Battini

Ph.D. in Medical Sciences

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Professional summary

Senior multidisciplinary biomedical data scientist with a Ph.D. in Medical Sciences and extensive experience in computational neuroscience and metabolomics. Skilled in integrating, curating, and analyzing complex biomedical datasets from patient samples, imaging, and simulations, using Python and Bash on HPC infrastructures with reproducible workflows (Git, containers, Snakemake) and FAIR/Open Science practices. Experienced in clinical collaboration and in leading data-driven translational projects from study design to advanced statistical analyses. .

Education

- 2013-2017 **Ph.D. in Medical Sciences, Doctoral School «Life Sciences and Health»**, ICube laboratory, IMIS team, UMR 7357 CNRS, University of Strasbourg, Strasbourg, France
- Thesis subject: Metabolomic profiling by HRMAS NMR spectroscopy in hyperparathyroidism and pancreatic tumors
 - Awarded Thesis Prize by the Society of Biology of Strasbourg (2018)
 - *Full list of awards detailed in Prizes section*
- 2011-2012 **Master's degree (2nd year) in health medical engineering in medical physics**, University of Joseph Fourier, Grenoble, France
- 2010-2011 **Master's degree (1st year) in fundamental physics**, University of Aix-Marseille 1, Marseille, France
- 2008-2010 **Bachelor's degree (3rd year) in fundamental physics**, University of Aix-Marseille 1, Marseille, France
- 2005-2008 **Diploma in medical imaging and radiologic technology – state-certified (France) - Radiologic technologist / radiographer**, Institute of Laurent Chevrot, Marseille, France

Programming and analytical skills

- Languages and libraries:** Python (NumPy, pandas, SciPy, scikit-learn, PyTorch, Matplotlib, Seaborn), Bash, R, MATLAB, LaTeX
- Version control:** Git (GitHub and GitLab)
- Operating systems:** Linux (Ubuntu), macOS, Windows
- Scientific visualization:** Matplotlib, Seaborn, ImageJ, Inkscape
- Workflow and reproducibility:** Snakemake, containers (Docker, Singularity), Jupyter notebooks
- Data handling and analysis:** data wrangling, statistical analysis, machine learning, time-series analysis

Data management and collaboration tools

- Data stewardship:** FAIR principles, metadata standards, Open Science, data curation and documentation
- Databases:** MySQL, structured metadata schemas, clinical and research data registries
- Workflow and reproducibility:** Snakemake, Docker, Singularity, Git-based collaborative workflows
- Project management:** Agile (Scrum, Kanban), JIRA, Confluence, Trello, Slack

Analytical platforms: Jupyter notebooks, Google Colab

Data collection and clinical tools: REDCap, Microsoft Office Suite, Google Workspace

Soft skills

Adaptability and autonomy — fast learning curve, efficient in dynamic research and clinical environments.

Interdisciplinary collaboration — comfortable working across biology, neuroscience, data science, and HPC teams.

Communication skills — able to explain complex technical concepts to diverse scientific and clinical audiences.

Creative problem-solving — skilled at finding pragmatic solutions to technical and organizational challenges.

Team-oriented and service-driven mindset — strong focus on supporting researchers, improving workflows, and enabling others.

Project ownership and reliability — structured, dependable, and proactive in managing responsibilities.

