Khaldoon A. Bani-Hani

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PERSONAL DATA

- **SURNAME**: Bani-Hani **FIRST NAME**: Khaldoon **MIDDLE NAME(S)**: Ahmad
- **DEPARTMENT/SCHOOL:** Civil Engineering
- **FACULTY**: Engineering
- **PRESENT RANK**: Professor (Full)

EDUCATION

- **Ph.D.:** Civil Engineering, Structures, intelligent systems and earthquake resistance in civil Structures, **University of Illinois at Urbana-Champaign**, Urbana, U.S.A. November 1998
  *Dissertation: *Analytical and Experimental Study of Nonlinear Structural Control Using Neural Networks.*
- **M.S.:** Civil Engineering, Structures, Dam Engineering
  University of Illinois at Urbana-Champaign, January 1994.
- **B.S.:** Civil Engineering, Structures,
  Jordan University of Science and Technology, August 1991.
  - Ranked **first** on the 1991 class

AWARDS OF HONOR AND AFFILIATIONS

- The first prize in the "Fourth Undergraduate Research Experience Program (UREP) Competition" annual competition 2012.
- The Prince Al-Hasan Bin Talal award for the Academic Distinction and Recognition award for Top Rank student on the 1991 graduation batch.
- University award honor recipient for five Consecutive years at Jordan University of Science and Technology
- College of Engineering award honor recipient for five Consecutive years at Jordan University of Science and Technology.
- Scholarship from Jordan University of Science and Technology to pursue higher education leading to M.Sc. and Ph.D. degrees in Civil Engineering in U.S.A. at University of Illinois at Urbana-Champaign.
- Member of the Jordanian Association of Engineers. Certified Professional Engineer

EMPLOYMENT RECORD

University, Company or Organization	Rank or Title	Dates
Fahad Bin Sultan University (Saudi Arabia)	Professor	1/09/2019 - present
Qatar University (Doha-Qatar)	Visiting/Professor	5/09/2018 – 1/09/2019
Jordan University of Science and Technology	Full Professor	25/9/2017 - present
Jordan University of Science and Technology	Associate Professor-A	28/10/2013 – 25/9/2017
Jordan University of Science and Technology	Associate Professor-B	05/12/2006 - 28/10/2013
Qatar University (Doha-Qatar)	Visiting/Associate Professor	15/05/2007 - 01/09/2012
Jordan University of Science and Technology	Assistant Professor-A	22/08/2006 - 21/08/2007
Jordan University of Science and Technology	Assistant Professor-B	14/02/1999 - 22/08/2006
Jordan University of Science and Technology	Full time lecturer/Assistant Professor	14/02/1999 - 01/05/2000
University of Illinois at Urbana-Champaign	Graduate Research Assistant	01/05/1995 - 25/11/1998
Al Abdalat consultant Co., Amman, Jordan	Project Engineer	01/09/1991 - 01/09/1992
Jordan University of Science and Technology	Teaching Assistant	30/12/1991 - 01/09/1992

EXPERIENCE

- **9/2020-Present** **Dean College of Engineering,** Fahad Bin Sultan University, Tabuk, KSA
- **9/2019-Present** **Assistant Chancellor**, Fahad Bin Sultan University, Tabuk, KSA
- **9/2018-Present** **Professor,** Fahad Bin Sultan University, Tabuk, KSA
- **9/2017-9/2018** **Professor** of Structural Engineering, Qatar University, Doha, Qatar State
- **9/2017- Present** **Professor** of Structural Engineering**,** Jordan Univ. of Sci. &Tech.
- **9/2017- 9/2018** **Associate Dean,** Faculty of Engineering**,** Jordan Univ. of Sci. &Tech.
- **4/2018-4/2020** **Chief-in-Editor,** Jordan Journal of Civil Engineering JJCE.
- **09/2013-9/2017** **Chairman**, Civil Eng. Dept., Jordan University of Science &Tech.

