

Goestchel Quentin

🌐 [qgoestch.github.io/qgoestch//](https://qgoestch.github.io/qgoestch/)

My PhD defense is scheduled for October 2023, and I am currently seeking a post-doctoral research opportunity in applied environmental acoustics. I am interested in utilizing numerical methods as tools to enhance our understanding of the interactions between sound and biodiversity.

Education

- **Joint Research Unit in Environmental Acoustics (UMRAE)** **Strasbourg, France**
PhD degree in acoustics (candidate) [scheduled] Oct, 2023
Acoustic propagation in forest environments. Numerical study for environmental applications:
 - Theoretical study on the Transmission Line Matrix Method for modeling long-range forest scenarios.
 - Updating, improving and maintaining a code architecture in Python and OpenCL (C99).
 - Collaboration with bioacousticians (MNHN) for in-situ data.
 - Supervision of an intern in computer science.Supervisors: Gwenaël Guillaume, David Ecotière, Benoit Gauvreau
- **Sorbonne Université** **Paris, France**
Master's degree in physical acoustics, Joint with ENSPS Oct, 2020
Graduated with highest honors.
- **Ecole Normale Supérieure Paris-Saclay (ENSPS)** **Cachan, France**
Master's degree of Ecole Normale supérieure Paris-Saclay Oct, 2020
Multidisciplinary 'Grande Ecole', specialization in engineering and research.
- **Lycée Eugène Livet** **Nantes, France**
Preparatory classes for engineering colleges Jul, 2015
Two-year undergraduate intensive course in Physics and Technology.
- **Lycée Aristide Briand** **St-Nazaire, France**
High School Diploma with a major in physics. Graduated with highest honors. Sep, 2013

Experience

- **Strasbourg University** **Strasbourg, France**
Computer science teacher (Lectures, tutorials and practical work) Oct, 2022 - Feb, 2023
- **Joint Research Unit in Environmental Acoustics (UMRAE)** **Strasbourg, France**
Trainee researcher Mar, 2020 - Jul, 2020
Numerical modeling of acoustic propagation over a forest floor using the TLM approach.
- **Eindhoven University of Technology (TU/e)** **Eindhoven, Netherlands**
Trainee researcher, supervisor: Maarten Hornikx Sep, 2017 - Jun, 2018
 - Applicability of the sound diffusion equation for acoustic simulations on 3D urban models.
 - Development of a finite volume method Matlab code for irregular tetrahedral meshes.
- **CERN, the European Organization for Nuclear Research** **Geneva, Switzerland**
Trainee engineer Apr - Jun, 2017
Modeling the noise impact of the LHC expansion (HL-LHC) with an engineering software.

Special skills

- **Languages:** French as mother-tongue, fluent in English (Cambridge Advanced C1), proficient in Spanish
 - **Programming languages:** Python, C99 (OpenCL), Zsh, Bash, Matlab
 - **Documents rendering languages:** \LaTeX , Markdown
 - **Softwares:** FreeCAD, Solidworks, Slurm Workload Manager, Git, Inkscape
- Driving License

Extracurricular activities

- mountaineering, climbing, hiking, backcountry skiing, alpine skiing, sailing, bass guitar

National Scientific Communications

- **Technical days on acoustics and vibration** **Aix-en-Provence, France**
Virtual Jun, 2023
Oral presentation 'Propriétés du modèle TLM pour la propagation du son à l'extérieur : Effets de dispersion numérique'
- **Engineering Sciences Doctoral School Congress** **Vannes, France**
In-person Jun, 2022
Oral presentation 'Acoustic propagation in forest environments. Numerical study for environmental applications'
- **16th French Acoustics Society Congress** **Marseille, France**
In-person Feb, 2022
Oral presentation 'Stability analysis of TLM model for sound propagation in outdoor environment'
- **'Doctoriales' Planning, Mobility and Environment** **Le Croisic, France**
In-person Oct, 2021
Poster 'Acoustic propagation in forest environments. Numerical study for environmental applications'

International Scientific Communications

- **10th Forum Acousticum** **Torino, Italy**
Scheduled, in-person Sep, 2023
Oral presentation 'Transmission Line Matrix Method for sound propagation modelling In forests: comparison with in-situ measurements'
- **24th International Congress On Acoustics** **Gyeongju, South Korea**
Virtual Oct, 2022
Oral presentation 'Properties of the transmission line matrix model for outdoor sound propagation: Numerical dispersion effects'

Publications

Q. Goestchel. *Acoustic Propagation in Forest Environments. Numerical Study for Anthropogenic and Ecological Applications*. [forthcoming]. PhD thesis, 2023.

Q. Goestchel, G. Guillaume, D. Ecotière, and B. Gauvreau. Transmission Line Matrix Model: Numerical Dispersion Effects on Simulated Specular Reflection [under submission process]. (4398222), March 2023.

Q. Goestchel, G. Guillaume, David Ecotiere, and B. Gauvreau. Properties of the transmission line matrix model for outdoor sound propagation: Numerical dispersion effects. In *International Congress on Acoustics*, October 2022.

Q. Goestchel, G. Guillaume, D. Ecotière, and B. Gauvreau. Analysis of the numerical properties of the transmission line matrix model for outdoor sound propagation. *Journal of Sound and Vibration*, page 116974, August 2022.

E. Walther and Q. Goestchel. The P.E.T. comfort index: Questioning the model. *Building and Environment*, 137C:1–10, June 2018.