DR. BILAL A. ABU ALFOUL

OBJECTIVE: to obtain a responsible position in a respected university where my education, experience, accomplishments, and proficiency will allow me the opportunity for growth, benefit myself, my employer and the students.

EDUCATION:

- **Ph.D.** in Civil Engineering. The University of Akron, Akron, Ohio, USA. (Aug 2004)
  Research Title: "Anisotropy and Permanent Deformation of Hot Mix Asphalt"

- **M.S.** in Civil Engineering. Jordan University of Science and Technology, Jordan, (June 2000)
  Research Title: "Pozzolanic Reactivity of Wheat Straw Ash Concrete"

- **B.S.** in Civil Engineering/Structural Engineering. Jordan University of Science and Technology, Civil Engineering, Jordan, (June 1996)

CERTIFICATES & WORKSHOPS:

- E.I.T. certificate from the Board for Professional Engineers in the state of Maryland, U.S.A. (2006)
- Certificate of Completion of AutoCAD 2006 Core Concepts. Avatech Training Solutions, U.S.A. (2005)
- Certificate of Completion of all classroom and field study elements of the "Design and Review Program of Study for Loudoun County". Engineers and Surveyors Institute (ESI), U.S.A. (2006)
- Attended "Stormwater Management Site Plan Design Charette" workshop, presented by Virginia DCR and the Virginia Section of ASCE. George Mason University, Virginia, U.S.A. (2008)
- Attended "Pervious Concrete Stormwater Management Systems" workshop and demonstration, presented by Wetland Studies and Solutions Inc. and Northern Virginia Concrete Advisory Council. Virginia, U.S.A. (2007)
- Certificate of Acceptance "Teaching and Assessment Technologies in Higher Education" training course, The Hashemite University, Jordan, October 2010.

EXPERIENCE:

Feb 2010 – Current: Assistant Professor, Structures Division, Civil Engineering Department, The Hashemite University, Jordan.

- Teaching the following courses at the Civil Engineering Department: Reinforced Concrete I, Strength of Materials, Statics, Manual Engineering Drawing, and Computer Aided Engineering Drawing. I'm Currently supervising a group of students on their graduation project.

Dec 2007 – July 2009: Project Manager, Resource International, LTD ***(Engineers, Scientists, Surveyors, Planners)*** **Ashland, Virginia, USA.**

- Commercial, residential and mixed use development plans in the states of Virginia, West Virginia, Maryland and North Carolina.
- Perform initial site visits and investigations to determine any possible issues that could affect the development plan constructability or its approval process through DOT's and other localities.
- Schedule and attend pre and post plan submission and design meetings with clients, DOT's and local agencies personnel to point out or resolve any design issues related to the projects.
- Preliminary site plans
- Perform site topographic grading, site design and layout; including roadway layout and design.
- Hydrologic and hydraulic analysis and design for commercial, residential and mixed used developments.
- Stormwater Management (SWM) and Best Management Practices (BMP) analysis and design for commercial, residential and mixed used developments.
- Conduct multiple drainage and flood plain studies on multiple projects with large watersheds. Major tasks involved in these studies included: Evaluation of the pre – and post – development runoff conditions. Engineering of the necessary SWM and BMP facilities. Writing drainage analysis reports to present the study findings and analysis. Proposing recommendations for future designs and/or alternatives for existing in – default drainage structures. Findings of some of these studies were presented in court as an engineering witness on failure of existing structures.
- Design of erosion and sediment control measures for development plans.
- Coordinate with clients, contractors and builders from the conceptual development to final construction.
- Project management and budget control.
- Training entry level engineers and designers.

Aug 2005 – Nov 2007: Project Manager, Huntley, Nyce & Associates, LTD ***(Surveying, Civil Engineering, Land Planning)*** **Leesburg, Virginia, USA.**

- Commercial, residential and mixed use development plans in the states of Virginia and West Virginia.
- Perform initial site visits and investigations to determine any possible

issues that could affect the development plan constructability or its approval process through DOT's and other localities.
- Perform site topographic grading, site design and layout; including roadway layout and design and pavement design.
- Hydrologic and hydraulic analysis and design for commercial, residential and mixed used developments.
- Design of erosion and sediment control measures for development plans.
- Coordinate with multiple DOT's and local agencies personnel to get the development plans approved per their standards and regulations.
- Coordinate with clients, contractors and builders from the conceptual development to final construction.
- Project management and budget control.
- Training entry level engineers and designers.

