

# CURRICULUM VITAE

## Raed Mohammad Abende

*Professor of Civil Engineering*

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### 1. Education

Abende was educated at Jordan University of Science and Technology, Irbid, Jordan and he earned his B.S and M.S. in 1998 and 2001 respectively. He received his Ph.D. degree of science in civil engineering (structural) in 2006 from Technical University of Hamburg, Hamburg, Germany.

### 2. Ph.D. Dissertation

Temperature induced Deformations in Match-Cast Segments and Their Effects on Precast Segmental Bridges, Hamburg University of Technology, Hamburg, Germany.

### 3. Employment

#### Academic Positions

- Assistant Professor, Department of Civil Engineering, Zarqa University, Jordan. September 2009-August 2012.
- Assistant Professor, Department of Civil Engineering, Philadelphia University, Jordan. September 2012-August 2013.
- Assistant Professor, Department of Civil Engineering, Applied Science University, Jordan. September 2013-August 2014.
- Assistant Professor, Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, Jordan. September 2014-April 2018.
- Associate Professor, Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, Jordan. May 2018-December 2022.
- Professor, Department of Civil and Infrastructure Engineering, Al-Zaytoonah University of Jordan, Jordan. December 2022-Now

### 4. Research Interests

- Construction and building materials
- Design and construction of bridges.
- Construction management.
- Construction chemicals.

### 5. Teaching Experience

#### Undergraduate Courses

- Bridge Engineering

- Prestressed Concrete
- Reinforced Concrete 2
- Reinforced Concrete 1
- Design of Steel Structures
- Structural Analysis 1
- Structural Analysis 2
- Construction materials lab
- Strength of Materials
- Statics
- Concrete Technology
- Graduation Project

## 6. **Grants**

- Experimental and numerical study on strengthening of chloride damaged reinforced concrete beams by glass textile fabric, 2020, Deanship of scientific research and higher studies, Al-Zaytoonah University of Jordan (30,000 JD).
- Production of Improved Cellular Concrete for Soil Stabilization Techniques and Structural Applications, 2019, Deanship of scientific research and higher studies, Al-Zaytoonah University of Jordan (46,650 JD).
- Improved Strength and Durability Resistance of Concrete Containing Steel Slag, 2015, Deanship of scientific research and higher studies, Al-Zaytoonah University of Jordan (24,850 JD).
- Improved Strength and Durability Resistance of Concrete Mix Containing Jordanian Bentonite and Asphalt Containing Jordanian Bentonite, 2015, Deanship of scientific research and higher studies, Al-Zaytoonah University of Jordan (13,700 JD).

## 7. **Membership in Scientific Societies and Associations**

- **National:** Jordan Association of Engineers (Member No. 13932).
- **International:** Member of American Society of Civil Engineers (ASCE) (Member No. 000011870633).

## 8. **Professional Development**

- Participated in 4 international conferences in the past 5 years
- Participated in Erasmus academic activity in Birmingham university, 2023, UK.
- Using modern technologies in presentation processes (workshop) ZUJ, Octopor 2022.
- Ethics in the engineering profession (workshop) Amman, Jordan April 2019
- Using modern technologies in teaching processes (workshop) ZUJ, March 2019
- E-learning using Moodle workshop, ZUJ, April 2019
- Building and Analyzing Exams Workshop, ZUJ, Amman, Jordan, 2017 (3 days)

## 9. **Publications**

### **Papers in refereed journals**

- Abu Salem Z., Bani Baker M., Abendeh R., Qasem A., Utilization of the Natural Jordanian Bentonite Clay in Hydraulic Cement Mortars. Innovative Infrastructure Solutions 9 (99), 2024
- Almasaeid H., Salman D., Abendeh R., Al Louzi R., Ahmad H., Interfacial bond capacity prediction of concrete- filled steel tubes utilizing artificial neural network. Cogent Engineering 11 (1), 2024

