

Mahmoud Ali Elmaasrawy

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Personal Data:

Date of Birth: Sep 15, 1990.

Military status: Completed.

Marital status: Married.

Nationality: Egyptian.

Objective:

Materials researcher with a PhD in Civil Engineering, specializing in the development and characterization of sustainable ultra-high-performance concrete (UHPC). Experienced in alkali-activated binder systems, durability evaluation, and microstructural analysis using techniques such as XRD, NMR, TGA, MIP, and SEM. Seeking a postdoctoral position to contribute to advanced research in both sustainable and conventional concrete systems, with a focus on performance enhancement, durability, and practical applications in construction.

Educational background:

- **School of Civil Engineering and Architecture / Wuhan University of Technology** **December 2025**
Doctor of Philosophy in Civil Engineering
Thesis title: “Design and Characterization of Alkali Activated Ultra-High-Performance Concrete with Low Slag Content”
- **Benha Faculty of Engineering / Benha University** **April 2018.**
Master of Science in Civil Engineering
Thesis title: “Strengthening of two-way R.C slabs using lower concrete layer reinforced by FRP”
- **Benha Faculty of Engineering / Benha University** **June 2013.**
Bachelor of Civil Engineering
Major: Civil Engineering Department (**Construction Division**).
Grade: Very Good with **honors** (83.59%).

Research Interests:

- Low-Carbon Building Materials.
- Alkali-Activated Materials.
- Ultra-High-Performance Concrete.
- Sustainability.
- Cementitious Materials.
- Microscopic and Macroscopic performance.

Experience & Training:

- **Benha Faculty of Engineering** **May 2026 - till now**
Lecturer
I taught undergraduate and postgraduate -level courses in Concrete Technology and Materials Science, with responsibilities including lecture preparation, laboratory instruction, exam development, and academic advising.
- **Benha Faculty of Engineering** **March 2015 – April 2026**
Assistant lecturer
I taught undergraduate-level courses in Concrete Technology and Materials Science, with responsibilities including lecture preparation, laboratory instruction, exam development, and academic advising.
Supervised undergraduate graduation projects, guiding research design, technical execution, and final presentation.
- **Namaa Misr for Construction** **January 2021 – September 2022**
Technical Office Engineer
Reviewed design drawings, prepared shop drawings, and coordinated with site teams to ensure project alignment. Managed quantity take-offs, material submittals, and technical documentation in coordination with consultants and project stakeholders.
- **Archirodon for construction overseas** **July 2012 – September 2012**
Civil Engineering (training)
Gained practical exposure to major construction phases, including intake and discharge systems, infrastructure, and superstructure works.
Observed and learned site execution practices, quality control measures, and coordination among engineering disciplines.
- **Egyptian Contracting Company** **July 2010 – September 2010**
Civil Engineering (training)
Gained hands-on exposure to the construction processes of elevated tanks and various superstructures, including formwork, reinforcement, and concreting.

Skills:

- **Experimental Design and Statistical Analysis.**
Proficient in planning experiments and interpreting data using statistical tools.
- **Material Characterization Techniques**
Experienced with XRD, SEM, NMR, FTIR, TGA, and MIP for analyzing microstructure and properties.
- **Software Proficiency**
Skilled in Origin, Design-Expert, JADE, and AutoCAD for data analysis, design, and technical documentation.
- **Academic and Scientific Communication.**
Strong academic writing and presentation skills for conferences, reports, and publications.
- **Microsoft Office Suite.**
Advanced user of MS Word, Excel, and PowerPoint for documentation, data processing, and presentations.
- **Online Research.**
Proficient in conducting advanced literature reviews and sourcing technical data from scholarly databases.

Language:

- **English:** Professional working proficiency.

Interests:

- Reading, traveling, and playing football.

Personality key strength:

- Have the ability to work within a team.
- Hard person, responsible, helpful, and able to learn new skills.
- Ability to work under stress.
- Self-learning ability.
- Solving problems and decision making.

Publications:

- Shaoding Lan, **Mahmoud Elmaasrawy**, Junyu Chen, Hongyou Cao, Xu Gao “Microstructure and macro performance characterization of low-slag alkali-activated UHPC based on simplex centroid design method”, Construction and building materials, Volume 494, 2025, 143386, ISSN 0950-0618, <https://doi.org/10.1016/j.conbuildmat.2025.143386>.
- **Mahmoud Elmaasrawy**, Shaoding Lan, Hongyou Cao, Songwei Li, Xu Gao. “Microstructure and durability evaluation of slag-metakaolin-limestone ternary blended alkali activated UHPC”, Journal of Building Engineering, Volume 106, 2025, 12674, ISSN 2352-7102, <https://doi.org/10.1016/j.jobe.2025.112674>.
- Xin Liu, Shaoding Lan, Xihe Zhang, Jiaming Li, **Mahmoud Elmaasrawy**, Xu Gao. “Synergistic enhancement of mechanical properties, durability, and microstructure of phosphogypsum-slag-based all-solid-waste binder materials with recycled cement powder and red mud”, Construction and building materials, Volume 521, 2026, 146047, ISSN 0950-0618, <https://doi.org/10.1016/j.conbuildmat.2026.146047>.
- El-Sayed, K. M., El-kasaby, E. A., & **El-maasrawy, M. A.** Experimental and Numerical Study on Strengthening of R.C Slabs at Tension Side Using Lower Concrete Layer Reinforced by FRP Elements. Advances in Research, 17(6), 2019, 1–22. <https://doi.org/10.9734/AIR/2018/45688>.

References:

- **Gao Xu – Wuhan University of Technology**
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- **Khaled Elsayed – Benha Faculty of Engineering**
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- **El-Sayed El-Kasaby– Benha Faculty of Engineering**
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