Tom Griesler
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EDUCATION

University of Michigan *Expected 2028*
PhD, Biomedical Engineering

Universitaet Wuerzburg *Pending, Thesis submitted July 2023*
Master of Science, Physics

Technische Universitaet Darmstadt *February 2020*
Bachelor of Science, Physics

RESEARCH INTERESTS

Magnetic Resonance Fingerprinting (MRF), Brain Imaging, Abdominal Imaging, Machine Learning

RESEARCH EXPERIENCE

University of Michigan, Department of Biomedical Engineering
Graduate Student Research Assistant *August 2023 – present*
Advisor: Professor Nicole Seiberlich

- Optimize MRF sequences for rapid quantitative abdominal imaging

Universitaet Wuerzburg, Experimental Physics 5
Graduate Researcher *April 2022 – July 2023*
Advisors: Professor Peter Jakob, Dr. Martin Blaimer

- Master's Thesis: Target-dependent Optimization of Magnetic Resonance Fingerprinting Sequences
- Setup of a workflow for planning and performing MRF measurements:
  - Created a Python module to optimize MRF sequences based on the Cramér-Rao bound and other optimization criterions
  - Wrote MRI sequences in PyPulseq
  - Performed phantom and in vivo measurements on a clinical 3T scanner
  - Reconstructed the measured signals
  - Performed dictionary matching to a precomputed database of possible signal evolutions
- Compared different optimization strategies
- Applied the results to determine the myelin-water-fraction in the human brain

Magnetic Resonance and X-Ray Imaging Department, Fraunhofer EZRT
Research Intern *June 2021 - August 2021*
Advisor: Dr. Martin Blaimer

- Performed relaxometric measurements on geological samples with a gradient and radiofrequency insert in the magnetic field of a clinical 1.5T scanner
- Evaluated measurements in Matlab

Technische Universitaet Darmstadt, Institute for Condensed Matter Physics
Undergraduate Researcher *September 2019 - February 2020*
Advisor: Professor Michael Vogel

- Bachelor's Thesis: Design of a PFG NMR Probe and Diffusion Measurements on a Lithium Chloride Solution in Confinement
- Identified improvement possibilities of an existing probe
- Designed components of a new probe in the CAD software "OnShape"
- Assembled the probe (Manual assembly, soldering of the electrical components, adjustment of the electrical oscillating circuit)
- Performed diffusion measurements in an NMR spectrometer
- Evaluated and visualized the results in Python

TEACHING EXPERIENCE

Technische Universitaet Darmstadt

Undergraduate Teaching Assistant — *October 2017 - September 2018*, *October 2019 - March 2020*

- Teaching assistant for *Experimental Physics I & II* for Professor Regine von Klitzing and Professor Norbert Pietralla
- Held weekly exercise sessions
- Held weekly office hours to help students with concepts and homework
- Corrected the weekly homework
- Corrected the final exams

RELEVANT SKILLS

Programming

- Python: several years of experience, extensive knowledge of the standard library and additional packages (Pytorch etc.)
- Matlab: solid knowledge
- Version management with Git: solid knowledge
- Bash scripting (linux): solid knowledge
- Wolfram Mathematica: basic knowledge

Languages

- German: Native
- English: Professional Working Proficiency (TOEFL score 110/120, 2022)
- French: Limited Working Proficiency (CEFR B2)

HONORS AND AWARDS

- Erasmus Exchange Program Student at Grenoble Institute of Technology — *September 2018 - June 2019*