- Abu Qalbin R., Rabayah H., Darwish M., Abende R., Assessment of construction risks in projects funded by external sources in Jordan during the COVID-19 pandemic. *Buildings* 13 (8), 2023.
- Chodakowska E., Nazarko J., Nazarko L., Rabayah H., Abende R., Alawneh R., ARIMA models in solar radiation forecasting in different geographic locations. *Energies* 16 (13), 2023.
- Alhorani R., Rabayah H., Abende R., Salman D. Assessment of flexural performance of reinforced concrete beams strengthened with internal and external AR-Glass textile systems. *Buildings* 13 (5), 1135, 2023.
- Bani Baker M., Abende R., Alshorman B., Density and strength performance of cellular concrete blended with bentonite clay and polypropylene fiber. *Key engineering materials* 944, 219-230. 2023.
- Bani Baker M., Abende R., Sharo A., Hanna A., Stabilization of sandy soils by bentonite clay slurry at laboratory bench and pilot scales. *Coatings* 12 (12), 1922, 2022.
- Bani Baker M., Abende R., Khasawneh MA., Freeze and thaw effect on asphalt concrete mixtures modified with natural bentonite clay. *Coatings* 12 (11), 1664, 2022.
- Abende R., Salman D., Al Louzi R., Experimental and numerical investigations of interfacial bond in self-compacting concrete-filled steel tubes made with waste steel slag aggregates , *Developments in the Built Environment*, 11, 2022.
- Bani Baker M., Abende R., Improving Asphalt Mixtures Resistance to Rapid Freezing and Thawing Effect Using High Impact Polystyrene Polymer, *Emerging Materials Journal*, Vol. 11, issue 3, 2022.
- Al Louzi R., Almasaeid H., Salman D., Abende R., Ahmad H., Using artificial neural network and multivariable regression analysis to simulate composite columns, *Buildings Journal*, 12 (456), 2022.
- Abende R., Alhorani R., Bani Baker M., Assad S., Ahmad H., Influence of Jordanian bentonite as partial replacement of cement and fine aggregate on the workability, mechanical properties and impermeability of concrete, *International Review of Civil Engineering*, Vol. 13 (3) 2022.
- Abende R., Alhorani R., Ahmad H., Bani Baker M., Effect of Steel Slag As Fine and Coarse Aggregate on Pore Structure and Freeze-thaw Resistance of High-strength Concrete, *Jordan Journal of Civil Engineering*, 15 (4), 2021.
- Alhorani R., Assad S., Abende R., Effect of white cement bypass dust on the degradation of roller compacted concrete subjected to sulfate attack, *International Journal of Pavement Engineering*, 2021.
- Abende R., Bany Baker M., Using steel slag aggregate to strengthen self-compacting concrete durability, *Proceedings of the Institution of Civil Engineers-Structures and Buildings*, 2020.
- Ahmad H., Abende R., Hunaiti Y., Evaluation of concrete-steel interfaces in steel tubes filled with chipped rubber-concrete, *Proceedings of the Institution of Civil Engineers-Structures and Buildings*, 2020.
- Abende R., AbuSalem Z., Bani Baker M., Khedaywi T., Strength and Resistance to Freezing-Thawing Action of Concrete Containing Waste Glass, *Proceedings of the Institution of Civil Engineers-Construction Materials*, 2018.
- Bani Baker M.I., Abende R.M., Obaidat T.S., Employing Natural Bentonite Clay as Partial Replacement of Mineral Filler in Asphalt Mixtures, *ASCE's Journal of Materials in Civil Engineering*, DOI:10.1061/(ASCE)MT.1943-5533.0002375, 2018.

