

Elena Mongelli

Sustainable Energy Engineer

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Education

- 01/2019 – 05/2019 **CEE 222A/B "AEC Global Teamwork" at Stanford University, Stanford - California**
Comprehensive team project focusing on design and construction of a university building
(<https://explorecourses.stanford.edu/search?q=cee+222a&view=catalog&page=0&academicYear=&filter-academiclevel-GR=on&collapse=%2C2%2C7%2C&filter-coursestatus-Active=on>).
- 09/2018 – **M.Sc. in Sustainable Energy Engineering at DTU, Lyngby - Denmark**
Focus on: CFD, building simulations, MEP, system energy analysis
- 09/2014 – 02/2018 **B.Sc. in Energy Engineering at Politecnico di Milano, Milan - Italy**
Focus on: fluid and thermo dynamics, fluid machinery design, numerical methods.
Final project: *Bench test of a micro Pelton turbine*
- 09/2012 – 06/2013 **Maitland Grossmann High School , New South Wales - Australia**
Exchange high school year.
- 09/2009 – 07/2014 **Scientific high school, Vigevano - Italy**
Main subjects: *Math, IT and physics*

Work Experience

- 09/2019 – **Mechanical/Electrical/Plumbing (MEP) Engineer Mentor - Stanford University**
I am assisting in "CEE 222A: Computer Integrated Architecture/Engineering/Construction (AEC) Global Teamwork".
- 03/2018 – 08/2018 **Energy analysis engineer at Studio 2000, Bari, Italy**
Contribution to the implementation of technical solutions regarding energy savings aspect to building renovation. I used Revit-MEP to model HVAC systems, ANSYS to analyse indoor ventilation and investigate for natural ventilation and IDA-ICE to perform indoor air quality and energy analysis.
- 09/2014 – 02/2018 **Student assistant and private tutoring in Milan, Italy**
I have been assisting different students, from high school to university, in areas related to: maths, physics and IT.

Work Experience (continued)

- 09/2012 - 06/2013 **Student assistant at Grossman Maitland High school, Australia**
I have been assisting Italian high school classes. In particular, I was responsible for speaking and writing assignments as well as lectures regarding Italian culture.

Major Projects

- 09/2019-11/2019 **CFD for buildings - DTU**
Analysis of natural ventilation in an existing family house in Lyngby. I am investigating air-flow and temperature around windows and chimneys, as well as IAQ and thermal comfort. CFD results are then validated by measurements.
- 01/2019-05/2019 **Mechanical/Electrical/Plumbing (MEP) Engineer in "AEC Global Teamwork" - Stanford University**
Design of a university building made with a cross-disciplinary and geographically distributed teamwork. In particular, my role has been to design the HVAC system and to be responsible for the sustainability part. The building has been awarded with LEED gold.
(<http://elenamongelli.com/advancedbuildingdesign/>)
- 08/2019 **Simulation of indoor environment and energy consumption - DTU**
I have been using advanced tools for building performance simulation integrating stochastic models of occupants' behaviour and assessing model validity based on simulation outputs.
(<http://elenamongelli.com/building-performance-simulation/>)

Skills

- Languages **Danish (elementary proficiency), English (full professional proficiency), Italian (native proficiency).**
- Operating Systems **GNU/Linux, macOS, Windows.**
- Programs **Coding: Python, C, C++, Matlab.
Building simulations: IDA-ICE, Revit, ANSYS, Solidworks.
Others: Microsoft Office, L^AT_EX**

Awards

- 04/2017 **NASA Space Apps Challenge 2017 - Milan Winner and Global Award Nominee - NASA**
DEX is a mixed reality peer-reviewed platform for indexing and discovering scientific knowledge. My team and I developed a creative way for the public and scientists alike to learn the definitions of Earth-related scientific and technical terms, using the power of crowdsourcing.
(<https://2017.spaceappschallenge.org/challenges/ideate-and-create/dictionary-earth/teams/dexin>).