

# Masih Beheshti

## PhD Student and Graduate Research Associate

✉ beheshti@asu.edu

🌐 www.masihb.com

📍 Tempe, Arizona

🎂 April 1996

🌐 linkedin.com/in/masih-beheshti

📞 0000-0001-5766-0024

## EDUCATION

### PhD. in Civil Engineering

Arizona State University

📅 January 2022 – Ongoing

📍 Tempe, Arizona

- Supervisor: Dr. Hasan Ozer

### M.Sc. in Civil and Environmental Engineering

Sharif University of Technology

📅 September 2018 – March 2021

📍 Tehran, Iran

- GPA: 3.77 (17.05/20)
- Thesis: Sustainability Assessment of Preventive Maintenance Plans (Case Study: Slurry Seal and Thin Overlay)
- Supervisor: Prof. Nader Tabatabaee

### B.Sc. in Civil and Environmental Engineering

Isfahan University of Technology

📅 September 2014 – September 2018

📍 Esfahan, Iran

- GPA: 2.78 (14.63/20)

## ACADEMIC EXPERIENCES

### Graduate Research Associate

Arizona State University

📅 December 2021 – Ongoing

📍 Tempe, Arizona

- Supervisor: Dr. Hasan Ozer

### Graduate Teaching Assistant

Arizona State University

📅 August 2023 – Dec 2023

📍 Tempe, Arizona

- Course: Civil Engineering Material
- Supervisor: Prof. Narayanan Neithalath, and Prof. Michael Mamlouk

### Teaching Assistant

Sharif University of Technology

📅 February 2020 – July 2020

📍 Tehran, Iran

- Course Title: Geometric Design of Highway
- Instructor: Dr. Mohammad Reza Sabouri

### Pavement Laboratory Assistant

Sharif University of Technology

📅 September 2019 – February 2020

📍 Tehran, Iran

- Supervisor: Prof. Nader Tabatabaee

## MY LIFE PHILOSOPHY

*“Always challenge yourself to do more & to know more”*

## ACHIEVEMENTS



Support Sky Harbor Coalition Scholarship

WTS Foundation, 2023



Dr. Matthew W. Witczak Endowment

Arizona Pavements/Materials Conference, 2022

## PROGRAMMING SKILLS

Python

Matlab

C++

## SOFTWARE SKILLS

- Microsoft Office:

Word

Excel

PowerPoint

Access

Publisher

Power BI

- Traffic Modelling:

PTV Vissim

Synchro

- FEM Modelling:

Abaqus

- Road/Pavement Design and Analysis:

Civil3D

AASHTOWare

Elmode

FAARFIELD

- Optimization and Data Analysis:

STATA

Lingo

SPSS

- Building Structure Modeling and Analysis

ABAQUS

Etabs

SAFE

SAP2000

AutoCAD

Revit

- Digital Image Correlation (DIC)

Vic3D

- Life Cycle Assessment (LCA)

SimaPro

## Internship

Foolad Technic International Engineering Company

📅 July 2018 – August 2018

📍 Esfahan, Iran

- Project Description: Designing an industrial shed

## RESEARCH EXPERIENCE

### Assessing the Consumption Costs of Motor Vehicles on Arizona Roads

Supervisor: Dr. Hasan Ozer

📅 2024 – Ongoing

- This project aims to assess the consumption costs of various vehicles on Arizona's roads and bridges to inform alternative fee structures. A tri-university team is leading this project, focusing on the impact of different vehicle types, including EVs. The goal is to provide accurate consumption cost calculations to help close revenue gaps and improve infrastructure planning. This is a collaborative project with University of Arizona (Lead), Arizona State University, and Northern Arizona University. This project is funded by Arizona Transportation Institute (AzTI).

### Automated Construction Quality Monitoring and Inspection Protocols using Unmanned Aerial Vehicles

Supervisor: Dr. Hasan Ozer

📅 Jan 2023 – Ongoing

- Development of protocols with the use of UAVs to provide a ubiquitous platform that can be used as an aid to be monitoring mat temperatures over wide paving areas and identifying various temperature non-uniformity patterns such as thermally segregated areas. This project is sponsored by National Center for Infrastructure Transformation (NCIT).

