

Ariel Surya Boiardi

Curriculum Vitae et Studiorum

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Education

2021–present **Ph.D. course in Mathematical Analysis, Modelling, and Applications**, *SISSA, International School for Advanced Studies, Trieste*.

During the past first year at SISSA I had the opportunity to deepen my knowledge in Mathematics following courses and seminars, and to explore new subjects, such as Continuum Mechanics and Neural Networks.

2019–2021 **Master of Science in Mathematics**, *Università degli studi di Parma*, full honors.

I focused on modelling and numerical aspects of mathematics. Some notable personal choices of elective courses are Numerical methods for differential and integral equations (mainly FDM, FEM and BEM), Kinetic Theory (introduction to the kinetic approach) and Complex systems (themes of non-equilibrium statistical Physics).

2015–2019 **Bachelor of Science in Mathematics**, *Università degli studi di Parma*, 106/110.

2010–2015 **Maturità classica**, *Liceo L. Ariosto, Reggio Emilia*, 100/100.

Master's thesis

title **The Energetic Boundary Element Method in the Isogeometric Analysis paradigm.**

supervisor Prof. A. Aimi

Bachelor's thesis

title **Adaptive finite element method for advection-diffusion problems.**

supervisors Prof. M. Diligenti and Prof. A. Aimi

Schools

July 2020 **Transport and Fluids**, *Scuola Matematica Interuniversitaria, Cortona*.

lecturers Prof. P. Marcati and Prof. S. Bianchini

July 2022 **Geometric Deep Learning**, *First Italian School, Pescara*.

lecturers Prof. M. Bronstein, C. Bodnar, F. Di Giovanni, P. de Haan, M. Weiler

Experience

2021 **Tutor for the course of Numerical Calculus**, *Bachelor programme in Computer Science, Università degli Studi di Parma*.

I prepared guided exercises (some are available on my personal web page) for the students.

2020 **Tutor for the course of Numerical Analysis**, *Bachelor programme in Mathematics, Università degli Studi di Parma*.

I provided tutoring for the lab classes of the Numerical Analysis course (Prof. Alessandra Aimi).

Miscellaneous

- 2014 **Library assistant**, *Biblioteca Rosta Nuova*, Reggio Emilia.
As part of a school project, I was Library Assistant in a local public library for two months.
- 2010–2015 **Electronics repair**, Reggio Emilia.
During my high school years I had a little "business" of electronics repair.

Languages

- Italian native language
English proficient
German basic (learning)

Computer skills

- Operating systems I am a knowledgeable user of all major operating systems; I do most of my daily work on Fedora Linux.
- \LaTeX I greatly enjoy typesetting my papers in \LaTeX .
- Scientific computing I know quite well the MATLAB® language and environment; I also recently had the chance to use Python, in particular the SciPy ecosystem for Numerical Analysis and PyTorch for some experiments with Neural Networks. All the codes for my master thesis were developed in Fortran90 and I know some basics of C++.
- CAD/CAE I am learning Solidworks® and Fusion360™.

Publications

- [1] A. Aimi and A. S. Boiardi. "IGA-Energetic BEM: An Effective Tool for the Numerical Solution of Wave Propagation Problems in Space-Time Domain". In: *Mathematics* 10.3 (2022). DOI: 10.3390/math10030334.