  Department Chair Responsibilities and Achievements
  - Head of graduate students' committee
  - Head of quality assurance and **ABET** committee.
  - Managed to achieve ABET accreditation to the department from 2014 to 2022
  - Recruited and hired and at least six new faculties.
  - Supporting and sponsoring distinguished students to gain their Ph.D. as perspective faculty members.
  - Development and updating the department laboratory with up to date testing equipment
  - Day by day, help for students and faculty members in their academic responsibilities.
- 09/2012-09/2013 Jordan University of Science and Technology, Associate Professor
- 09/2007-09/2012 Qatar University, Associate Professor of Civil Engineering
- 09/2006-09/2007 Vice-Dean of Scientific Research, Jordan University of Sci & Tech.
  - Reviewing regular internal research and sabbatical leave proposals for funding
  - Responsible and following up research financial agreement.
  - Associate editor for Jordan Journal of Civil Engineering (JJCE)
  - External funding following up.
  - Associated in preparation of the strategic plan for the deanship.
  - Preparing the deanship of research yearly financial report.
  - Responsible for maintaining and updating the deanship's website
- 09/2004- 09/2006 Assistant Dean of Scientific Research, Jordan University of Sci & Tech.
  - Design and production of the Jordan Journal of Civil Engineering. (JJCE).
  - Updating the application templates "forms" for fund request.
  - Internal funding, External and sabbatical leave following up.
  - Development of the strategic plan for the Deanship
  - Editor of deanship newsletter.

- ***Associate Professor, Civil Engineering Department***.
  10/2006 – 9/2007: Jordan University of Science and Technology
- ***Assistant Professor, Civil Engineering Department***
  01/1999 – 2006: Jordan University of Science and Technology.
- ***Graduate Research Associate***:
  5/1995 - 11/1998 University of Illinois at Urbana Champaign
- ***Teaching Assistant:***
  12/1991 - 8/1992 Jordan University of Science and Technology
- ***Professional Structural Engineer:***
  12/1991 - 8/1992 Design Engineer, Consultant Engineer. Amman Jordan
  5/1990 - 8/1990 Trainee Engineer, Yarmouk University Engineering Office.

INDUSTRIAL ENGAGEMENT, CONSULTING AND TECHNICAL ASSISTANCE

- **Dubai**, Seismic hazard study and site specific study for the for Atlantis Site Project in Palm Jumeirah in Dubai (2014)
- **Aqaba**, Seismic hazard study and site-specific study for Aqaba (2011-2012).
- **Arbitration consultant**
  - Assigned by the court for the Doha sport stadium (project cost 20,000,000 QR).(2010)
  - Assigned by the court for air conditions installation in in military school of Doha. (5,000,000 QR),(2011)
  - Several major constructions in Doha (2007-2012)
- **Kabul seismic investigation and response spectrum development (Dubai)**
  - Developments of several earthquake response spectrums for structural design 2010.
- **Minister of Education (Jordan)**:
  - Structural Study and rehabilitation of Rquiah Secondary Boys School, Irbid, Jordan, 2000.
  - Structural Study and rehabilitation of Hiteen School. Qmeem, Irbid, Jordan 2003.
  - Structural Study and rehabilitation of Ramtha Secondary Girls School, Ramtha-Jordan 2003.
- **The Higher Counsel for Sports and Youth (Jordan)**
  - Static and Dynamic Evaluation of Al- Ramtha Stadium. Analysis, Design, material evaluation, static loading tests and finally recommendations and repairing measures (2002).
- **Higher Council for Science and Technology (Jordan)**
  - Structural team leader for the project entitled "Earthquake hazards evaluation and methods of mitigating their environmental impact" Funded by the. Amount 150,000 JD ($250,000 US). Period 1999 to 2000.
- **Al-Hasan Industrial Factories City (Jordan)**
  - Evaluation and structural Repairing of water tanks leakage of Jordan Clothing factory, 2005.
- **Al-Wehda Dam: Ozaltin Company Turkey**
  - RCC mix design; direct tension experiments; study and evaluation, 2004/2006
  - Long term evaluation and monitoring of RCC Dam body strength and Reliability(2005-present)
- **Bramco W.L.L, Durrat Al-Bahrain Project (Manamah)**
  - Fracture toughness evaluation and experiments for Rock in Al-Bahrain (2005-2007)
- **Andriolo Ito Engenharia SC Ltda**, **Brazil**
  - Penstock Nonlinear Dynamic Analysis Non-Linear FEM (2005)
- **Private Sector**:

- Several evaluation and consultation of deteriorated and structural problems followed by repairing and retrofitting.2002-2006
- Structural Engineer, Designer and site investigation.1991

COURSES TAUGHT (JORDAN UNI. OF SCIENCE AND TECHNOLOGY & QATAR UNI. & FAHAD BIN SULTAN UNIVERSITY)

Graduate Courses	Undergraduate Courses		
Finite Element Methods	Engineering Drawing	Statics and Strength of Materials	Engineering Mechanics
Structural Dynamics	Introduction to structural analysis	Structural analysis I	Structural analysis II
Theory of Plates and Shells	Advanced structural analysis and design of RC	Reinforced Concrete Design	Steel Design
Master Theses	Prestressed Concrete	Numerical Methods	Probability and statistics for engineers
Structural Control and soft computing (special Topics)	Introduction to Environmental Engineering	Selected Topics in structural design	Graduation projects I & II
Earthquake Engineering			
Advanced Structural Analysis			

GRADUATION PROJECTS ADVISEMENT

Several Civil engineering graduation projects (over 200) are supervised. These projects include designing tall buildings for static and dynamic response, designing prestressed bridges with different spans, designing water tanks for static and wind forces, designing steel frames, and several structural components. Students use commercial software "ETABS, SAFE, STADD, PROKON". Full AutoCad drawing and details are to be presented.

