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https://smheart.eu/?p=1637

Education

04/2022 – Present	**Ph.D. in Cardiovascular Imaging** – University of Lausanne, Switzerland Supervisor: Prof. Aurélien Bustin, Prof. Matthias Stuber
04/2020 – 03/2022	**Ph.D. in Health Sciences and Thechnology** – ETH Zürich, Switzerland Supervisor: Prof. Stanisa Raspopovic, PD Dr. med. Björn Zörner
09/2018 - 03/2020	**Master in Physics** – ETH Zürich, Switzerland
09/2015 - 06/2018	**Bachelor in Physics** – University of Fribourg, Switzerland
09/2014 - 08/2015	**1st year of Bachelor in Earth Sciences** - University of Fribourg, Switzerland
08/2008 - 06/2014	**Baccalaureate** – Lycée-Collège de l'Abbaye de St-Maurice, Switzerland Specialization: Physics & Applied Mathematics

Certificates

04/2021	**Good Clinical Practice (GCP) module 3** – CHUV, Lausanne, Switzerland
09/2020	**Good Clinical Practice (GCP) module 1 + module 2** – USZ, Zürich, Switzerland
10/2019 - 01/2020	**Machine Learning** – Stanford University online course, Coursera Verify at: https://www.coursera.org/account/accomplishments/certificate/7VNB4QVHGQ3Q

Experiences

10/2024 – Present	**Peer-reviewer** for the European Heart Journal
10/2024 – Present	**Peer-reviewer** for the Echocardiography Jounral
10/2024 – Present	**Member** of the Early Career Committee fo the Society for Magnetic Resonance Angiography (SMRA) - https://society4mra.org/
04/2022 – Present	**Ph.D. in Cardiovascular Imaging** – CHUV-UNIL Translational Magnetic Resonance Research Center, Lausanne, Switzerland - https://wp.unil.ch/cvmr/ Skills: Translational projects, MRI physics, Development of MRI sequences in C++, MRI experiments with phantoms, animals, volunteers and patients at 1.5T, data analysis, statistical analysis, scientific writing, oral presentations in worldwide conferences, international collaborations (Liryc Bordeaux France, Tübingen Germany, Northwestern USA, Michigan USA)
04/2020 – 03/2022	**Ph.D. in Neurosciences** – Spinal Cord Injury Center, Balgrist University Hospital, Switzerland

Skills: Neuroscience, neurorehabilitation, motion analysis of locomotor function with Vicon Nexus, development of patient-specific rehabilitation therapies with algorithms based on gait parameters, use of artificial intelligence to better understand patient outcomes, patient management, magnetic resonance imaging and spectroscopy in brain and spinal cord at 3T.

09/2019 - 03/2020 **Master Thesis** – Centre for Proton Therapy, Paul Scherrer Institute (PSI), Switzerland
Supervisor: Prof. Tony Lomax, Dr. Jan Hrbacek, Dr. Miriam Krieger

Skills: radiation therapy, treatment planning, motion management.

04/2019 - 04/2019 **Master semester Project** – Division of Medical Radiation Physics at Inselspital, Switzerland
Supervisor: Prof. Marco F. M. Stampanoni, Prof. Peter Manser, Prof. Michael Fix

08/2018 - 04/2020 **Content Manager** – HumanTech Institute, HEIA-FR, Switzerland

09/2017 - 06/2018 **Teaching assistant** for the physics laboratories – University of Fribourg, Switzerland
Supervisor: Dr. Trappe

05/2016 - 04/2020 **Private Teacher** – "Breaking smart" (Breaking smart is a web platform to help students)