- Abu Salem Z., Khedawi T.S., Bani Baker M., Abendeh R., Effect of Waste Glass on Properties of Asphalt Concrete Mixtures, Jordan University of Science and Technology, Jordan. Vol. 11, no. 1, 2017, pages 117-131.
- Abendeh R., Ahmad H.S., Hunaiti Y.M., Experimental Studies on the Behavior of Concrete-Filled Steel Tubes Incorporating Crump Rubber, Journal of Constructional Steel Research, 122, 2016, pages 251-260.
- Bani Baker M., Abendeh R., Abu Salem Z., Taisir S. Khedawi, Production of Sustainable Asphalt mixes Using Recycled Polystyrene. International Journal of Applied Environmental Sciences. Vol. 11, no. 1, 2016, pages 183-192.
- Abendeh R., Ramadan K., Haddad R., Bani Baker M., Freezing Thawing Resistance of Concrete Incorporating Glass Waste, Journal of Materials Science Research. Vol. 4, no. 4, 2015, pages 19-25.
- Abendeh R., Bani Baker M., Abu Salem Z., Ahmad H., The Feasibility of Using Milled Glass Wastes in Concrete to Resist Freezing-Thawing Action. International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering, Vol.9, No 8, 2015
- Rombach G., Abendeh R., Bow-Shaped Segments in Precast Segmental Bridges. Engineering Structures 30 (6), 2008, pages 1711-1719.
- Abendeh R., Brockmann C., Fischer O., Rombach G., Temperaturinduzierte, Bleibende Verformungen von Brueckensegmenten bei der Herstellung im Kontaktverfahren. Beton- und Stahlbetonbau 3, 2005, pages 207 – 215.
- Haddad Rami, Abendeh R., Effect of Thermal Cycling on Bond between Reinforcement and Fiber Reinforced Concrete. Cement and concrete composites, vol. 26, issue 6, 2004.

### **Conference Presentations**

- Bani Baker M., Al-Sharman B., Abendeh R., One Dimensional Oedometer Laboratory Testing for Expansive Clay Submerged with Hydrocarbon Fluids. Conference: AToMech1-2023. At: College of Engineering, Prince Mohammad Bin Fahd University, Al Khobar, Saudi Arabia.
- Abendeh R., Rabayah H., Alhourani R., Salman D., Flexural strengthening and repairing of reinforced concrete beams by using textile glass fabric, 12<sup>th</sup> International Conference on Engineering, Project, and Production Management (EPPM2022), 2022, Athens, Greece.
- Abendeh R., Bani Baker M., Salman D., Mechanical Performance of Cellular Concrete Incorporating Silica Fume and Polypropylene Fibers, 12<sup>th</sup> International Conference on Engineering, Project, and Production Management (EPPM2022), 2022, Athens, Greece.
- Bani Baker M., Abendeh R., The Effect of Polypropylene Fiber Additive on the Compressive Strength of Cellular Concrete Mixtures, 2022 9th International

Conference on Mechanics, Materials and Manufacturing (ICMMM), 2022, Washington, USA.

- Abende R., Bani Baker M., Mechanical Performance of Self-Compacting Concrete Incorporating Steel Slag Aggregate, International Conference on Civil and Environmental Engineering (ICCEE), 2019, Hamburg, Germany.
- Bani Baker M., Abende R., Using Hollow Concrete and Thermostone Blocks in Sound Isolation System, Lecture Notes on Mechanical Engineering (Springer) 2018 Chapter 18 pages “8<sup>th</sup>International Conference on Engineering, Project, and Product Management (EPPM 2017)”.
- Bani Baker M., Elektorowicz M., Hanna A., Abende R., Ayadat T., Electrokinetic Nondestructive In-situ Technique for Rehabilitation of Damaged Liner, The symposia on Electrokinetic Remediation EREM2017, August 2017, Montreal-Canada.
- Abende R., Bani Baker M., Abu Salem Z., Ahmad H., The Feasibility of Using Milled Glass Wastes in Concrete to Resist Freezing-Thawing Action, 17<sup>th</sup> International Conference on Civil and Construction Engineering, 2015, London-UK.
- Bani Baker M., Abende R., Abu Salem Z., Ahmad H., The Engineering Properties of Jordanian Marble, 17<sup>th</sup> International conference on Civil and Building Engineering, 2015, Montreal, Canada.
- Rombach G., Abende R., Temperature Induced Deformations in Match-Cast Segments, IABSE Symposium Report, 88 (6), pages 403-408, 2004, Shanghai, China.