Languages

French: native language

English: fluent

Spanish: beginner level

Experience

- 2025/10– Present **Senior Biomedical Data Scientist (FAIR Data and Open Science)**, Data Science for Biomedical Research Unit (DSBU), Faculty of Biology and Medicine (FBM), University of Lausanne (UNIL) & CHUV, Lausanne, Switzerland
- Develop tools and automated workflows to ensure interoperability and consistency of biomedical research data and metadata at large scale.
 - Build applications and databases to interface and integrate diverse data management tools across CHUV, FBM, UNIL, and external infrastructures.
 - Provide tailored support to researchers for harmonizing data management, sharing, and long-term preservation of (meta)data according to FAIR and Open Science standards.
 - Contribute to internal collaborations (CHUV–FBM) on FAIR data stewardship and Open Science best practices.
- 2019/06– 2024/12 **Post-Doctoral Researcher in Computational Neuroscience**, Blue Brain Project, Swiss Federal Institute of Technology (EPFL), Geneva, Switzerland
- Developed the Python library AstroVascPy for multi-scale modeling of brain vasculature.
 - Conducted high-performance simulations on HPC clusters, optimizing computational workflows by 30%.
 - Led cross-disciplinary collaborations between neuroscientists and engineers to advance data analysis methodologies.
- 2017/11– 2019/05 **Engineer in Medical Physics**, Biomediqa, France
- Optimized dose calculations in interventional cardiology procedures, improving accuracy and compliance.
 - Spearheaded quality assurance initiatives, enhancing radioprotection standards.
 - Conducted data analysis and reporting for regulatory submissions.
- 2017/01– 2017/10 **Post-Doctoral Researcher in Medical Sciences**, ICube Laboratory, IMIS Team, UMR 7357 CNRS, University of Strasbourg, Strasbourg, France
- Conducted metabolomic profiling in experimental allergic encephalomyelitis (EAE) to identify metabolic biomarkers of CNS inflammation.
 - Discovered significant metabolic changes, including elevated levels of lactate, ascorbate, glucose, and amino acids in EAE samples compared to controls.
 - Identified a decrease in N-acetyl-aspartate (NAA) levels in the lumbar spinal cord, correlating with clinical signs of paraplegia.
 - Applied HRMAS NMR spectroscopy for precise metabolic analysis during acute disease stages.

- 2013/09– **Ph.D. in Medical Sciences**, ICube Laboratory, IMIS Team, UMR 7357, University of Strasbourg,
2017/01 Strasbourg, France
- Handled fresh human tissue samples (parathyroid, pancreatic tumors), performed sample preparation and metabolic profiling, collaborating with surgeons and pathologists
 - Conducted metabolomics profiling of hyperfunctioning parathyroid glands, pancreatic adenocarcinoma, and IPMN using HRMAS NMR spectroscopy.
 - Identified biomarkers directly correlated with clinical outcomes, contributing to improved understanding of patient survival factors.
 - Developed an R-based network analysis algorithm to analyze complex metabolomic datasets, enhancing data interpretation and visualization.
 - Gained expertise in High-resolution Magic-angle Spinning (HRMAS) NMR spectroscopy for precise metabolic analysis on biological samples.
 - Maintained productive research collaboration with Master's degree supervisor, resulting in co-authored publication on metabolomics of hyperfunctioning parathyroid glands (Battini et al., 2016).
 - Awarded four prizes during Ph.D., including the prestigious Thesis Prize from the Society of Biology of Strasbourg.
 - Published findings in high-impact journals and presented at international conferences.
- 2012/01– **Final Training Course (Master's Degree, 2nd year)**, Department of Biophysics and Nuclear Medicine (CHU La Timone), and Laboratory of Pharmacokinetics, University of Pharmacy - La Timone, CRO2 Team (UMR INSERM 911), Marseille, France
- Conducted PET imaging studies to refine the characterization of tumoral evolution, including patient data collection and protocol implementation.
 - Analyzed imaging data to identify metabolic patterns in tumor progression.
 - Co-authored publication on PET imaging biomarkers (Barbolosi et al., 2016, PMID: 26044552).
 - Established foundation for continued research collaboration extending through doctoral studies.
- 2011/05– **Final Training Course (Master's Degree, 1st year)**, Physics of Molecular and Ionic Interactions
2011/07 Research Laboratory (PIIM), Marseille, France
- Investigated reactivity and energetics at metal-organic interfaces.
 - Performed experiments and analysis to understand molecular interactions.
 - Acquired foundational expertise in advanced molecular physics techniques.
- 2009/09– **Radiographer (Ten replacements)**, La Madonuccia Medical Imaging Center, Ajaccio, France
2011/09
- Conducted radiographic imaging for diagnostic purposes across various modalities.
 - Provided imaging services consistently during school holidays for a total of seven months.
- 2005/09– **Training for National Diploma (DE) of Radiographer**, APHM, Marseille, France
2008/09
- Completed comprehensive rotations: 16 weeks in nursing care, 11 weeks in radiotherapy, 11 weeks in nuclear medicine, 6 weeks in MRI, 6 weeks in CT, and 9 weeks in radiodiagnosis.
 - Acquired skills in patient care, diagnostic imaging, and radiological equipment handling.
 - Developed expertise in diverse imaging techniques, contributing to multidisciplinary healthcare teams.

