

VITO FRANCIOSO

Ph.D. candidate

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EDUCATION

PURDUE UNIVERSITY - West Lafayette, IN, USA	Fall 2018 - currently
Ph.D. Student - Department of Civil Engineering, Materials Area	<u>GPA: 3.89/4.0</u>
POLITECNICO DI TORINO - Torino, ITALY	12/2017
Master of Construction Engineering	
ERASMUS+/EU PROGRAMME COUNTRIES	9/2016 - 7/2017
Universidade de Coruña - A Coruña, SPAIN	
POLITECNICO DI TORINO - Torino, ITALY	7/2015
Bachelor of Construction Engineering	

AWARDS

- Bilslund Dissertation Fellowship (2021)

The Bilslund Dissertation Fellowship, provides support to outstanding PhD candidates in the final year of doctoral degree completion. Recipients are expected to devote full-time effort to the completion of all requirements necessary to receive their doctoral degree at the conclusion of the fellowship tenure.

- ACPA Concrete Pavement & Materials Science Scholarship (2020)

Scholarship, based on academic merit, for students in the School of Civil Engineering with an interest in concrete pavement and materials science.

- Lyles Teaching Assistantship (Fall 2020)

Assistantship offered to experienced TAs in the Lyles School of Civil Engineering to assist a professor with a course and instruct and coordinate others TAs.

- ACPA Concrete Pavement & Materials Science Scholarship (2019)

JOURNAL PUBLICATIONS

- [1] Francioso V., Moro C., Velay-Lizancos M., "Effect of recycled concrete aggregate (RCA) on mortar's thermal conductivity susceptibility to variation of moisture content and ambient temperature". *Journal of Building Engineering*, Vol. 43, (2021), 103208. <https://doi.org/10.1016/j.jobe.2021.103208>.
- [2] Moro C., Francioso V., Velay-Lizancos M., "Impact of nano-TiO₂ addition on the reduction of net CO₂ emissions of cement pastes after CO₂ curing". *Cement and Concrete Composites*, Vol. 123, (2021), 104160. <https://doi.org/10.1016/j.cemconcomp.2021.104160>
- [3] Francioso V., Moro C., Castillo A., Velay-Lizancos M., "Effect of elevated temperature on flexural behavior and fibers-matrix bonding of recycled PP fiber-reinforced cementitious composite". *Construction and Building Materials*, Vol. 269, (2021), 121243. <https://doi.org/10.1016/j.conbuildmat.2020.121243>
- [4] Moro C., Francioso V., Schragger M., Velay-Lizancos M., "TiO₂ nanoparticles influence on the environmental performance of natural and recycled mortars: A life cycle assessment". *Environ. Impact Assess. Rev.*, Vol. 84, (2020), 106430. <https://doi.org/10.1016/j.eiar.2020.106430>

- [5] Moro C., Francioso V., Velay-Lizancos M., "Nano-TiO₂ effects on high temperature resistance of recycled mortars". Journal of Cleaner Production, Vol. 263, (2020), 121581. <https://doi.org/10.1016/j.jclepro.2020.121581>
- [6] Moro C., El Fil H., Francioso V., Velay-Lizancos M., "Influence of water-to-binder ratio on the optimum percentage of nano-TiO₂ addition in terms of compressive strength of mortars: A laboratory and virtual experimental study based on ANN model". Construction and Building Materials, Vol. 267, (2021), 120960. <https://doi.org/10.1016/j.conbuildmat.2020.120960>
- [7] Francioso V., Moro C., Martinez-Lage I., Velay-Lizancos M., "Curing temperature: A key factor that changes the effect of TiO₂ nanoparticles on mechanical properties, calcium hydroxide formation and pore structure of cement mortars". Cement and Concrete Composites, Vol. 104, (2019), 103374. <https://doi.org/10.1016/j.cemconcomp.2019.103374>
- [8] Moro C., Francioso V., Velay-Lizancos M., "Modification of CO₂ capture and pore structure of hardened cement paste made with nano-TiO₂ addition: influence of water-to-cement ratio and CO₂ exposure age". Construction and Building Materials, Vol. 275, (2021), 122131. <https://doi.org/10.1016/j.conbuildmat.2020.122131>
- [9] Francioso V., Moro C., Jung, N., Velay-Lizancos M., "Effect of recycled aggregates on the environmental performance of mortar panels: From cradle-to-service life in full scale digital building LCA". [In preparation. To be submitted in November, 2021].

TEACHING EXPERIENCE

- Teaching Assistant - Purdue University - School of Mechanical Engineering,** Spring 2021
West Lafayette, IN, USA - ME263 Introduction to Mechanical Engineering Design, Innovation, and Entrepreneurship.
- Teaching Assistant - Purdue University - Lyles School of Civil Engineering,** Spring 2020 and Fall 2020
West Lafayette, IN, USA - CE497 Civil Engineering Materials.