### Assessment of Thermal and Durability Cracks in Asphalt Pavements in the Southwest Region

Supervisor: Dr. Hasan Ozer

📅 July 2023 – Ongoing

- Thermal and durability cracking in asphalt pavements has become a major challenge for many of the transportation agencies in Arizona. Although mean temperatures do not fall below freezing temperatures in Phoenix and Tucson metropolitan areas, there are wide occurrences of asphalt cracking on residential streets and state roads that can be identified as thermal or durability cracks. The main objective of this research is to improve the durability of asphalt mixtures to prevent wide-spread cracking. This project is sponsored by Southwest Pavement Technology Consortium.

### Reflective Cracking Model for Airport Asphalt Overlay Design

Supervisor: Dr. Hasan Ozer

📅 2021 – 2024

- FAA's structural design for overlays does not consider reflective cracking. The objective of this project is to develop an HMA overlay thickness design for FAARFIELD software. This project is sponsored by the FAA.

## RESEARCH INTERESTS

Pavement Numerical Modeling

Airport Pavement Design

Fracture Mechanics

Pavement Condition Data Analysis

Life Cycle Assessment

## VOLUNTEER EXPERIENCE

🤝 Mentor for the NCIT Research Experience for Teachers (RET) Program  
2024

🤝 Paper Reviewer for International Journal of Pavement Engineering  
2024-Ongoing

🤝 Paper Reviewer for Journal of Advances in Civil Engineering  
2024-Ongoing

🤝 Paper Reviewer for 2023 International Road Federation (IRF) Conference  
2023

🤝 Paper Reviewer for Transportation Research Board Annual Conference/Journal  
2022-Ongoing

## LANGUAGES AND TESTS

Farsi (Native Language) ●●●●●

English (Sec Language) ●●●●●

## REFERENCES

Hasan Ozer

@ hasan.ozero@asu.edu

📍 Arizona State University

Kamil E. Kaloush

@ kaloush@asu.edu

📍 Arizona State University

## PUBLICATIONS AND CONFERENCE PROCEEDINGS

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### Journal Articles

- [Accepted with minor revision] Beheshti, M., Ozer, H. (2025). "A Viscoelastic Computational Fracture Mechanics Approach for the Analysis of Thermal Reflective Cracking in Asphalt Overlaid Jointed Concrete Airfield Pavements". In: *Transportation Research Record*. DOI: TBD.
- Beheshti, M., Bento, M.H.C., Ramos, C.S., Ozer, H., Duarte, C.A., Brill, D.R. (2024). "Analysis of Reflective Cracking in Asphalt Overlaid Jointed Concrete Airfield Pavements Using the 3-D Generalized Finite Element Approach". In: *International Journal of Pavement Engineering*. DOI: <https://doi.org/10.1080/10298436.2024.2346291>.
- Liu, F., Beheshti, M., Ozer, H., Al-Qadi, I.L. (2024). "Prediction of asphalt concrete energy release rate from Texas Overlay Test using machine learning". In: *Road Materials and Pavement Design*. DOI: <https://doi.org/10.1080/14680629.2024.2356796>.
- M., Beheshti, Castro S., Vedula, N., Rahman N., Al Rawahi, M., Ozer, H. (2024). "Rate Dependent C\* Fracture Parameter using the Optimized Wedge-Split Test Geometry and Vision-Based Automated Crack Tip Detection". In: *Construction and Building Materials*. DOI: <https://doi.org/10.1016/j.conbuildmat.2024.137649>.
- Vedula, N., Beheshti, M., Al-Alawi, O., and Ozer, H. (2024). "Thermal Profiling of Asphalt Pavement Construction Using Unmanned Aerial Vehicle". In: *Transportation Research Record*. DOI: <https://doi.org/10.1177/03611981241239957>.

### Invention Disclosure

- [Under review by SI] Ozer, H., Vedula, N., Beheshti, M. (2024). *D24-166: Unmanned Aerial-Vehicle Assisted Real-Time Construction Quality Support System*. Arizona State University.