08/2015 - 06/2018 **Receptionist** – BCU Fribourg, Switzerland

01/2012 - 04/2020 **Private Teacher** – Help students in physics and mathematics

Contest, Awards, and more

- **Travel Award** – ISMRM 2025, Honolulu, Hawaii, USA
- **Travel Award** – SCMR 2025, Washington DC, USA
- **Travel Award** – ISMRM 2024, Singapore
- **Travel Award** – ISMRM 2023, Toronto, Canada
- **Best science pitch** – Association of Doctoral Students and Assistants in Science, 2023 - Organised by: University of Lausanne, Switzerland
- **Innosuisse Business Concept** 2023, EPFL Innovation Park, Lausanne. Six-month course providing practical tools and knowledge to transform scientific ideas into a strong business project. **First prize** for the best business plan.
- **Ma thèse en 180 secondes**, 2023, Université de Lausanne. https://www.youtube.com/watch?app=desktop&v=WplK5VfKJ_U
- **Ma thèse en 180 secondes**, 2022, Prix ANCRE 2022, IHU Liryc.
- **Best science pitch** – Open Innovation in Life Sciences, 2021- Organised by: ETH Zürich, University of Zürich, Life Science Zürich, University Hospital of Zürich.
- Since 2022, with Aurélien Bustin, we organize the **Cardiac Imaging Workshop** every year in Bordeaux (~50 attendees).

Associative

10/2024 – Present	Member of the Early Career Committee fo the Society for Magnetic Resonance Angiography (SMRA) - https://society4mra.org/
01/2018 - 09/2018	President - “Physics/Mathematics student organization” at the University of Fribourg
09/2017 - 01/2018	Vice-President - “Physics/Mathematics student organization” at the University of Fribourg
09/2015 - 09/2017	Treasurer - “Physics/Mathematics student organization” at the University of Fribourg

Languages

French:	Native language
English:	Fluent – working proficiency
German:	School knowledge

Software skills

MATLAB, Python, R, C++

Machine learning in Python (sklearn, scikit-learn)

Statistics in R

IDEA Siemens (MRI sequence programming) in C++, ICE Siemens (MRI image reconstruction) in C++

LaTeX / Excel / Word / Power Point

macOS, Windows, Linux

Publications

[8] Schading-Sassenhausen S, Lebret A, Şimşek K, Gut P, Imhof S, Zörner B, et al. Spinal cord and brain metabolic alterations across the motor system after spinal cord injury: A ^{1}H-MR spectroscopy investigation. Journal of Neurotrauma. Submitted 2024 Dec.

[7] Gut P, Cochet H, Stuber M, Antiochos P, Caluori G, Constantin M, et al. Improved myocardial scar visualization using free-breathing motion-corrected wideband black-blood late gadolinium enhancement imaging in patients with implantable cardiac devices. Diagnostic and Interventional Imaging. 2024. doi: 10.1016/j.diii.2024.12.001.

[6] Bustin A et al. AI-powered SPOT Imaging for Enhanced Myocardial Scar Detection and Quantification. Nature. Submitted 2024 Oct.

[5] Gut P, Cochet H, Stuber M, Bustin A. Magnetic resonance myocardial imaging in patients with implantable cardiac devices: challenges, techniques, and clinical applications. Echocardiography. 2024 Oct 14.

[4] Gut P, Cochet H, Caluori G, El-Hamrani D, Constantin M, Vlachos K, Sridi S, Antiochos P, Schwitter J, Masi A, Sacher F, Jaïs P, Stuber M, Bustin A. Wideband black-blood late gadolinium enhancement imaging for improved myocardial scar assessment in patients with cardiac implantable electronic devices. Magn Reson Med. 2024 Jun 9. doi: 10.1002/mrm.30162.

[3] De Villedon de Naide V, Maes JD, Villegas-Martinez M, Ribal I, Maillot A, Ozenne V, Montier G, Boullé T, Sridi S, Gut P, Küstner T, Stuber M, Cochet H, Bustin A. Fully automated contrast selection of joint bright- and

black-blood late gadolinium enhancement imaging for robust myocardial scar assessment. Magnetic Resonance Imaging. 2024 109:256-263. doi: 10.1016/j.mri.2024.03.035.

[2] Zörner B, Hostettler P, Meyer C, Killeen T, Gut P, Linnebank M, Weller M, Straumann D, Filli L. Prognosis of walking function in multiple sclerosis supported by gait pattern analysis. Mult Scler Relat Disord. 2022 Jul;63:103802. doi: 10.1016/j.msard.2022.103802.

[1] Gut P, Krieger M, Lomax T, Weber DC, Hrbacek J. Combining rescanning and gating for a time-efficient treatment of mobile tumors using pencil beam scanning proton therapy. Radiother Oncol. 2021 Jul;160:82-89. doi: 10.1016/j.radonc.2021.03.041.