



1. Personal details and the date of the CV

- Surname: Hanafi
- First name: Mohamad
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- Date: 3.6.2026

2. About

- Postdoc researcher specializing in carbon-negative and data-driven infrastructure systems. My work focuses on transforming conventional ground engineering into a sustainable and digital discipline by integrating CO₂-sequestering materials, advanced experimental methods, and AI-based predictive modelling.
- I have developed innovative low-emission binders and carbon-negative soil stabilization techniques, supported by over 14 peer-reviewed publications and a patent on CO₂-sequestering construction materials.
- I have experience leading research activities, supervising postgraduate students, and contributing to competitive funding proposals, including national and European programs.

3. Degrees

- [14.02.2023](#), Doctor of Philosophy in Civil Engineering, European University of Lefke, Northern Cyprus TR-10 Mersin, Turkey 99010, E-mail: info@eul.edu.tr
- [04.02.2019](#), Master of Science in Civil Engineering, European University of Lefke, Northern Cyprus TR-10 Mersin, Turkey, 99010, E-mail: info@eul.edu.tr
- [10.07.2016](#), Bachelor of Science in Civil Engineering, European University of Lefke, Northern Cyprus TR-10 Mersin, Turkey, 99010, E-mail: info@eul.edu.tr

4. Other education and expertise

- [25-9-2023 – Current](#), Finnish Language courses (1 – 7), Aalto University, 02150, Espoo, Finland.

- [23.5.2026](#), Calculus for Engineers, The Hong Kong University of Science and Technology, online.
- [13.5.2026](#), IBM AI Engineering, professional certificate by IBM consists of 13 courses. Online.
- [11.2.2026](#), EU research funding and proposal preparation series, Training for coordinated EU proposals. Aalto University, 02150, Espoo, Finland.
- [27.11.2025](#), Python for Scientific Computing, Aalto University, 02150, Espoo, Finland.
- [2.12.2025](#), Data Analysis with R, CSC Training, Keilaranta 14, 02100, Espoo, Finland.

5. Language skills

- English ([C1](#), IELTS)
- Arabic (Native)
- Turkish ([C1](#))
- Finnish ([B1](#))
- French ([B1](#))
- German ([A2](#))

6. Current employment

- [1.8.2023](#) – [present](#), Postdoctoral researcher, Aalto University, 02150, Espoo, Finland.
- Stage of the academic research career: Stage II - Postdoctoral researcher

7. Previous work experience

- [April 2026](#) – [June 2026](#), **Visiting Postdoc Researcher**, Norwegian University of Science and Technology (NTNU), Trondheim, Norway. Conducted collaborative research on engineering thermo-functional sustainable materials for geothermal energy as part of the mobility for my project (DeMiCo).
- [Feb 2022](#) – [May 2023](#), **Full-Stack Developer**, MBL Hightech, Cyprus. Developed software systems and AI-assisted features, strengthening practical skills in data handling, digital workflows, and applied computational problem-solving.
- [July 2020](#) – [February 2022](#), **Research Assistant**, Middle East Technical University, Northern Cyprus Campus, Kalkanli, Guzelyurt, Mersin 10, Türkiye. Led and supervised masters and undergraduate students to deliver research projects and assisted in teaching.
- [January 2017](#) – [May 2020](#), **Teaching Assistant**, European University of Lefke, Lefke, Northern Cyprus TR-10 Mersin, Türkiye. Taught courses and tutorials, demonstrated laboratory experiments for students, and conducted research.

- [Jul 2016 – Feb 2017](#), **Site Engineer**, Lebanese Engineering & Contracting Company (L.E.C), Beirut Governorate, Lebanon. Conducted and modified concrete design and supervised and delivered projects.
- [Nov 2015 – June 2016](#), **Student Assistant**, European University of Lefke, Lefke, Northern Cyprus TR-10 Mersin, Türkiye. Assisted in laboratory sessions and tutorial exercises, enhancing students' understanding of soil classification and compaction.

8. Career breaks

- No career breaks

9. Research funding and grants

- [15 June 2023 – 30 June 2026](#), Business Finland – DeMiCo: Low-carbon Deep Mixing and Compaction (Vähähiilinen syvästabilointi ja -tiivistys).
 - Total budget: €700,000 (Aalto University €615,000; VTT €85,000).
 - Funding type: Co-innovation project under Business Finland Decarbonized Cities programme.
 - Responsible for leading and coordinating all WP1 activities, including experimental design, laboratory carbonation tests, large-scale and field testing, supervision of research assistants, and preparation of deliverables and scientific publications. Contributed to project proposal development and technical coordination.

10. Research output

- Total number of publications: 14
- **Patent** – CO₂ sequestered aggregate and a production method (FI 20247154, IPID3624).

11. Research supervision and leadership experience

- **Official academic supervision:** Advised **9** master's students and **3** PhDs students, in addition to multiple undergraduate students. In my last 2 years of PhD, I was invited to work in Middle East Technical University to train and lead the research team.
- **Project-based research advising:** Led and mentored multiple undergraduate student research groups, providing continuous guidance on research design, methodology, and thesis/report writing.

12. Teaching merits

- Over 6 years of teaching experience.

- Taught and assisted in teaching of courses like: Strength of Materials, Materials Science, Transportation Engineering, Soil Mechanics, Foundation Engineering, Advanced Soil Mechanics, Advanced Geotechnical Applications.
- Responsibilities included lecturing, supervising lab sessions, grading, preparing teaching materials, and assisting student projects.

13. Awards and honours

- First-ranked graduating student, Academic Year 2015-2016 - European University of Lefke. Awarded for highest academic performance across all graduating students at the university.

14. Other key academic merits, such as:

- Guest editor in buildings journal.
- Organised **2nd National Civil engineering Symposium** in Northern Cyprus: September 2022.

15. Scientific and societal impact

- **Public engagement:** Participating in the Designs for a Cooler Planet 2025 exhibition (Helsinki), presenting our ongoing research on CO₂-sequestered lightweight biochar amended soft clay aggregate for in-situ aggregate production.
- **Media interest:** The project has attracted media attention for its relevance to climate mitigation and sustainable infrastructure.

16. Other merits

- Active collaboration with Finnish companies and municipalities such as (Skanska, Ramboll, Rudus, Hycmite, Carbofex, CityOfHelsinki, etc...).
- Participation in multidisciplinary research environments across academia and industry.
- Geotechnical and geoenergy-related research: ground improvement, energy geopiles, geothermal foundations, soil-material interaction
- Experimental methods: laboratory testing, large-scale validation, material characterisation, data acquisition systems
- Modelling and data analysis: Python, R, AI-based predictive modelling, machine learning, data-driven optimisation
- Sustainability: CO₂ sequestration, carbon-negative materials, low-carbon binders, LCA-oriented material development