Publications

Google Scholar: <https://scholar.google.fr/citations?user=UKfnGmIAAAAJ>

- 2025 **Battini S, Cantarutti N, Kotsalos C, Roussel Y, Cattabiani A, Arnaudon A, Favreau C, Antonel S, Markram H, Keller D**, Modeling of Blood Flow Dynamics in Rat Somatosensory Cortex
Biomedicines 2025, 13(1), 72; doi: 10.3390/biomedicines13010072 (IF: 3.9)
- 2019 **Imperiale A, Poncet G, Addeo P, Ruhland E, Roche C, Battini S, Ciçek AE, Chenard MP, Hervieu V, Goichot B, Bachellier P, Walter T, Namer IJ**, Metabolomics of Small Intestine Neuroendocrine Tumors and Related Hepatic Metastases
Metabolites. 2019;9:300. doi: 10.3390/metabo9120300 (IF : 4.932)
- 2018 **Battini S, Bund C, Moussallieh FM, Ciçek AE, De Sèze J, Namer IJ**, Metabolomics approaches in experimental allergic encephalomyelitis
Journal of Neuroimmunology. 2018;314:94:100. doi: 10.1016/j.jneuroim.2017.11.018(IF : 2.536)
- 2017 **Faitot F, Besch C, Battini S, Ruhland E, Onea M, Addeo P, Woehl-Jaegle ML, Ellero B, Bachellier P, Namer IJ**, Impact of real-time metabolomics in liver transplantation: graft evaluation and donor-recipient matching
Journal of Hepatology. 2017;S0168-8278(17)32447-9. doi: 10.1016/j.jhep.2017.11.022 (IF : 12.486)