### Conference Proceedings

- [Acceptor for Poster Session and Publication] Beheshti, M., Ozer H. (Jan, 2025). "A Viscoelastic Computational Fracture Mechanics Approach for the Analysis of Thermal Reflective Cracking in Asphalt Overlaid Jointed Concrete Airfield Pavements". In: *2025 Annual TRB Conference, Washington, D.C, US*.
- [Acceptor for Poster Session] Aker, S., Zahid, A., Beheshti, M., Ozer H. (Jan, 2025). "Exploring the Root Causes of Wide Thermal Cracks in the Southwestern Region of United States". In: *2025 Annual TRB Conference, Washington, D.C, US*.
- [Acceptor for Poster Session] Liu, F., Al-Qadi, I.L., Beheshti, M., Ozer H. (Jan, 2025). "Asphalt Concrete Overlay Thermal Reflective Cracking Stress Intensity Factor Prediction Using Machine Learning". In: *2025 Annual TRB Conference, Washington, D.C, US*.
- [Acceptor for Poster Session] Vedula, N., Beheshti, M., Ozer H. (Jan, 2025). "Thermal Segregation and Compaction Quality Analysis of Asphalt Pavements using Unmanned Aerial Vehicles (UAV)". in: *2025 Annual TRB Conference, Washington, D.C, US*.
- [Podium Session] Beheshti, M., Eravathri, S.S., Salim, R., Ozer, H. (Jun, 2023). "Analysis of the Effect of Thermal Loading on Reflective Cracking in Asphalt Overlaid Jointed Concrete Airfield". In: *ASCE International Conference on Transportation and Development, Huston, TX, US*.
- [Podium Session] Beheshti, M., Tabatabaee, N. (July, 2021). "Markov Chain Performance Modeling for Slurry Seal and Thin Asphalt Overlay Using Bayesian Approach". In: *12th International National Congress on Civil Engineering, Tehran, Iran*.
- [Poster Session] Beheshti, M., Bento M. H. C., Ramos C.S., Ozer H., Duarte C.A., Brill D.R. (Jan, 2023). "Analysis of Reflective Cracking in Asphalt Overlaid Jointed Concrete Airfield Pavements Using the 3-D Generalized Finite Element Approach". In: *2023 Annual TRB Conference, Washington, D.C, US*.
- [Poster Session] Beheshti, M., Ozer, H. (Jun, 2023). "Climatic and Traffic Factors on Pavement Deterioration Trends and Mechanisms in Asphalt Concrete Overlays in Airfield Pavements". In: *ASCE International Conference on Transportation and Development, Huston, TX, US*.
- [Poster Session] Castro S., Rahman N., Al Rawahi M., Beheshti M., Ozer H. (Jan, 2023). "Rate Dependent C\* Fracture Parameter using the Optimized Wedge-Split Test Geometry and Vision-Based Automated Crack Tip Detection". In: *2023 Annual TRB Conference, Washington, D.C, US*.
- [Poster Session] Liu, F., Beheshti, M., Ozer H., Al-Qadi, I.L. (Jan, 2024). "Machine Learning for Prediction of Fracture Parameters in the Texas Overlay Test for Asphalt Concrete Overlay Reflective Cracking". In: *2024 Annual TRB Conference, Washington, D.C, US*.
- [Poster Session] Rahman, N., Castro, S., Beheshti, M., Vedula, N.V., Ozer H. (Jan, 2024). "Development of a Cyclic Fracture Experiment for Characterization of High-Performance Asphalt Concrete Mixes". In: *2024 Annual TRB Conference, Washington, D.C, US*.
- [Poster Session] Vedula, N.V., Beheshti, M., Ozer H. (Jan, 2024). "Thermal Profiling of Asphalt Pavement Construction using Uncrewed Aerial Vehicle (UAV)". in: *2024 Annual TRB Conference, Washington, D.C, US*.
- [Podium Session] Beheshti, M., Ozer, H. (2024). "Reflective Cracking Model for Airport Asphalt Overlay Design". In: *TRB 2024 Doctoral Research Forum*.