Simone Nati Poltri — *Curriculum Vitæ*

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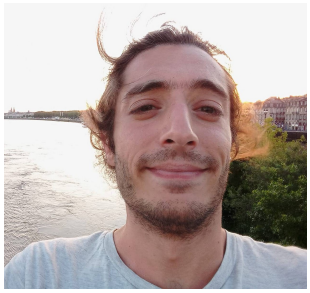
https://simonenatipoltri.github.io



RESEARCH EXPERIENCE

Université Côte d'Azur, Nice, France. *January 2025 - present*
Post-Doc : Poisson-Nernst-Planck coupling and application to the neruon membrane.
Supervisors : C. Guerrier, S. Krell.

Inria, MONC team, Bordeaux, France. *October 2021 - December 2024*
PhD : Mathematical modeling of cardiac tissue response after Pulsed Field Ablation.
Supervisors : A. Collin, C. Poignard.

Inria, MONC team, Bordeaux, France. *May 2021 - August 2021*
Internship : Physical and mathematical modeling of membrane electropermeabilisation.
Supervisor : C. Poignard.

Politecnico di Milano, Milan, Italy. *November 2019 - April 2020*
Master thesis : A high-order discontinuous Galerkin approach to the poro-elasto-acoustic problem.
Supervisors : P. F. Antonietti, I. Mazzieri.

Politecnico di Milano, Milan, Italy. *December 2017*
Bachelor thesis : Numerical implementation of a linear elasticity problem.
Supervisor : E. Miglio.

EDUCATION

Politecnico di Milano, Milan, Italy. *2017 - 2019*
Master of Science in Mathematical Engineering, Computational Science and Engineering.

Politecnico di Milano, Milan, Italy. *2014 - 2017*
Bachelor of Engineering, Mathematical Engineering.

TEACHING EXPERIENCE

ENSMAC-Bordeaux INP, Talence, France. *2023 - 2024*
Practical Python programming for Analysis and Numerical Methods, 12h, L3.

ENSEIRB-MATMECA, Talence, France. *2023 - 2024*
Practical Fortran 90 programming for scientific computing, 44h, L3.

ENSEIRB-MATMECA, Talence, France. *2022 - 2023*
Practical Fortran 90 programming for scientific computing, 44h, L3.

ACADEMIC ACTIVITIES

ENSEIRB-MATMECA and Institut de Mathémathiques de Bordeaux, Talence, France. *December, 2022*
Student-engineer mentoring.

CONTRIBUTIONS

Publications

- Collin, A., Nati Poltri, S., Poignard, C. (2025). Asymptotic Analysis of the Static Bidomain Model for Pulsed Field Cardiac Ablation. Mathematical Methods in the Applied Sciences. Link

- Nati Poltri, S., Caluori, G., Jaïs, P., Collin, A., Poignard, C. (2023, June). Electrocardiology modeling after catheter ablations for atrial fibrillation. In International Conference on Functional Imaging and Modeling of the Heart (pp. 184-

193). Cham : Springer Nature Switzerland.Link

- Antonietti, P. F., Botti, M., Mazzieri, I., Nati Poltri, S. (2022). A high-order discontinuous Galerkin method for the poro-elasto-acoustic problem on polygonal and polyhedral grids. SIAM Journal on Scientific Computing, 44(1), B1-B28. Link.

Codes

- Numerical implementation of the electrocardiology modeling after catheter ablations for atrial fibrillation https://gitlab.inria.fr/snatipol/af-pfa-rfa.

ORAL AND POSTER PRESENTATIONS

- 2025, Paris, France. DTE & AICOMAS 2025. Presentation.
- 2024, Lille, France. Applied Analysis and Modeling : a conference in honor of Olivier Goubet. Presentation.
- 2024, Rome, Italy. 5th world congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental Technologies. Presentation.
- 2024, Le Bois-Plage-en-Ré, Ile de Ré. CANUM 2024. Presentation.
- 2024, Besançon. Journées Numériques de Besançon 2024. Presentation.
- 2023, Marne-la-Vallée. Journées Math Bio Santé 2023. Presentation.
- 2023, Lyon. The 12th International Conference on Functional Imaging and Modeling of the Heart. Poster.
- 2022, Copenhagen. 4th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine and Food & Environmental Technologies. Poster.

SKILLS

Languages

- **Italian** native speaker
- **French** fluent
- **English** fluent
- **Spanish** basic knowledge

IT

- **Languages** `Python`, MATLAB, `C/C++`, `Fortran`, `R`
- **PDE solver** : `FreeFEM++`

INTERESTS

- Sport : climbing, biking, sailing, running, equitation.
- Music : guitar.