

■ ABOUT ME

Skilled PhD student enthusiastic about supporting advancements in rehabilitation of steel structures. Passionate about increasing knowledge to drive growth and needed improvements. Ready to apply knowledge and 3 years of experience in research.

■ LEARN MORE

Email: Hassan.alkarawi@chalmers.se

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■ MY EXPERIENCE

Lightweight structure research group, Chalmers, Gothenburg, Sweden

Researcher | 2018 – Present

Full-time PhD student working at Chalmers university of technology.

- Generated data models performed finite element analysis and helped produce reports outlining results.
- Wrote research papers, reports, reviews, and summaries regarding post weld treatment methods of welded steel structures.
- Performed experimental testing & investigations to test for the possibility of fatigue life extension of existing structures.

Structural engineering department, Chalmers, Gothenburg, Sweden

Teacher assistant | 2019 – Present

- Participated in teaching in two courses ‘ Steel structures’ and ‘Load bearing structures.’
- Supervised both bachelor and master students in their course projects.
- Participated in exams design, correction, and assessment.

■ MY SKILLS

LANGUAGES

English: Fluent

Swedish: Good

Arabic: Mother-tongue

SOFTWARE

Coding: Matlab, Mathcad, Python

FEM: Abaqus, SAP, Etabs, Robot

Text processing: Microsoft office, Overleaf

Drawing: Autocad

■ MY EDUCATION

Bachelor’s degree in civil engineering at University of Jordan | 2011-2016 | GPA: 3.9/4

Master’s degree in Structural engineering at Chalmers University of Technology | 2016-2018 | GPA: 4.9/5

Licentiate’s degree in civil engineering at Chalmers University of Technology | 2018-2020

Doctorate student at Chalmers University of Technology | 2018-2023 (Ongoing)

■ PUBLICATIONS IN SCIENTIFIC JOURNAL

- Al-Karawi, H., & von Bock und Polach, F & Al-Emrani, M, 2020. Fatigue crack repair in welded structures via tungsten inert gas remelting and high frequency mechanical impact. *Journal of Constructional Steel Research*, 172, p.106200. <https://doi.org/10.1016/j.jcsr.2020.106200>.

- Al-Karawi, H., & Al-Emrani, M., 2021. The efficiency of HFMI-treatment and TIG-remelting of existing welded structures . *Steel Construction*. <https://doi.org/10.1002/stco.202000053>
- Al-Karawi, H & von Bock und Polach, F & Al-Emrani, M, 2021. Fatigue life extension of existing welded structures via High Frequency Mechanical Impact treatment. *Engineering structures* 239, p.112234. <https://doi.org/10.1016/j.engstruct.2021.112234>
- Al-Karawi, H & von Bock und Polach, F & Al-Emrani, M, 2021. Crack detection via strain measurements in fatigue testing. *Strain*, p.e12384. <https://doi.org/10.1111/str.12384>

■ SELECTED CONFERENCE CONTRIBUTION

- Al-Karawi, H & Al-Emrani, M & Hedegård, J. "Crack behavior after high frequency mechanical impact treatment in welded S355 structural steel." in *the proceeding of the tenth International Conference on Bridge Maintenance, Safety and Management*, (2021), <https://doi.org/10.1201/9780429279119-423>.
- Al-Karawi, H & Manai, A & Al-Emrani, M & von Bock und Polach, F & Friedrich, N & Hedegård, J. "Fatigue crack repair by TIG-remelting." in *the proceeding of the tenth International Conference on Bridge Maintenance, Safety and Management*, Japan (2021), <https://doi.org/10.1201/9780429279119-424>.
- Al-Karawi, H, Al-Emrani, M & Haghani, R. " Fatigue life estimation of treated welded attachments via High Frequency Mechanical Impact treatment (HFMI-treatment)." *submitted and accepted for publication in the proceeding of the Fourteenth International Conference on Metal Structures*, Poland (2021).
- Al-Karawi, H & Al-Emrani, M. Fatigue life extension of welded steel structures by High Frequency Mechanical Impact (HFMI)." *submitted and accepted for publication in the proceeding of the Eurosteel* , England (2020).

■ REPORTS AND DESSERTATIONS

- Hedegård, Joakim & Al-Emrani, Mohammad , & Edgren, Martin & Manai, Asma & Al-Karawi, Hassan , & Barsoum, Zuhair. LifeExt – Prolonged life for existing steel bridges – Livslängdsförlängning av befintliga stålbroar, *Open report / Publik rapport, (InfraSweden2030 report)*.
- Al-Karawi, H., Manai, A. and Al-Emrani, M. 2019, A Literature review for the state of the art, Chalmers publications. <https://doi.org/10.13140/RG.2.2.23273.65125>.
- Al-Karawi, H., 2020. Fatigue life extension in existing steel bridges. Licentiate thesis, Chalmers publications, <https://doi.org/10.13140/RG.2.2.28476.87680>.