

EIRINI TZIVILOGLOU

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Education

Jan. 13-Sept. 18 **Doctoral studies** *Delft University of Technology, NL*

- PhD thesis title: “Biogenic self-healing mortar: material development and evaluation at lab scale”.
- Research, design and development of self-healing mortars with encapsulated bacteria in lightweight aggregates.
- PhD project funded by European research program (FP7) under the name “HEALCON- the concrete that heals itself”

Sept. 07 – Nov. 09 **Master of Science** *Delft University of Technology, NL*

- Specialization: Cementitious materials- Design of concrete structures
- Master thesis title: “Self-healing in ECC materials with low content of different microfibers and micro-particles”.

Sept.02 – Sept. 07 **Degree in Civil engineering** *University of Patras, GR*

- Specialization: Structural engineering
- Thesis title: “An overview of the Seismic Hazard; Risk and Rehabilitation objectives for Buildings”

Professional experience

Oct. 22 – present **Post-doctoral researcher** *NCSR Demokritos, GR*

Laboratory research on the self-healing capacity of cementitious composites and historic mortars with ceramic capsules, NCSR Demokritos, Greece.

Sep. 21 – Sep. 22 **Post-doctoral researcher** *Aegean University, GR*

Laboratory research within the frame of Institutional Research Infrastructure "Interregional Digital Transformation of the Aegean Archipelago in Culture and Tourism (e-Aegean CulTour)"

- Mechanical response of cementitious materials with carbon nanostructures.
- Electrical response (e.g. electrical conductivity and impedance) of cementitious materials with carbon nanostructures.

Jan. 10 – Sep. 12 **“ERGODOMIKI” Design & Construction Company** *Athens, GR*

- Design and execution of residency buildings.
- Site supervision and project budget estimation.

Oct. 08 – Dec. 08 **“IV-GROEP” Engineering office** *Papendrecht, NL*

Internship program in cooperation with TU Delft

Project: “High-rise Dynamic Tower in Dubai” designed by architect David Fisher.

- Design and calculation of wind loads according Eurocode and Dutch National Standards.
- Design and calculation of different “scenarios” for supporting-connecting the rotating floors to the concrete core of the building.

Laboratory, research experience and collaborations

- **Laboratory experience:**

- Laboratory testing of cementitious materials according to European standard codes,
- ESEM-EDAX and FTIR analyses, stereo-microscopy for the observation and identification of crystalline formations inside the healed cracks,
- Investigation of porosity and pore size distribution via Mercury Intrusion Porosimetry (MIP) in cementitious materials and porous aggregates,
- Use of oxygen micro-sensors for investigation of existence of bacterial activity in biogenic self-healing cementitious materials,

- Designing and development of crack permeability tests in cementitious material for the assessment of healing efficiency in cementitious materials and
- Designing and optimization of methodology/technique to embed biogenic healing agents into lightweight aggregates.
- **Member of the RILEM Technical Committee 253 MCI-Micro-organisms-Cementitious Materials Interactions):**
 - Co-organize and run a round robin test to examine the reproducibility of suggested laboratory methodology to assess the healing efficiency of mortar samples after cracking and healing treatment.
 - Collaboration with Ghent University (B), Bath University (UK), Northumbria University (UK) and IFSTTAR institute (FR).
 - Participation in the writing State-of-the-art report of the committee (to be published in 2019)
- **Lead researcher** of two work packages within **HEALCON project:**
 - Research of non-ureolytic biogenic healing agents and assessment of healing efficiency of mortars at laboratory scale.
 - Close collaboration with consortium members of HEALCON project (i.e. European universities, companies and research institutes).
- **Standardization procedure**
 - Drafting of a standard document indicating a testing protocol for investigating self-healing capacity of mortar specimens.
 - Collaboration with Dutch standardization committee (NEN)

Foreign languages

- English: Level C2 (Proficiency)
- German: Level B1 (Basic knowledge)
- Dutch: Level A2 (Basic knowledge)