GRADUATE STUDENTS ADVISEMENT

MS.C Dissertations (advisor):

1. Wasim Saleem Barham, "*Active Control of Cable-stayed Bridges Vibrations Using Artificial Neural Networks*", (2001).
   Dr Wasim Barham, finished his Ph.D. from University of New York at Buffalo. He is an associate professor at Jordan University of science and Technology

2. Wael I. Al-Nahal, "*Active Control of Wind-Excited Nonlinear Tall Buildings Using Artificial Neural Networks"*, (2002).
   Dr Wael Al-Nahal, finished his Ph.D. from University of New York at Buffalo. He is an assistant professor at Qatar University

3. Mashal A. Sheban, "*Smart Hybrid Semi-Active Control of Base-Isolated Structures Using Artificial Neural Networks"*, (2003).
   Dr Mashal A. Sheban, finished his Ph.D. from University of Clarkson University. He is an assistant professor at Hadhramout University, Ymen
4. Alaa'T. Obaidat, "*Genetic Algorithm Based Methodology for Structural Design Optimization*", (2003).

Presently he is doing his Ph.D. in Ottawa Canada.

5. Musa R. Alawneh, "*Prestressed Post-tensioned Tendons Based Active Control for Bridges under Moving Loads*", (2005).
   Dr Musa finished his Ph.D. from University of Nebraska. He is a senior engineer in e.Construct in Dubai, UAE.

6. Mohammed R. Irshaidat, " *Vibration Analysis And Modelling of RCC Dams Using Finite Element Method*", (2006)
   Dr Mohammed finished his Ph.D. from Louisiana University and joined JUST.

7. Ansam M. Qasaymeh, " *Creep Model-Based Artificial Neural Networks for Concrete Under Compression Loading*", (2006)
8. Karim Hamdaoui, " *Historical Monument Health Monitoring Based on Ambient Vibrations*" (2006).
   Dr Karim obtained his Ph.D. from Pavia University Italy, and now he is an associate professor at Algeria

9. Anas Fwareh, "*Modeling, Identification, and health monitoring of Skylite Tower at Um-Ar-Rassas Using Ambient Vibration Tests'* (2007)
10. Ala'a Talleh "*Modeling and Optimization for Compressive and Tensile Strength of Concrete Mixtures Containing Carbon Nanotubes and Nanoclays Using Neural Networks and Genetic Algorithm Techniques*" (2014) *(*senior engineer in Kuwait firm for constructions).

11. Osama Al-Qadi "*Shape Memory Alloys and Magnetorheological Dampers for Hybrid Control of Cable-Stayed Bridges Using Artificial Neural Networks*" (2014) *(*Doing his Ph.D. in Qatar University).

12. Mua'th Abo-Qamar "*Generalized time history earthquake record for nonlinear dynamic analysis*" (2015) *(*Doing his PhD in Louisiana University)

13. Saed Qablan "*Active Control of Buildings' Response for Blast-Induced Vibration Using Neural Networks*" (2015)
14. Qusai Al-omari, "*Semi-active control of Structures Equipped with Magnetorheological (MR) Dampers Using Adaptive Neuro-Fuzzy Inference Systems (ANFIS)*" (2017)
    Full time lecturer at JUST.

15. Mubarak Abu-Zraiq, "*PID-Like Fuzzy control for vibration mitigation in civil structures reinforced with MR dampers*" (2017)
16. Hakam Abandeh, "*Study the effect of Corrosion at the Steel-Concrete Interface using Finite Element Method*", (2017)
17. Anas Sharo " *Implementation of neural network based constitutive model in finite element analysis*", (2017)
18. Yasmina Rousan, " *Study of the sustainability of houses built of rubble to be used for the refugees against hazardous loads*", (2018)
19. Ahmad Rababah, "*Adaptive Neuro-Fuzzy Inference System (ANFIS) To Control Nonlinear Highway Bridge*". (2018)
20. Mutaz AlDwairy, " *Analysis Of Static And Vibrated Plates With Piezoelectric Sensors And Actuators".* (2018)

