CURRICULUM VITAE

NAME

GHAZI A. F. R. ABU-FARSAKH
Date of Birth: 13/4/1956

ADDRESS

Civil Engineering Department
Jordan University of Science and Technology (JUST), Irbid- Jordan
Tel. (02) 7201000 Ext. 22140
Fax: 00962-2-7201074
E-Mail: ghazi@just.edu.jo
Mobile: 00962-795626917

EDUCATION

-Ph.D., London University , Queen Mary College, London 10/1979-2/1984.
"Title of thesis: "Analytical and Experimental Study of Buckling of Composite Shells".
- B.Sc., Ain Shams University , Cairo, 1973-1978, English as language of Instruction. Rank: First in Structures.
- Salah Al-Deen Secondary School, Kuwait, 1973, Arabic as Language of Instruction, Rank :Seventh, 91.8% .

TEACHING EXPERIENCE

Academic Ranks

- Assistant Professor (B), Yarmouk University , (1984-1986).
- Assistant Professor (B), Jordan University of Science & Technology, (1986 - 1989).
- Assistant Professor (A), Jordan University of Science & Technology (1989 - 1990).
- Associate Professor (B), Jordan University of Science & Technology (1990-1993).
- Associate Professor (B), Al-ISRA University, Amman, sabbatical Leave (1993 - 1994).
- Associate Professor (A), Jordan University of Science and Technology (1994 - 1998).
- Professor, Jordan University, Amman, sabbatical leave (1997 – 1998).

- Professor, Jordan University of Science and Technology (1998 – working). Date of Promotion to f Professorship RanK: 11/1/1998.
- Professor, Al-Isra University, Amman, sabbatical leave (2006 –2007).
- Professor, Jerash University, Amman, sabbatical leave (2011 –2012).
- Professor, Yarmouk University, Irbid, sabbatical leave (2018-2019).

Administrative Positions

- Chairman of Civil Engineering Department (Sept. 1992 - Sept. 1993), Jordan University of Science and Technology (JUST).
- Chairman of Civil and Architecture Engineering Department , Al-ISRA University, Amman , Jordan , (Sabbatical year: 1993 -1994).
- Dean of Engineering Faculty, Jerash University, Jerash, Jordan (Sabbatical year : Sept. 2011- Sept. 2012)
- Acting President of Jerash University for one week during sabbatical leave (2012).

Courses

The following courses are taught:

1. Undergraduate Courses (JUST)
- Basic Programming Language.
- Engineering Drawing
- Statics
- Strength of Materials
- Structural Analysis I
- Structural Analysis II
- Structural Steel Design (using AISC-Specifications)
- Matrix Analysis of Structures
- Graduation Project 1 and 2 (Structures)

2. Undergraduate Courses (Al-ISRA UNIV.)
- Statics
- Strength of Materials
- Structure I
- Structure II
- Applied Structures II
- Structural Steel Design

3. Undergraduate Courses (JORDAN UNIV.)
- Statics
- Strength of Materials
- Structural Analysis-I
- Structurl Steel Design

4. Undergraduate Courses (JERASH UNIV.)

- Strength of Materials
- Structural Analysis-I
- Structurl Steel Design

5. Master Courses (JUST)

- Advanced Structural Mechanics
- Stability of Structures
- Special Topics (Mechanics of Composite Materials)
- Advanced Design of Steel Structures
- Supervising Master Thesis

6. Master Courses (JORDAN UNIV.)

- Advanced Structural Analysis
- Advanced Mechanics of Materials
- Plastic Design of Steel Structures

Examination Committees

- Member of several examination committees for Master and Ph. D. thesis at Jordan University of Science and Technology and Jordan University.
- Member of several examination committees for undergraduate projects.

RESEARCH INTERESTS

- Modeling the behavior of composite materials.
- Finite element analysis of multi-layered composite Plates and shells; linear, nonlinear, buckling, and vibration.
- Experimental techniques in structures.

PRACTICAL INTERESTS

- Analysis, design and construction of steel structures.
- Supervising and rehabilitation of concrete structures.

GRADUATE STUDIES

Supervised several M.Sc. and Ph.D. Thesis:

Completed Master Thesis

1. Khalid Zibdeh, " *Improvement of ten-node triangular finite element for linear analysis of plates and shells* ", Dec. 1989.

2. Mohammed Thiab, " *Effect of fiber orientation on the buckling of laminated cylindrical shells* ", May 1990 .

3. Sameer A. Al-Jawhary, "*Parametric study of double-layer space frame grids* ", Aug. 1990.

4. Amin K. Hebboub ,"*A New model with a parametric study of space Frame double -layer grids adopting a varying hexagonal module*", Dec. 1990 .