- 2017 **Hescot S, Amazit L, Lhomme M, Travers S, DuBow A, Battini S, Namer IJ, Lombes A, Kontush A, Imperiale A, Baudin E, Lombes M**, Identifying Mitotane-induced Mitochondria-associated Membranes Dysfunctions: Metabolomic and Lipidomic approaches Oncotarget. 2017;8:109924:109940. doi:10.18632/oncotarget.18968 (IF : 5.168)
- 2017 **Battini S, Faitot F, Imperiale A, Çiçek AE, Heimburger C, Averous G, Bachellier P, Namer IJ**, Metabolomics approaches in pancreatic adenocarcinoma: tumor metabolism profiling predicts clinical outcome of patients BMC Medicine. 2017;15:56. doi:10.1186/s12916-017-0810-z (IF: 8.005)
Featured article on BMC Medicine Vol 15
 Watch the [video abstract](#) prepared by BMC Medicine
 Selected to have a national communication in [CNRS hebdo and CNRS INSIS](#)
- 2017 **Abdullah AE, Guerin C, Imperiale A, Barlier A, Battini S, Pertuit M, Roche P, Essamet W, Vaisse B, Pacak K, Sebag F, Taïeb D**, Paraganglioma of the organ of Zuckerkandl associated with somatic HIF 2A mutation Oncol Lett. 2017;13(3):1083-1086. doi:10.3892/ol.2017.5599 (IF: 1.554)
- 2016 **Battini S, Imperiale A, Taieb D, Elbayed K, Cicek AE, Sebag F, Brunaud L, Namer IJ**, High-Resolution Magic Angle Spinning ^1H Nuclear Magnetic Resonance Spectroscopy Metabolomic of Hyperfunctioning Parathyroid glands Surgery. 2016;160(2):284-294. doi:10.1016/j.surg.2016.03.002 (IF: 3.309)
Described as «significant» by the editorial commentary (commentary by Geoffrey B.Thompson)
- 2016 **Imperiale A, Battini S, Averous G, Mutter D, Goichot B, Bachellier P, Pacak K, Taïeb D, Namer IJ**, *In vivo* detection of catecholamines by magnetic resonance spectroscopy: a potential specific biomarker for the diagnosis of pheochromocytoma Surgery. 2016;159(4):1231-1233. doi:10.1016/j.surg.2015.03.012 (IF: 3.309)
- 2016 **Barbolosi D, Hapney S, Battini S, Faivre C, Mancini J, Pacak K, Farman-Ara B, Taïeb D**, Determination of the unmetabolised 18F-FDG fraction by using an extension of simplified kinetic analysis method: clinical evaluation in paragangliomas Med Biol Eng Comput. 2016;54(1):103-111. doi:10.1007/s11517-015-1318-3 (IF: 1.797)
- 2015 **Imperiale A, Moussallieh FM, Roche P, Battini S, Çiçek AE, Sebag F, Brunaud L, Barlier A, Elbayed K, Loundou A, Bachellier P, Goichot B, Stratakis CA, Pacak K, Namer IJ, Taïeb D**, Metabolome profiling by HRMAS NMR spectroscopy of pheochromocytomas and paragangliomas detects SDH deficiency: clinical and pathophysiological implications Neoplasia. 2015;17(1):55-65. doi:10.1016/j.neo.2014.10.010 (IF: 4.509)

Communications in conferences

- 2024 **Battini S, Cantarutti N, Roussel Y, Cattabiani A, Arnaudon A, Favreau C, Markram H, Keller D**, Modeling astrocyte-mediated blood flow dynamics in the rat somatosensory cortex. SfN, Neuroscience 2024, October 5-9, 2024, Chicago, US (poster)
- 2024 **Keany T, Battini S, Keller D**, Vasculature graph repair: A comprehensive benchmark and statistical analysis of gap repair methods in whole brain vasculature graphs Spires 2024, Centre for Topological Data Analysis conference, August 7-9, 2024, Oxford, UK (poster)
- 2023 **Battini S, Cantarutti N, Arnaudon A, Favreau C, Keller D**, Modulation of blood flow by astrocytic activity. 32nd Annual Computational Neuroscience Meeting, July 15-19, 2023, Leipzig, Germany (poster)
- 2023 **Battini S, Shichkova P, Cantarutti N, Kotsalos C**, Introduction to STEPS, and interaction with other computational neuroscience software for multiscale simulations. 32nd Annual Computational Neuroscience Meeting, July 15-19, 2023, Leipzig, Germany (tutorial)