Ms.C Dissertations (co-advisor):

1. Bayan F. AbuSafieh, "*Liquefaction Assessment by Artificial Neural Networks Based on CPT Field Data*", (2003). (full time lecturer at Israa university, Jordan)
2. Awadh Al-Omari, "*Wadi Hassan Waste Water Treatment Plant Simulation and Control Using Artificial Neural Networks*", (2004). (Senior Engineering in Saudi Arabia)
3. Nawras, N. Shatnawi, "Application *of Artificial Neural Networks (ANN) In Modelling and Optimization of Biogas Plant Operations*", (2006). (Assistant professor at Balqa University, Jordan)
4. Rami M. Alawneh, "*Applications of Artificial Neural Networks And Image Analysis Techniques in Modelling of Wastewater Treatment Plant in Jordan*", (2006). (Senior Engineering in Saudi Arabia)
5. Shadi Hanandeh, "*Estimation of Rock Mass Deformation Modulus by Artificial Neural Network*" (2006), (Studying his PhD in USA)
6. Sumaia Freewan, "*Impacts of Laboratory and Hospital Liquid Waste on JUST WWTP*", (2006)
7. Wasim Dawood, "*Finite Element Modeling of Roller Compacted Concrete and Earth-Fill Dams (Mujib Dam)*", (2006)

Ms.C Dissertation (active committee)

Over 100 dissertations

Ph.D. Dissertation (active committee)

Hadi Moghadasi Faridani**, "***Replacement beam methods in the analysis of tall building structural systems***"** Ph.D. Final Exam**,** at **University of Politecnico di Milano**, Supervisor: Prof. Antonio Capsoni on 16/12/2015

RESEARCH INTERESTS

- Finite element modeling
- **Earthquake Engineering** and Structural Dynamics
  - Experimental vibration analysis and seismic protection of structures
  - **Active control** of structures using modern technology in sensors and actuators.
  - Semi-active devices and Magentorheological (MR) Dampers.
  - Structural control and smart materials,
  - Prestressed bridge vibrations under moving loads; modeling and control
  - Wind-induced vibrations; modeling and control.
- **Structural health monitoring** and maintenance and retrofitting
- Soft computing, Neural Networks, genetic algorithm and fuzzy logic applications in civil engineering practice, Computational mechanics and soft computing systems
- Multi-objective structural optimization, genetic algorithm.
- Material modeling and geomechanics.
- Nanotechnology and Nano materials
- Steel corrosion
- Damage Detection and structural rehabilitations
- Wireless system applications in Civil Engineering

COMPUTER SKILLS

- Labview Graphic programming and Data Acquisition systems.
- MathCAD, MATLAB and SIMULINK for simulation and analysis
- Patran, Finite, Abacus, Sap90, Sap2000, Safe, Etabs, DRAIN-2DX, Interleaf6, Logos, Stadd pro, Prokon, IDARC, and many FEM Software.
- Office2007, 2016.
- AutoCad, Microsoft Visio.
- Work with different operation systems: DOS, WINDWOS, UNIX, VAX, APPOLO and Macintosh system.
- Computer Languages: FORTRAN, Visual FORTRAN BASIC, C++.
- Proficient in FORTRAN programming language for the development of engineering and scientific applications.
- Usage of SAS and SPSS statistical packages.
- Can manage, contribute and team in Web Site design using state-of-the-art web authoring & scripting tools and relevant utilities with dynamic linkage.

ACTIVITIES, PRESENTATIONS AND COMMUNITY SERVICE

- Presentation in workshops for Engineers in Municipality of Irbid in structural rehabilitations.
- Member of Jordanian Association of Engineers.
- Lecturer in the scientific day for engineering college in Jordan University of Science and Technology.(1999,2006)
- Part of consultation group for evaluation and assessments of Al-Ramtha stadium.
- Consultation work with ministry of Education for several school buildings under ground movements and expansive soils.
- Web administrator for the department of Civil engineering at JUST (2002-2006)
- Coordinator of Jordan Culture committee, 2003
- Supervisor of structural Engineering labs (2001, 2015)
- Coordinator, Scientific Research Committee, 2003-2004
- Member, Scientific Research Committee, 2004-2006
- Member of ABET Committee for Civil Engineering Program, 2006-2007, JUST
- Member of ABET Committee for Civil Engineering Program, 2008-2012, QU
- ABET Coordinator for Civil Engineering Department. 2013-present,JUST
- Member of committee to investigate the university body dam, 2001.
- Member of several committees formed by the presidents of the university to study the health of some governmental structures and find the suitable solutions. 2000-2007.

