

Curriculum Vitae

PERSONAL INFORMATION

Name: Andi Xhelaj

e-mail: andi.xhelaj@edu.unige.it; andixhelaj@hotmail.com

EDUCATION

2018- 2022 - PhD

PhD Civil & Environmental Engineering (*Curriculum: Wind Science and Engineering*) University of Genoa (UniGe), Italy.

Supervisors: Prof. Giovanni Solari & Prof. Massimiliano Burlando

2014-2018 - Master

Civil & Environmental Engineering, University of Genoa (UniGe), Italy

Prof. Giovanni Solari & Prof. Massimiliano Burlando

COURSES

2016-2017

Wind Engineering, Bridge Engineering, Non Linear Structural Mechanics.

HONORS AND AWARDS

October 2018

Graduated Magna Cum Laude

CURRENT POSITION(S)

2022 – present Research Fellow

Analytical modelling of downburst outflow winds. Wind Engineering and Structural Dynamics Research Group (GS – WinDyn).

Civil & Environmental Engineering, University of Genoa (UniGe), Italy

RESEARCH PROJECTS

2018 – 2022

ERC advanced grant 2016: THUNDERR 741273 Detection, Simulation, Modelling and Loading of Thunderstorm Outflows to Design Wind-Safer and Cost-Efficient Structures (participation to the project).

Principal Investigator: Giovanni Solari

Host Institution: University of Genoa (UniGe), Italy.

Timing: 1 September 2017 – 31 August 2022

2022 – 2023.

UNIVERSITY COLLABORATION AGREEMENTS

In September 2022, CTE S.p.A. and the Department of Civil, Chemical and Environmental Engineering (DICCA) of the University of Genoa signed a research agreement aimed at studying the response and fatigue induced on poles by the dynamic action of wind, as well as the mitigation of vibrations. As part of this research, I have been involved in conducting an analysis of the dynamic behaviour of 30-meter high steel lightning rods installed to protect the SA.PE.I. Cable Conversion Station in Latina, operated by Terna. The objective of the study was to identify the source of vibrations that may have led to the propagation of fatigue cracks and to assist in determining effective mitigation measures.

Timing: September 2022 – March 2023

TEACHING ACTIVITIES

2018-2019: Teaching assistant for the course of Probabilistic Methods in Civil and Environmental Engineering at the University of Genoa.

2020 – 2021: Teaching assistant for the course of Structural Mechanics in Naval Engineering at the University of Genoa.

2022 – 2023: Teaching assistant for the course of Probabilistic Methods in Civil and Environmental Engineering at the University of Genoa.

PUBLICATIONS

1- A. Xhelaj, M. Burlando, G. Solari (2019). "*An advanced analytical model for simulating thunderstorm outflows*". Extended Abstract, The International Conference on Wind Engineering (ICWE15), Pechino, Cina.

2 - A. Xhelaj, M. Burlando, G. Solari (2020). "*A general-purpose analytical model for reconstructing the thunderstorm outflows of travelling downbursts immersed in ABL flows*". Journal of Wind Engineering and Industrial Aerodynamics, Volume 207, December 2020, 104373.

3 - A. Xhelaj, Burlando, M., 2022. "*Application of metaheuristic optimization algorithms to evaluate the geometric and kinematic parameters of downbursts*". Advances in Engineering Software. Volume 173, November 2022, 103203.

4 - A. Xhelaj, M. Burlando, 2022. "*Validation of a downburst analytical model through the survey of hail damage on building facades*". In: Proc., 14th Americas Conference on Wind Engineering (ACWE 2022). Lubbock, Texas.

5 - A. Xhelaj, M. Burlando, 2022. "A comparison between two metaheuristic optimization algorithms for downburst simulation". 17th Italian Conference on Wind Engineering (In-Vento 2022), Milano, Italy.

6 - A. Xhelaj, M. Burlando, 2022. "*Simulation of the downburst event that occurred on 25 June 2021 in Sănnicolau Mare, Romania*". 8th European-African Conference on Wind Engineering (EACWE 2022), Bucharest, Romania.

7 - A. Xhelaj, M. Burlando, 2022. "*Downburst Wind Field Simulation using an analytical model and a metaheuristic global optimization technique*". 20th Scientific Convention On Engineering and Architecture, Havana, Cuba.

8 – A. Xhelaj , J. Žužul , F. Canepa , A. Ricci , D. Romanic , M. Burlando, H. Hangan, 2023. "*Comparison between stationary downburst-like impinging jets and analytical models*". Extended Abstract, The International Conference on Wind Engineering (ICWE16), Florence, Italy.

OTHER WORK EXPERIENCE

2006 – 2012

Waiter at Motonautica Ligure (Genoa)

09/2012 – 09/2014

Sales statistics for Ferrero Group (SOREMATEC FONTVILLE S.A.M) in Monaco (Monte Carlo), 7, Rue du Gabian .

PERSONAL SKILLS

Languages

Albanian – Mother tongue

Italian – Mother tongue

English – Professional Working Proficiency

Greek – Elementary Proficiency

Computer Skills

Comfortable with Windows and Linux Operating System, Microsoft Office Package, AutoCAD, ArchiCAD, SAP 2000, CSiBridge, ETABS, LUSAS Civil & Structural, MIDAS Civil, MSC Nastran, Autodesk Robot Structural Analysis Professional, ANSYS, COMSOL Multiphysics, Plaxis 3D, Revit, Scia Engineer, MATLAB.

Driving Licence

B Category