- 2023 **Battini S, Cantarutti N, Arnaudon A, Favreau C, Kotsalos C, Keller D,**
Modulation of blood flow by astrocytic activity.
5th Annual meeting og the Swiss Society for Neuroscience, June 9-10, 2023, Lugano, Switzerland (poster)
- 2023 **Battini S, Cantarutti N, Arnaudon A, Favreau C, Kotsalos C, Keller D,**
Modulation of blood flow by astrocytic activity.
5th Annual Early-Career Researchers Symposium 2023, Young Swiss Society For Neuroscience, June 8-9, 2023, Lugano, Switzerland (poster)
- 2019 **Carpentier S, Leroy F, Guerin L, Battini S, Julien T, Maaloul F,**
Comparison between calculations and measurements of radiation dose delivered to patient during an interventional cardiology procedure using a DACS.
ECR 2019, February 27-March 3, 2019, Vienna, Austria (poster + oral presentation)
- 2018 **Guerin L, Carpentier S, Julien T, Battini S, Maaloul F,**
Retour d'expérience sur 5 ans d'exploitation d'un DACS en cardiologie interventionnelle
JFR, 12-15 octobre 2018, Paris, France (poster)
- 2018 **Julien T, Al Masri A, Guerin L, Battini S, Maaloul F,**
Comparaison du calcul de dose à l'organe en scanographie
57th Scientific Days of the SFPM, June, 13-15, 2018, Toulouse, France (poster)
- 2018 **Faitot F, Battini S, Ruhland E, Addeo P, Bachellier P, Namer IJ,**
Metabolic profiling of fatal liver failure after hepatectomy value of extemporaneous HRMAS-NMR metabolomics.
13th World Congress of the International Hepato-Pancreato-Biliary Association, September 4-7, 2018, Geneva, Switzerland (e-poster)
- 2018 **Julien T, Carpentier S, Guerin L, Battini S, Maaloul F,**
Retour d'expérience sur 5 ans d'exploitation d'un DACS en cardiologie interventionnelle
57th Scientific Days of the SFPM, June, 13-15, 2018, Toulouse, France (poster)
- 2018 **Maaloul F, Al Masri A, Guerin L, Battini S, Julien T,**
Calculation of organ doses for computed tomography: a software comparison.
5th European IRPA Congress, June 4-8, 2018, The Hague, The Netherlands (poster)
- 2017 **Battini S,**
Chirurgie guidee par la metabolomique dans l'adenocarcinome du pancreas
5th Scientific Days of the FMTS (Translational Medicine Federation of Strasbourg), April, 27-28, 2017, Strasbourg, France (oral presentation)
Prize of «Best Oral Presentation (Biomaterials - Imaging - Robotics)»
- 2016 **Faitot F, Battini S, Ruhland E, Besch C, Addeo P, Bachellier P, Namer IJ,**
Extemporaneous HRMAS NMR metabolic profiling of back-table liver grafts predicts early graft dysfunction
Scientific Meeting of the America, Association for Study of Liver Diseases, The liver Meeting, November, 11-14, 2016, Boston, USA (poster)
- 2016 **Hescot C, Lhomme M, DuBow Amazit L, Travers S, Battini S, Namer IJ, Lombes A, Kontush A, Imperiale A, Baudin E, Lombes M,**
Les approches lipidomiques et metabolomiques identifient les MAM (mitochondria-associated membranes) comme cible du mitotane
33rd French Conference of Endocrinology, October, 5-8, 2016, Bordeaux, France (oral presentation)
- 2016 **Battini S, Imperiale A, Taïeb D, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
Metabolomics distinguishes long-term survival from short-term survival in patients with pancreatic adenocarcinoma
Pancreas 2016, International Symposium on Pancreatic Cancer, June, 9-12, 2016, Glasgow, Scotland (poster)
Prize of «Best Student / Trainee»
- 2015 **Battini S, Imperiale A, Taïeb D, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
Metabolomic profiling by HRMAS NMR spectroscopy in hyperparathyroidism
ISMRM 23rd annual meeting, May 29-June 6, 2015, Toronto, Canada (pitch + e-poster 0426)
ISMRM merit awards 2015 «magna cum laude»