FUNDED RESEARCH

A. Funded Research *(By the Deanship of Scientific Research at JUST)*

- Damage prediction of pre-earthquake and post-earthquake structures using neural networks ($5000).
- Active control of cable-stayed brides using the neural networks ($4000)
- Vibration mitigation of nonlinear buildings under earthquake and wind forces using the neural network ($4500).
- Genetic Algorithm for Prestressed beam optimizations ($3900)
- Semi-Active hybrid control of buildings using smart materials and MR dampers ($3200)
- Prestressed Bridge vibration under moving loads; modeling and control ($3000)

B. Royal Scientific Society

- Historical structures rehabilitations and repairing. (Royal Scientific Society; Jordan) ($15,000)
- Structure behavior and their elements under earthquake effect for buildings in Jordan (Royal Scientific Society). ($12500)

Funded Research (By the Qatar University QU)

- Vibration mitigation for post-tensioned prestressed bridge using intelligent system based artificial neural networks. ($22,000)

FUNDED RESEARCH BY QNRF (DOHA).

- Corrosion detection of post-tensioned strands using wireless technology, 2010, ($60,000)
- Structural health monitoring using MEMS wireless technology and ARX based models 2011, ($24,000)
- Using waste tires as aggregate replacements for bricks. 2009, ($40000)
- **NPRP 4 - 1142 - 2 – 440.** *Multi-Resolution Analysis of Dispersion and Interfacial Bond in Carbon Nanofiber/Nanotube Reinforced Concrete for Improved Strength and Fracture Toughness*. My role was a principal investigator since 2011-2012, and then I moved to JUST and continue to work as research consultant on the project since 2012-2016. The funded budget is around **$900,000 for four years**. Several publications resulted from this project as seen in the publication section.

EXTERNAL INTERNATIONAL FUNDED PROJECTS

1. "Wide-range Non-intrusive Devices toward Conservation of Historical Monuments in the Mediterranean Area" funded by the European Union (65,000 EU) Jordan member team. 2004/2007

2. **"**Penstock Nonlinear Dynamic Analysis; Non-Linear FEM". Andriolo Ito Engenharia SC Ltda, Brazil, ($10,000), 2006

3. "Quality Assurance of Education in Jordan" project member with four other professors in Jordan Univ. of Sci. & Technolgy, TEMPUS project, European partners with KTH (Sweden) and UPC (Spain). (130,000 EU),2006/2007

4. "Fracture toughness evaluation and experiments for Rock in Al-Bahrain", Bramco W.L.L, Durrat Al-Bahrain Project, Bahrain ($100,000),2005/2006

5. "RCC mix design; direct tension experiments; study and evaluation with evaluation and monitoring of RCC dam strength and reliability", Ozaltin, Turkey ($50,000),2004/2007

INTERNAL REPORTS AND DOCUMENTS

- Stability Analysis of the above Ground Slopes for the Stacking Phosphogypsum in Aqaba, **Jordan Phosphate Mines, 2020**
- Several Factual Reports for **Ozaltin** Company for Direct tension Test results 2004/2006
- Seismic Evaluation and mitigation for Buildings in Jordan, Royal Scientific Research, 2004.
- Several reports to constructions companies in site-specific spectrum developments and PSHA study; Afghanistan, Dubai, Aqaba.

ONGOING RESEARCH

Several graduate students work with me as research assistants in the following subjects.

1. Vibration mitigation of pre-stressed bridges utilizing MR dampers with Fuzzy Logic controller.
2. MR dampers application in structural vibration using ANFIS.
3. Damage detection using wireless sensors and ARX methodology.
4. Neural Network for nonlinear material modeling integrated with Finite element method.
5. Study of the bond deterioration around steel bars due to corrosion. Modeling and verification.
6. Refugee' home replacements using wasted rubbles. Sustainability and feasibility.
7. Smart aggregate for bridge health monitoring.

PUBLICATIONS

Refereed Journals

1. Ahmad Y. Rababah, Khaldoon A Bani-Hani, Wasim Baraham. "Adaptive Neural Network Controller for Nonlinear Highway Bridge Benchmark" *Jordan Journal of Civil Engineering 13 (2),*April, 2019.

2. KM Abdalla, RZ Al-Rousan, MT Obaidat, OK Nusier, K Bani-Hani,"The Impact of Asphalt Wearing Surface Thickness on Response of Two-Span Continuous Cast-in-Place Prestressed Concrete Box Girder Highway Bridge", Journal of Engineering Science and Technology Review 12 (1), 173-177, 2019.

