

ISABELLE ZINGHINI
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EDUCATION

Doctor of Philosophy in Medical Physics Medical University of Vienna	Expected 2028
Master of Science in Biomedical Engineering Columbia University in the City of New York; GPA: 4.13/4.00	February 2024
Bachelor of Arts in Physics and Chinese Language and Culture Northwestern University; GPA: 3.56/4.00	June 2019

RESEARCH INTERESTS

Design of magnetic field control hardware for Magnetic Resonance Imaging (MRI)

RESEARCH AND EMPLOYMENT EXPERIENCE

Graduate Research Assistant (PI: Dr. Christoph Juchem) Department of Biomedical Engineering, Columbia University (Sept 2022-Jan 2025) High Field MR Center at Medical University of Vienna (Jan 2025-Present)	September 2022-Present
<ul style="list-style-type: none">• Designed and fabricated a multi-coil prototype for B_0 field control• Integrated multi-coil prototype with clinical Siemens 3T scanner• Developed an algorithm and method for field map-based self-registration of multi-coil hardware	
Design Engineer , World Bicycle Relief	2019-2022
<ul style="list-style-type: none">• Design, model, and analyze critical parts for a newly-patented bicycle gear shifting technology• Develop product test plan and coordinate with test labs in Chicago, Germany, China, and Taiwan• Perform verification tests and tolerance analyses on prototype products	
Undergraduate Independent Researcher (advisor: Dr. Corey Byrnes) Department of Asian Languages and Cultures, Northwestern University	2018-2019
<ul style="list-style-type: none">• Researched and wrote original honors thesis on cultural representations of the rhino horn trade• Analyzed primary sources in English and Chinese	
Research and Translation Intern , The Hearting Foundation (China)	Summer 2017
<ul style="list-style-type: none">• Compiled and translated relevant literature regarding mother-to-child Hepatitis B transmission and vaccine cold-chain technology in the Qinghai-Tibetan Plateau into research reports• Researched impacts of Chinese minority policies on spread of Hepatitis	

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant , Principles of Magnetic Resonance Imaging School of Engineering and Applied Sciences, Columbia University	January-June 2024
<ul style="list-style-type: none">• Create and grade course assessments such as homework and exams• Host office hours and review sessions to help students understand course material	
Graduate Mentor Department of Biomedical Engineering, Columbia University	September 2023-Present
<ul style="list-style-type: none">• Mentor a group of four first-year PhD students in biomedical engineering• Meet at least once a semester to discuss academic and career goals	
Gateway Science Workshop Instructor Department of Physics and Astronomy, Northwestern University	2017-2018
<ul style="list-style-type: none">• Hosted weekly tutoring sessions for students in introductory and advanced Electricity & Magnetism• Created lesson plans to explain challenging concepts	

HONORS AND AWARDS

- Outstanding Achievement in Chinese Language and Culture (Northwestern University)
- Hsu-Wigmore Award for best Asia-focused honors thesis (Northwestern University)
- Sigma Pi Sigma Physics Honors Society induction

GRANTS

Northwestern University Undergraduate Research; “Hepatitis B Vaccination on the Qinghai-Tibetan Plateau”; \$5000; declined due to resurgence of safety concerns for American researchers in Tibetan Plateau

PUBLICATIONS AND PRESENTATIONS

- Zinghini, I., Macleod, I., Ianniello, C., Theilenberg, S., Juchem, C. (May 2024). Field-based spatial self-registration of a 48-channel multi-coil array. ISMRM Annual Meeting, Singapore
- Zinghini, I., Macleod, I., Ianniello, C., Theilenberg, S., Juchem, C. (October, 2023). Field-based spatial self-registration of a 48-channel multi-coil array. Presented at i2i Workshop, New York University, New York.
- Zinghini, I., Ianniello, C., Theilenberg, S., Juchem, C. (February, 2022). Multi-coil shimming: an alternative approach to B_0 homogeneity in magnetic resonance imaging. Presented at Engineering in Medicine Symposium, New York, New York.
- Zinghini, I. (November, 2020). Missing the point: China, Chineseness, and rhinoceros endangerment. *Northwestern Undergraduate Research Journal*, 15 (1), 151-159.
- Holcombe, R., Cortese, M., **Zinghini, I.**, Mahida, R., Draluk, D., Meng, R., Winkel, G. (2017). Development of an oncology-specific instrument to measure care coordination. *Journal of Clinical Oncology*, 35 (8), 148.

RELEVANT SKILLS

Programming: MATLAB, Python, R, LaTeX

Engineering: Solidworks, OnShape, 3D Printing, Tolerance Analysis, Siemens Prisma scanner operation

Machining: lathe, mill, CNC, TIG welding, soldering, laser cutting

Languages: English (native speaker), Chinese (proficient), German (A1)