- 2015 **Imperiaile A, Battini S, Roche P, Moussallieh FM, Çiçek AE, Sebag F, Brunaud L, Barlier A, Elbayed K, Loundou A, Bachellier P, Goichot B, Stratakis CA, Pacak K, Taïeb D, Namer IJ,**
 Metabolomic assessment of succinate dehydrogenase (SDH) dysfunction pheochromocytomas and paragangliomas by ^1H -HRMAS spectroscopy: clinical and pathophysiological implications
 ISMRM 23rd annual meeting, May 29-June 6, 2015, Toronto, Canada (pitch + e-poster 0427)
ISMRM merit awards 2015 «magna cum laude»
- 2015 **Battini S, Imperiale A, Taïeb D, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
 Metabolomic Profiling by HRMAS NMR spectroscopy in hyperparathyroidism
 EuCC 22nd annual meeting, May, 22, 2015, Freiburg, Allemagne (poster)
- 2015 **Battini S, Imperiale A, Elbayed K, Averous G, Bachellier P, Namer IJ,**
 Study of the pancreatic adenocarcinoma's metabolomic profile by HRMAS NMR spectroscopy
 9th Forum of « Canceropôle du Grand-Est », November, 12-13, 2015, Strasbourg, France (poster)
- 2015 **Battini S, Imperiale A, Taïeb D, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
 etude de l'hypersecretion des glandes parathyroïdes par spectroscopie RMN HRMAS
 8th Forum of «Canceropôle du Grand-Est», October, 18-19, 2015, Strasbourg, France (poster)
- 2015 **Battini S, Imperiale A, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
 Metabolomic profiling by HRMAS NMR spectroscopy in parathyroid disorders
 Oncotrans 2015, June, 25-26, 2015, Dijon, France (poster)
- 2015 **Imperiaile A, Battini S, Roche P, Moussallieh FM, Çiçek AE, Sebag F, Brunaud L, Barlier A, Elbayed K, Loundou A, Bachellier P, Goichot B, A Stratakis CA, Pacak K, Taïeb D, Namer IJ ,**
 HRMAS NMR metabolomics in pheochromocytomas and paragangliomas
 Oncotrans 2015, June, 25-26, 2015, Dijon, France (poster)
- 2015 **Battini S, Imperiale A, Elbayed K, Averous G, Bachellier P, Namer IJ,**
 Metabolomic profiling by HRMAS NMR spectroscopy in pancreatic adenocarcinoma
 Oncotrans 2015, June, 25-26, 2015, Dijon, France (poster)
- 2015 **Battini S, Imperiale A, Taïeb D, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
 etude du profil metabolomique par spectroscopie RMN HRMAS dans l'hyperparathyroïdie
 Imaging, robotics, remote sensing and biomedical department days, June, 18, 2014, Strasbourg, France (pitch + poster)
- 2015 **Battini S, Imperiale A, Taïeb D, Elbayed K, Sebag F, Brunaud L, Namer IJ,**
 Metabolomic profiling by HRMAS NMR spectroscopy in hyperparathyroidism
 1st CPBI (Integrative Biology and Physiology meeting), May, 4-6, 2015, Strasbourg, France (poster)
- 2013 **Battini S, Taïeb D, Barbolosi D,**
 etude du raffinement de la caracterisation de l'évolution tumorale par imagerie TEP
 51th French Conference of Nuclear Medicine, May, 24-27, 2013, Rouen, France (oral presentation)
- 2012 **Battini S, Taïeb D, Barbolosi D,**
 etude du raffinement de la caracterisation de l'évolution tumorale par imagerie TEP
 14^{emes} 2012-Clinical onco-pharmacology group days (GPCO, 14th meeting), November, 15-16, 2012, Paris, France, (oral presentation + poster)
Prize of «Young Research GPCO 2012»
- 2012 **Battini S, Taïeb D, Barbolosi D,**
 etude du raffinement de la caracterisation de l'évolution tumorale par imagerie TEP
 2012-Pharmacokinetic and Metabolism group days), October, 18-19, 2012, Paris, France (poster)