3. Mohamed Mohsen, Ramzi Taha, Ala G. Abu Taqa, Nasser A. Alnuaimi, Rashid K. Abu Al-Rub, and Khaldoon A Bani-Hani: *Effect of Nanotube Geometry on the Strength and Dispersion of CNT-Cement Composites.* in Journal of Nanomaterials Volume 2017(Article ID 6927416) · July 2017. DOI: 10.1155/2017/6927416

4. Khaldoon A. Bani-Hani, Abdallah I. Malkawi: *A Multi-step approach to generate response-spectrum-compatible artificial earthquake accelerograms*. Soil Dynamics and Earthquake Engineering 06/2017; 97(6): 117-132., DOI:10.1016/j.soildyn.2017.03.012

5. Ala G. Abu Taqa, Rashid K. Abu Al-Rub, Ahmed Senouci, Anton Popelka, Nasser Al-Nuaimi, Khaldoon A. Bani-Hani: *Experimental Prediction of the Elastic Properties of Nanocomposite Cementitious Materials Based on Nanoindentation Measurements*. Science of Advanced Materials 05/2017; 9(5):830–846.

6. Mohamed Mohsen, Nasser A. Alnuaimi, Rashid K. Abu Al-Rub, Ahmed Senouci, and Khaldoon A Bani-Hani: *Effect of mixing duration on flexural strength of multi walled carbon nanotubes cementitious composites*. Construction and Building Materials 11/2016; 126(C):586-598., DOI:10.1016/j.conbuildmat.2016.09.073

7. Khaldoon A Bani-Hani, Mohammad R. Irshidat, Rashid K. Abu Al-Rub, Nasser A. Al-Nuaimi, Ala'a T. Talleh: *Strength optimisation of mortar with CNTs and nanoclays*. ICE Proceedings Structures and Buildings 05/2016; 1400106(5):1-17., DOI:10.1680/jstbu.14.00106

8. Khaldoon A. Bani-Hani, Ahmed Senouci: *Using Waste Tire Crumb Rubber As an Alternative Aggregate for Concrete Pedestrian Blocks*. Jordan Journal of Civil Engineering 06/2015; 9(3): 400-409., DOI:10.14525/jjce

9. Ala G. Abu Taqa, Rashid K. Abu Al-Rub, Ahmed Senouci, Nasser Al-Nuaimi, Khaldoon A. Bani-Hani: *The Effect of Interfacial Transition Zone Properties on the Elastic Properties of Cementitious Nanocomposite Materials*. Journal of Nanomaterials 04/2015; 2015(6):1-13., DOI:10.1155/2015/258384

10. Ala G. Abu Taqa, Rashid K. Abu Al-Rub, Ahmed Senouci, Nasser Al-Nuaimi, Khaldoon A. Bani-Hani: *The Effect of Fiber Geometry and Interfacial Properties on the Elastic Properties of Cementitious Nanocomposite Material*. Journal of Nanomaterials 04/2015; 2015(6):1-14., DOI:10.1155/2015/283579

11. Rashid K. Abu Al-Rub, Sun-Myung Kim, Khaldoon A. Bani-Hani, Nasser Al-Nuaimi, Ahmed Senouci: *Finite element simulation of single carbon nanotube pull-outs from a cementitious nanocomposite material using an elastic-plastic-damage and cohesive surface models*. International Journal of Theoretical and Applied Multiscale Mechanics 08/2014; 3(1):31-57., DOI:10.1504/IJTAMM.2014.069448

12. Antonio Capsoni, Giovanni Maria Vigano, and Khaldoon Bani-Hani: *On damping effects in Timoshenko beams*. International Journal of Mechanical Sciences 08/2013; 73:27-39., DOI:10.1016/j.ijmecsci.2013.04.001

13. Hisham T. Eid, Khaldoon Bani-Hani: *Settlement of axially loaded piles entirely embedded in rock – analytical and experimental study*. Geomechanics and Geoengineering 01/2011; 7(2):1-10., DOI:10.1080/17486025.2011.578675

14. H. Abu Qdais, K. Bani Hani, N. Shatnawi: *Modeling and optimization of biogas production from a waste digester using artificial neural network and genetic algorithm*. Resources Conservation and Recycling 04/2010; 54(6): 359–-363 ,DOI:10.1016/j.resconrec.2009.08.012

