

EDUCATION

Politecnico di Milano

Master Degree | 2024 - present

Environmental and land planning engineering,
Land Protection and Prevention from Natural Risks

Bachelor Degree | 2021-2024

Environmental and land planning engineering,
graduated in September 2024
Final mark: 104/110

Liceo scientifico statale "F.Severi", Frosinone

Scientific High School Diploma
graduated in June 2021
Final mark: 100 cum laude/100

Exchange semester program

July 2019-December 2019

Lynfield College, Auckland (NZ)
Hosted by a local family

UNIVERSITY PROJECTS

Spatial planning

Masterplan for the Valtellina area (Italy), with requalification of
dismitted areas, realization of co-working spaces. Improvments in the
energy sector. Pilot-project with implementation of the general
strategies highlighted.

Hydrogeological risk

Simulation of peak discharges for selected return periods starting
from real data using different statistical and hydrological methods.
Realization of flood maps, steady-flow analysis of rivers profiles, risk
assessment applied to dam saftey. Use of QGIS, RStudio and HEC-RAS.

Geotechnical cases of study

- Stability and filtration analysis for the Lambro river's levee in the
area of Parco Lambro (Milano) by the means of GeoStudio.
Sensitiviy analysis for the results.
- Axially simmetric consolidation of a clay layer on impervious base.
Time evolution of the settlement at the centre of the loaded area,
evaluation of the influence of the mechanical carateristics of the
layer. Load applied at different time intervals. Analysis by the
means of Abqus/CAE.

Statistic analysis

Descriptive and inferential statistics on real data about oil spills from
ippleines in the US (years 2010-2017). Use of RStudio and ArcGIS.

FRANCESCA DE ROSA

ENVIRONMENTAL ENGINEERING GRADUATE STUDENT

Technical skills

Software proficiency: Microsoft Office,
ArcGIS, QGIS, Abaqus/CAE, GeoStudio,
HEC-RAS, Groundwater, Vistas.

Coding languages: C, MATLAB, SQL

Data analysis tools: Excel, R

Language skills

Italian (Native), English (C1)

INTERESTS

- power generation systems
- environmental economy
- traveling and learning about new cultures
- attending courses and workshops in scientific
field

EDUCATIONAL ACTIVITIES

Water and food security, scientific paper

Water conservation/restriction policy on agricultural production: The case of Po River.

Groundwater and river applied modelling

Case of study: Basento river (South of Italy).

Analysis of the interaction between groundwater and superficial water bodies. Hydraulic simulations by the means of HEC-RAS. Groundwater conceptual model and transport simulation by the means of Groundwater Vistas 9 (ModFlow 2005).

Open participation teaching activities offered by Politecnico di Milano to develop social and soft skills (Passion In Action).

- 2025- Building the future: management, innovation and sustainability in big construction sites for infrastructures.
- 2023- Raccontare la scienza (how to communicate science).
- 2022 Soil, the most invisible and precious ecosystem.

PoliMi Open Knowledge

MOOCs (Massive Online Open Courses) to bridge the gap. Upon completion of the MOOCs, a certificate is issued, either as an Open Badge or a Certificate of accomplishment

- 2025- Ethics of Artificial Intelligence.
- 2025- Sustainable farm design in developing Countries.

Strategies for environmental challenges (2024)

Simulation of the environmental decision-making process. Interaction between different stakeholders.

Case of study: Seveso-Lambro-Olona rivers system. Masterplan for the entire area, pilot-project in a selected location with implementation of nature-based engineering solutions.

Buddy project (2022-2023)

Assistance to international students in the phase prior their arrival and over their first period in Milan and at Politecnico. Acquired skills: time management, organisational ability, teamwork, flexibility and adaption, communication capacity and problem solving.

PoliCollege: Game theory (2021)

Summer school held online for high school students by Politecnico di Milano.

Erasmus Plus- KA2 (October 2018)

Uhtna Pohikool, Rakvere Parish, Estonia
Hosted by local a family

Summer School of Astronomy (2017)

Training Program for the Astronomy Olympiad, held by 'Società Astronomica Italiana' (SAI) and 'Istituto Nazionale di Astrofisica' (INAF)

English courses (15 days learning period)

- 2022- IH Cape Town - English School, CAPE TOWN - SOUTH AFRICA;
- 2018- Keiser University, WEST PALM BEACH - US;
- 2017- UNIVERSITY OF KENT AT CANTERBURY, CANTERBURY - UK