

# SIMONE NATI POLTRI – *Curriculum Vitæ*

✉ Laboratoire J.A. Dieudonné (LJAD)  
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🔗 <https://simonenatipoltri.github.io>



## RESEARCH EXPERIENCE

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<b>Université Côte d'Azur</b> , Nice, France.	January 2025 - present
Post-Doc : Poisson-Nernst-Planck coupling, applications to the neuron membrane. Supervisors : C. Guerrier, S. Krell.	
<b>Inria, MONC team</b> , Bordeaux, France.	October 2021 - December 2024
PhD : Mathematical modeling of cardiac tissue response after Pulsed Field Ablation. <a href="#">Link</a> Supervisors : A. Collin, C. Poignard.	
<b>Inria, MONC team</b> , Bordeaux, France.	May 2021 - August 2021
Internship : Physical and mathematical modeling of membrane electroporation. Supervisor : C. Poignard.	
<b>Politecnico di Milano</b> , 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.	
<b>Politecnico di Milano</b> , Milan, Italy.	December 2017
Bachelor thesis : Numerical implementation of a linear elasticity problem. Supervisor : E. Miglio.	

## EDUCATION

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<b>Politecnico di Milano</b> , Milan, Italy.	2017 - 2019
Master of Science in Mathematical Engineering, Computational Science and Engineering.	
<b>Politecnico di Milano</b> , Milan, Italy.	2014 - 2017
Bachelor of Engineering, Mathematical Engineering.	

## TEACHING EXPERIENCE

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<b>ENSMAC-Bordeaux INP</b> , Talence, France.	2023 - 2024
Practical Python programming for Analysis and Numerical Methods, 12h, L3.	
<b>ENSEIRB-MATMECA</b> , Talence, France.	2023 - 2024
Practical Fortran 90 programming for scientific computing, 44h, L3.	
<b>ENSEIRB-MATMECA</b> , Talence, France.	2022 - 2023
Practical Fortran 90 programming for scientific computing, 44h, L3.	

## ACADEMIC ACTIVITIES

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<b>ENSEIRB-MATMECA and Institut de Mathématiques de Bordeaux</b> , Talence, France.	December, 2022
Student-engineer mentoring.	

## CONTRIBUTIONS

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### 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). Electrocardiology modeling after catheter ablations for atrial fibrillation. In *International Conference on Functional Imaging and Modeling of the Heart* (pp. 184-193). Cham :

- 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/snatiopol/af-pfa-rfa>.

## ORAL AND POSTER PRESENTATIONS

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- 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

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### Languages

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

### IT

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