15. Omer S. Mughieda, Khaldoon Bani-Hani, Bayan F. Abu Safieh: *Liquefaction assessment by artificial neural networks based on CPT*. International Journal of Geotechnical Engineering 04/2009; 3(2):289-302., DOI:10.3328/IJGE.2009.03.02.289-302

16. Khaldoon A. Bani-Hani, Hazem S. Zibdeh, and Karim Hamdaoui: *Health monitoring of a historical monument in Jordan based on ambient vibration test*. SMART STRUCTURES AND SYSTEMS 03/2008; 4(2):195-208., DOI:10.12989/sss.2008.4.2.195

17. Omer S. Mughieda, Khaldoon Bani-Hani: *Cracking of RC School Building Due to Soil Expansion*. Jordan Journal of Civil Engineering 12/2007; 1(4):393-408.

18. Khaldoon A. Bani-Hani, Musa R. Alawneh: *Prestressed active post-tensioned tendons control for bridges under moving loads*. Structural Control and Health Monitoring 04/2007; 14(3):357 - 383., DOI:10.1002/stc.162

19. Khaldoon A. Bani-Hani: *Vibration control of wind-induced response of tall buildings with an active tuned mass damper using neural networks*. Structural Control and Health Monitoring 02/2007; 14(1):83 - 108., DOI:10.1002/stc.85

20. Khaldoon Bani-Hani, Samer Barakat: *Analytical evaluation of repair and strengthening measures of Qasr al-Bint historical monument—Petra, Jordan*. Engineering Structures 08/2006; 28(10):1355-1366., DOI:10.1016/j.engstruct.2005.10.015

21. Khaldoon A. Bani-Hani, Mashal A. Sheban: *Semi-active neuro-control for base-isolation system using magnetorheological (MR) dampers*. Earthquake Engineering & Structural Dynamics 07/2006; 35(9):1119 - 1144., DOI:10.1002/eqe.574

22. Samer Barakat, Khaldoon Bani-Hani, Mohammed Q. Taha: *Multi-objective reliability-based optimization of prestressed concrete beams*. Structural Safety 07/2004; 26(3-26):311-342., DOI:10.1016/j.strusafe.2003.09.001

23. Khaldoon Bani-Hani: *Experimental study of identification and control of structures using neural network. Part 2: control*. Earthquake Engineering & Structural Dynamics 09/1999; 28(9):1019–1039., DOI:10.1002/(SICI)1096-9845(199909)28:9<1019::AID-EQE852>3.0.CO;2-X

24. Khaldoon Bani-Hani, Jamshid Ghaboussi, Stephen P. Schneider: *Experimental study of identification and control of structures using neural network. Part 2: Control*. Earthquake Engineering & Structural Dynamics 09/1999; 28(9):1019-1039., DOI:10.1002/(SICI)1096-9845(199909)28:93.3.CO;2-O

25. Khaldoon Bani–Hani, Jamshid Ghaboussi, Stephen P. Schneider: *Experimental study of identification and control of structures using neural network. Part 1: Identification*. Earthquake Engineering & Structural Dynamics 09/1999; 28(9):995 - 1018., DOI:10.1002/(SICI)1096-9845(199909)28:9<995::AID-EQE851>3.0.CO;2-8

26. Khaldoon Bani-Hani, Jamshid Ghaboussi: *Neural networks for structural control of a benchmark problem, active tendon system*. Earthquake Engineering & Structural Dynamics 11/1998; 27(11)., DOI:10.1002/(SICI)1096-9845(1998110)27:113.0.CO;2-T

27. Khaldoon Bani-Hani, Jamshid Ghaboussi: *Nonlinear Structural Control Using Neural Networks*. Journal of Engineering Mechanics 03/1998; 124(3)., DOI:10.1061/(ASCE)0733-9399(1998)124:3(319)

Selected Conference Proceedings

1. W Barham, K Bani-Hani, M Mohammad, "Derivation of the Governing Differential Equation of Vibrating Host Plate with Two Piezoelectric Patches", Qatar Univesrity Press, 2020

2. Khaldoon A. Bani-Hani, *and* Mu'ath I. Abu Qamar, "*Artificial Earthquake Record Generation Using Cascade Neural Network*", Proceedings of the International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17), Sharjah, United Arab Emirates, April 18 – 20, 2017. doi.org/10.1051/matecconf/201712001010

3. Omer Mughieda1, Kenan Hazirbaba, Khaldoon Bani-Hani, Waseem Daoud. "Numerical Modeling of Sliding Stability of RCC Dam", The Second International Conference on Civil Engineering and Materials Science (ICCEMS 2017), Seoul, Korea May 26-28, 2017. DOI: 10.1088/1757-899X/216/1/012023

4. Hamdaoui Karim, khaldoon bani-hani, Zibdeh Hazim: *Structural health monitoring of a historical monuments based on ambient vibration tests*. 11th Arab Structural Engineering Conference (ASEC11), Dhahran, Saudi Arabia; 10/2009

5. K. Bani-Hani, "*Seismic Analysis and Retrofitting of Qasr Al-Bint*", The Fourth Jordanian International Mining Conference, Amman, Jordan, September 2004.