Workshops

- 2025 **Teachers: Cécile Lebrand, Vassilios Ioannidis, Battini S, Julien Dénéréaz, Clara Heiman, Céline Racine,**
 From Bench to FAIR Data: Practical Approaches to Research Data Management in Life Science and Clinical Research
 DSBU Workshop, University of Lausanne (UNIL), Switzerland (Upcoming 2-day workshop), November 27-December 4
- 2023 **Battini S,**
 Neuro-Glia-Vasculature Modeling
 Visit of Trondheim University group, Norway, Campus Biotech, Geneva, Switzerland (oral presentation)

- 2022 **Battini S**,
My journey towards what I am doing at Blue Brain Project: presentation of my background and career path. How to sensitize young people to careers in STEM (Science, Technology, Engineering and Mathematics)
7th Expanding Your Horizons, Biennial Science Event, November, 12, 2022, University of Geneva, Geneva (oral presentation, discussion in mentoring space)
- 2022 **Battini S**,
Cells in the mouse brain
Dare All Careers Day, Campus Biotech, Geneva, Switzerland (oral presentation)
- 2015 **Battini S, Namer IJ**,
Metabolomics by Nuclear Magnetic Resonance (NMR) in biomedical research
Metabolomics Workshop, October, 29, 2015, IGBMC, Illkirch (oral presentation)

Prizes

- 2018 **Thesis prize**,
Society of Biology of Strasbourg, Strasbourg, France
- 2017 **Best Oral Presentation, Biomaterials - Imaging - Robotics session**,
5th Scientific Days of the FMTS (Translational Medicine Federation Of Strasbourg), Strasbourg, France
- 2016 **Best Student / Trainee**,
International symposium on pancreatic cancer, Pancreas 2016, Glasgow, Scotland
- 2015 **ISMRM merit award 2015 «magna cum laude»**,
International conference, ISMRM 2015, Toronto, Canada
- 2012 **Young Researcher GPCO 2012**,
2012-Clinical onco-pharmacology group days (GPCO, 14th meeting), Paris, France

Trainee supervision

- 2021-2022 **Thomas Keany, Bachelor Project (B.Sc. Hons Mathematics)**, Swiss Federal Institute of Technology (EPFL), Blue Brain Project, Geneva, Switzerland
○ Supervised the creation of a Python package for repairing graphs with a topological metric.
○ Guided research to identify biological biases in graph-based data analysis.
- 2020 **Africa Santos Planet, Final Master Project (M.Sc. in Computational and Mathematical Engineering)**, Swiss Federal Institute of Technology (EPFL), Blue Brain Project, Geneva, Switzerland
○ Supervised the development of a toy model coupling endfeet stimulation, cerebral vasculature, and electrophysiology-metabolism.
○ Provided technical and conceptual guidance to integrate multiple computational approaches.
- 2019 **Arben Miftari, Bachelor Project (B.Sc. in Life Sciences Engineering)**, Swiss Federal Institute of Technology (EPFL), Blue Brain Project, Geneva, Switzerland
○ Mentored a project focused on the modulation of blood flow by astrocytic endfeet in a toy model.
○ Assisted in implementing and validating computational simulations.
- 2015 **Sinan Orkut, Final Training Course (M.Sc. in Medicine and Sciences, 1st year)**, ICube Laboratory, IMIS Team, Strasbourg, France
○ Supervised a project on the metabolomics of mice with Down syndrome.
○ Guided the use of HRMAS NMR spectroscopy to analyze metabolic changes.

Certifications

- 2024 **Agile Project Management (AgilePM®) Foundation (APMG international)**,
Completion date: 09/30/2024 - Expiration date: NA - Credential ID: 09977517-01-875D
- 2023 **Good Clinical Practice (U.S. FDA Focus), GCP for Clinical Trials with Investigational Drugs and Medical Devices (CITI program)**,
Completion date: 10/09/2023 - Expiration date: 10/09/2026 - Credential ID: 55359071

Interests

Traveling, sport (trekking, spelunking in limestone and ice caves, snowshoeing), cooking, reading, listening to music