

SACHA MEDAER

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EDUCATION & RESEARCH EXPERIENCE

PhD Research

European Organization for Nuclear Research (CERN)

Geneva, Switzerland

2021 – (Feb. 2024)

- **Doctoral Thesis:** *Radiation Induced Effects and Chemistry in Anti-resonant Hollow-core Optical Fibers*

Master degree in Physics

Université de Genève (UNIGE)

Geneva, Switzerland

2021 – (2024)

- 1-year Bachelor complementary study for admission to Master degree
- **Majors:** Cosmology & Astrophysics of Particles
- **Master Project:** **UNIGE Nuclear Physics Department**
Atmospheric Muon Mass & Momentum Detector with Magnets, PMTs, and DAQ System

Master degree in Computational Engineering

Friedrich-Alexander Universität (FAU)

Nuremberg, Germany

2018 – 2020

- **Majors:** Digital Communication & Machine Learning
- **Master Thesis:** **Siemens Healthineers - Artificial Intelligence Group**
Deep Reinforcement Learning for the Planning of Liver Tumor Thermal Ablation

Master degree in Advanced Optical Technologies

Graduate School in Advanced Optical Technologies (SAOT)

Nuremberg, Germany

2017 – 2020

- **Majors:** Computational Optics & Optics in Communication and Information Theory
- **Master Thesis:** **Associated Group of Max Planck Institute for the Science of Light**
Simulation of a Figure-of-eight All-normal-dispersion All-in-fiber Regenerative Hybrid Harmonic Mode-locked Laser
- **Master Project:** **Associated Group of Max Planck Institute for the Science of Light**
Simulation of a Pulse Stretcher concept for Ultrashort Pulse Fiber Laser Systems
- **Internship:** **Cenaero - Simulation Technologies for Aeronautics**
Study of Multiple Correlated Responses in a Surrogate-based Framework

Bachelor degree in Computer Sciences

Université Libre de Bruxelles (ULB)

Brussels, Belgium

2014 – 2017

- **Bachelor Thesis:** **ULB Computer Science Department**
Reduction of the Word Equation Problem for a SAT Resolution

Bachelor degree in Engineering Science

École polytechnique de Bruxelles (EPB)

Brussels, Belgium

2013 – 2017

- **Majors:** Physics Engineering

RESEARCH PAPERS

Near-zero Radiation Induced Attenuation in Nested Anti-resonant Nodeless Hollow-core Fibers at 1550 nm

Optical Fiber Conference

doi 10.1364/OFC.2023.W4D.4

2023

Published

Near-infrared Radiation Induced Attenuation in Nested Anti-resonant Hollow-core Fibres

Optics Letters

doi 10.1364/OL.504167

2023

Accepted

SOFT SKILLS

Problem-solving

Positive attitude

Team-player

Reliable

Resilience

Respectfulness

Communicative

EXTRA-CURRICULAR

- Founder of OPTCOM simulator
- Ambassador of Schola ULB
- Treasurer of the Board of European Students of Technology ULB
- Founder of BADUM music band
- Piano and Saxophone player
- Delegate of Polytechnic Circle ULB
- Volunteer at Oxfam

PROGRAMMING

Python

C++

C

Java

Matlab/Octave

LaTeX

MySQL

PostgreSQL

DAX

PHP/CSS

VBA

ASM

SCPI

SOFTWARE / LIBRARIES

Microsoft Office

FreeCAD/CATIA

LabVIEW

GIMP

Zemax

COMSOL

PyTorch

TensorFlow

Django

LANGUAGES

French

English

German

Dutch

INTERESTS

Open-source

Music

Sports

Travelling

Learning languages

Craft-work

SIDE JOBS

- Pedagogic expert at Libraries Without Borders
- High-school Tutor at Schola ULB
- Teacher (private lessons)
- Waiter & Bartender
- Sales assistant at Van Eyck Solutions (Australia)
- Financial department assistant at Mastercard