Feb 2005 – Aug 2005: Project Manager, Crawford Associates, LLC ***(Home Improvement Contractor)*****. Washington DC, USA.**

- Manage the office team through multiple home improvement projects.
- Coordinate with clients to provide them with the best quality and coordinate and schedule the daily team tasks to meet the projects' deadlines.
- Work as the company's engineering advisor on any existing or possible future structural deficiencies, and provide alternative solutions when needed.

2001 – 2004: Graduate Teaching & Research Assistant, The University of Akron, Akron, Ohio, USA

- Present a comprehensive Asphalt Pavement Analyzer (APA) test program and test results. In particular, emphasis is placed on rutting behavior of various mixtures as determined by the APA, and the various factors affecting the rutting behavior of HMA mixtures as exhibited by the APA results.
- Investigate the mechanical properties of HMA in terms of the compressive stress – strain curves, and compressive strength of HMA specimens with initial anisotropy, tested under the effects of different deformation rates and different confining pressures.
- Evaluate the response of HMA specimens to repeated load testing, while the specimens' orientations are varied from the vertical to the horizontal directions.
- Develop empirical modeling techniques of the permanent strains accumulated in asphalt concrete pavements, as a function of stress level, number of load repetitions, and confining pressure.
- Assist in multiple projects including: field monitoring and instrumentation of moisture variations under flexible pavements, field monitoring and instrumentation of Mechanically Stabilized Earth Walls, field analysis and investigation of laterally loaded drilled shafts, durability and performance characteristics of polymer modified asphalt concrete, and writing quarterly reports for Ohio DOT.

• Teaching and grading home works and laboratory reports for undergraduate students. Some of the courses taught included: soil mechanics, materials and lab, survey and lab.

1996 – 2000: Graduate Teaching & Research Assistant, Jordan University of Science and Technology

• Conduct an experimental program to study the influence of wheat straw ash on the mechanical properties of mortar under different curing regimes, in conjunction with the effect of water to cement ratio and aggregate type.

• Teaching and grading home works and laboratory reports for undergraduate students. Courses taught included Structural and Materials courses.

COMPUTER SKILLS:

- Microsoft Office.
- CADD (Civil 3D, LDD & Civil Design).
- HEC RAS, Hydro CAD (for pond routing), Hydra Flow, Quick HEC 12, Culvert Master and Flow Master.
- Familiarity with TR – 55 design techniques and spreadsheets.

PUBLICATIONS:

• Al-Akhras, Nabil M., **Abu Alfoul, Bilal A**. "Effect of Wheat Straw Ash on Mechanical Properties of Autoclaved Mortar" Cement and Concrete Research. Vol. 32, issue 6, 2002, pages 859 – 863.

• Robert Y. Liang, **Bilal A. Abu Alfoul**, Mohammad Khasawneh "Laboratory Investigation of Anisotropic Behavior of HMA" Conference Proceeding of 2006 International Conference on Perpetual Pavement.

• Robert Y. Liang, Atef Saleeb, Husam Al Qablan, **Bilal Abu Alfoul**, Dave Powers, and Roger Green "Mechanistic Evaluation of Georgia Loaded Wheel Tester and Its Implications" International Conference on Highway Pavement (ICHP) Data, Analysis and Mechanistic Design Applications. 7 – 10 Sep. 2003. Vol. I, pp. 115 – 130.

• Hussein Aldeeky, Omar Al Hattamleh & Bilal Abu Alfoul "Effect of Sand Placement Method on the Interface Friction of Sand and Geotextile" International Journal of Civil Engineering, 2016.

• Bilal Abu Alfoul, Omar Al Hattamleh & Hussein Aldeeky "Investigating the effects of disc shaped thumb tacks as a "fiber" reinforcement on various concrete properties" Case studies in Construction Materials. Vol. 11, 2019

● Husam Al Qablan, Samer Rabab'ah, Bilal Abu Alfoul, and Omar Al Hattamleh "Semi-empirical buckling analysis of perforated composite panel" Mechanics Based Design of Structures and Machines. 2020, DOI: 10.1080/15397734.2020.1784198

PH.D. COURSE WORK:

Pavement Engineering
Finite Element Analysis I
Advanced Engineering Materials
Design of Earth Structures
Highway Materials
Advanced Soil Mechanics
Advanced Seminar: Civil Engineering
Soil Improvement
Soil Dynamics
Advanced Seminar: Geotechnical Engineering
Finite Element Analysis II
Numerical Methods – Geotechnical Engineering
Advanced Measurements and Data Analysis
Advanced Seminar: Civil Engineering