WORK EXPERIENCE

- Graduate Research Assistant - Lyles School of Civil Engineering, West Lafayette, IN, USA** Fall 2018 - **currently**
- Investigating new high-performance sustainable materials;
 - Writing research papers and other publications;
 - Mentoring undergraduate students.
- Visiting Scholar - Purdue University, West Lafayette, IN, USA** 4 - 8/2018
- Investigated how to improve properties and sustainability of mortar and concrete. Performed laboratory testing
 - Collaborated on publications.
- Construction Laboratory - A Coruña, SPAIN** 3 - 6/2017
- Conducted research on the influence of nanomaterials in mortars. Research work was related to study the influence of nanomaterials in cement mortar;
 - Designed sustainable mortars;
 - Developed laboratory skills in Mixing process, MTS machine, Vicat and Curing.

ABSTRACTS, PRESENTATIONS AND POSTERS

Francioso V., Moro C., Velay-Lizancos M., *“Curing temperature: An important factor in the influence of TiO₂ nanoparticles in mortars”*. 1st Annual Civil Engineering Graduate Research Symposium. Lyles School of Civil Engineering, Purdue University [Research Poster Competition 2019].

Castillo A., Francioso V., Moro C., Velay-Lizancos M., *“Effect of elevated temperatures on Recycled PP fiber-reinforced cementitious composites”*, Purdue OUR Scholarship Program 2020. [Awarded with the 2nd place].

Moro C., Francioso V., Velay-Lizancos M., *“Nano-TiO₂ effect on recycled mortar exposed to high temperatures”*. 1st Annual Civil Engineering Graduate Research Symposium. Lyles School of Civil Engineering, Purdue University [Research Poster Competition 2019].

Ikuru A., Francioso V., Moro C., Velay-Lizancos M., *“Effect of biomass ashes on the heat resistance of cement paste in function of curing temperature”*, Purdue Undergraduate Research Conference 2019. [Selected for Oral Presentation and Awarded with the 3rd place].

Schrager M., Francioso V., Kadakia A., Velay-Lizancos M., *“High Performance Mortar with 100% Recycled Aggregate using Titanium Dioxide Nanoparticles”*, SURF Program Research Symposium. West Lafayette IN, USA, August 2018. [Abstract and Poster. Poster received the Award of Excellence Top Research Poster].

SERVICE AND LEADERSHIP

- Former Chair of the Sport, Wellness & Health Committee of Civil Engineering Graduate Advisory Council (CEGSAC) at Purdue University.
- Graduate student volunteer to help undergraduate students on ASCE National Concrete Canoe Competition 2019 and ASCE Materials Competition.
- Volunteer at the event *The International Food Market at One World, One Purdue*. November, 2019.
- Organizer of the *Mental Wellness and Stress Management Workshop* in collaboration with Counseling & Psychological Services (CAPS) at Purdue University. October, 2019.
- Member of Civil Engineering Graduate Advisory Council (CEGSAC) at Purdue University, 2018 - *currently*.

MENTORING EXPERIENCE

Undergraduate Student Mentor, OUR Scholarship Program - Purdue University Fall 2021 - Spring 2022

- Mentoring and leading an undergraduate supported by an OUR scholarship on the research project “Biomass Ash as supplementary cementitious materials: Investigating new by-products for the manufacturing of a more sustainable construction industry”.

Undergraduate Student Mentor, OUR Scholarship Program - Purdue University Fall 2019 - Spring 2020

- Mentoring and leading an undergraduate supported by an OUR scholarship on the research project “Effect of elevated temperatures on Recycled PP fiber-reinforced cementitious composites”.

Undergraduate Student Mentor, Individual Study - Purdue University Summer 2019

- Mentoring an undergraduate student of CE499 (Sustainable Materials) individual study.

Undergraduate Student Mentor, Individual Studies - Purdue University Spring 2019

- Mentoring 3 undergraduate students of CE499 (Sustainable Materials) individual studies.

Undergraduate Student Mentor, OUR Scholarship Program - Purdue University Fall 2018 - Spring 2019

- Mentoring and leading an undergraduate supported by an OUR scholarship on the research project “Effects of biomass ashes on the heat resistance of mortars in function of curing temperature”.

Undergraduate Student Mentor, SURF Program - Purdue University

Summer 2018

- Lead an undergraduate student through a research project (the study was focused on improving cement mortars containing recycled aggregate).

PROFESSIONAL AFFILIATION

- American Concrete Institute (ACI).
- American Society of Civil Engineers (ASCE).
- Italian Professional Engineer.

ADDITIONAL SKILLS

Spoken Languages: Italian (native), English (fluent), Spanish (fluent).

Software Applications & Programming Languages: Microsoft Office, Project, LaTeX, AutoCAD, Revit, Photoshop, Illustrator, JMP, MATLAB, Camtasia, Sap2000, Arduino; C/C++, Java, HTML.