6. K.A. Bani-Hani, A.T. Obaidat: *A Genetic Evolution Algorithm for Structural Optimization*. The Fourth International Conference on Engineering Computational Technology; Lisbon, B.H.V. Topping (Editor), Civil-Comp ,2004, DOI:10.4203/ccp.80.96

7. M.A. Gharaibeh, K.A. Bani-Hani: *Prediction of Phytotoxicity of Metal Uptake in Plants using Artificial Neural Networks*. The Seventh International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering; 01/2003, Civil-Comp Ltd., Stirling, Scotland, B.H.V. Topping (Editor), 2003. DOI:10.4203/ccp.78.56

8. K.A. Bani-Hani: *Artificial Neural Networks Based Control Method for Wind-Excited Buildings*. The Seventh International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering; , Civil-Comp Ltd., Stirling, Scotland, B.H.V. Topping (Editor), 2003 , DOI:10.4203/ccp.78.47

9. Khaldoon Bani-Hani, Jamshid Ghaboussi, Stephen P Shneider: *Experimental Study Of The Parametric And Non-Parametric System Identification Using Neural Networks*. 12th World Conference on Earthquake Engineering, Auckland, New Zealand, 30/1/1999 – 4/2/ 2000. Publisher: Upper Hutt, N.Z. ISBN:0958215448

10. K. Bani-Hani, J. Ghaboussi and S. P. Schneider "*Experimental Study of Neural Network Based Structural Control*", EERI '98, UIUC, U.S.A, May 31st –June 4th, 1998

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12. J. Ghaboussi, K. Bani-Hani, '*Neural Network based nonlinear structural control methods*", Proceedings of the Second International Workshop on Structural Control, Hong Kong, 18-21, Dec, 1996: pp 198-220.

13. Khaldoon Bani-Hani: *Neural Network Based Nonlinear Structural Control Methods*. 2nd International Workshop on Structural Control, Hong Kong; 12/1996

UNIVERSITY COMMITTEES

- University Primary Disciplinary Council for staff.
- Faculty ABET Committee.
- Engineering Training Committee at the Department and Faculty Levels.
- Graduate Studies Committee.
- Graduation Committee.
- Scientific Research Committee
- Library Committee.

- Computer Committee.
- Social Committee.
- Coordinator for structural Group
- Structural Laboratory Coordinator

PARTICIPATION IN WORKSHOPS AND SEMINARS

1. **Erasmus+ International Program**, Lecturing tour in Technical University of Crete. 12-17/11/2016.
2. International Stadiums & High-Rise Buildings, **"An Interactive Workshop on the Trends, Techniques & Pitfalls**" By, Roger Westbrook is a UK based Author, Workshop in Millennium Hotel, Doha-Qatar ,Doha 4-5 April.2011.
3. **"Dissemination workshop of** Wide-range Non-intrusive Devices toward Conservation of Historical Monuments in the Mediterranean Area **Project, April 2007.**
4. **"Quality Assurance and Development Sustainability",** Barcelona, Spain, September 8-17 2006
5. **"Scientific day for engineering college in Jordan University of Science and Technology"** Lecturer in the.(1999,2006) (Toward a leading college in engineering)
6. **"Structural rehabilitations"** Workshops for Engineers in Municipality of Irbid, Jordan, 2003

REVIEWER/REFEREE/ ORGANIZING CONFERENCES

Refereed several papers for the
Journal of Structural Engineering, ASCE
International Journal of Solids and Structures,
Journal of sound and vibrations,
Journal of Vibration and Acoustics, ASME
Structural control and health monitoring journal
ICE buildings and structures journal.
Editorial board member of "The Ninth International Conference on the Application of Artificial Intelligence to Civil, Structural and Environmental Engineering, AICCC2007"
Organizing and Editorial board member of CESARE'17 International Conference "Coordinating Engineering for Sustainability & Resilience"
Organizing and Editorial board member of CESARE'47 International Conference "Coordinating Engineering for Sustainability & Resilience"
Editorial board member of International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17), Sharjah April 18/2017

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