5. Mohammed A. Qasem," *Local and global smoothing of stresses in finite element analysis using least-squares method* ", June 1991.

6. Ahmad A. Salameh," *Study of the effectiveness of bimodular composite material models*", Jan. 1993.

7. Khaled Abhari, " *Study of various failure criteria and applications to composite laminates*", Aug. 1994, (Main supervisor)

8. Nidal M. H. Husein, " *Strength prediction of fibrous composite plates using finite element method*", May 1995.

9. Khaled A. H. Hamad, " *Compressive strength prediction of fiber-reinforced composite materials using mcro-mechanical modeling* ", April 1996.

10. Naser R. Al-Zobi, " *Effect of material nonlinearity in unidirectional composites on the behavior of beam and frame structures* ". June 1997.

11. Farid H. Al-Rawi, " *Characterization and modeling of damage of composite materials* ", October 1997.

12. Hayder, M. Y. Al-Mayali*," Stability analysis of delaminated axially loaded members made of composite materials* ", November 1997.

13. Fawaz, F. Al-Nabulsi, *" Effects of central rectangular holes on the behavior of orthotropic plates using finite element method* ", December 1998, (Co-supervisor, Jordan University).

14. Ayad Ali-Humadi, " *Tension failure of laminated fibrous composites with holes* ", June 1999.

15. Rashid K. R. Abu Al-Rob, " *Nonlinear material behavior of fiber-reinforced composite plates subjected to out-of-plane loading* ", Nov. 2000.

16. Nabeela M. Abu-Dayya, " *Structural seismic behavior of beam-column joints using high performance concrete* ". May 2003, (Co-supervisor).

17. Amin H. Almasri, *" Effect of material nonlinearity on failure progress in laminated fibrous composite shells using finite element method* ". April 2004.

18. Tareq B. Z. El-Ghul, " *A micro-mechanical model for prediction of fibrous composite stiffness and strength properties*". December 2004.

19. Yasmeen T. Obaidat, "*Retrofitting of reinforced concrete beams using composite laminates*". May 2007.

20. Ahmad G. M. Tarabesheh, "*Nonlinear seismic analysis of high-rise buildings with semi-rigid connection*". December 2010, Co-supervisor (Jordan University).

21. Anas M. S. A. Ghanmeh, " *Bracing effect of masonary infill walls on reinforced concrete frames subject to earthquake loading*". December 2010, (Co-supervisor with Jordan University).

22. Dana H. A. Qa'dan, " *Effect of central holes on fibrous composite laminated plates subject to in-plane loading",* December 2011 (Main Supervisor).

23. Asad S.i Albustami " *Effect of nonlinear material behavior of rectangular laminated composite plates with central rectangular hole subjected to out -of-plane loading using finite element method*", April 2013, (Co-supervisor with Jordan University).

24. Kamal A. Al-Faqeeh, " *Behavior of steel beam-to-column connections subjected to shear force and/or moment using finite element method* ". Mayl 2013.

25. Areej Th. Malkawi ," *Behavior of laminated composite curved beams subjected to end bending moment* ", April 2013.

26. Reem A. K. F. Aboznemah , " *Buckling of laminated fiber-reinforced composite cylindrical panels under external pressure*", June 2014.

27. Sora R. Al-Rousan, *" Effect of a central hole on stress-concentration in an open cylindrical composite panel subjected to uniform axial tension loading*", December 2015.

28. Nasser Kh. Al-Huthaifi, "*Parametric study of the effect of the geometric design parameters on the structural design aspects of lattice metal braced dome structures subjected to static loads*", May 2016.

29. Montaha Y. Alshdiefat, "*Strengthening of steel beams using Carbon Fiber Reinforced (CFRP) composite plates*". May 2016.

30. Haitham M. A. Al-Jarrah, "*The effect of matrix-cracking on the strength and behavior of unidirectional composite laminates*". May 2017.

31. Ahmad M.A. Asfa, "*Macro-mechanical damage modeling of fibrous composite materials accounting for non-linear material behavior*", July 2017.

32. Haitham Al-Harahsheh, "*Nonlinear finite element modeling of reinforced concrete beam-column joints retrofitted using various plates-configrations of carbon fiber-reinforced polymers*", Jan. 2022.

33. Ibrahim Nassem Odeh," *A new damage-based failure criterion for nonlinear behavior of fibrous composite materials***",** Nov. 2022**.**

Ongoing MSc. Thesis

1. Ammar M. Shorman, "*Generalized damage-based material model for fibrous composite laminas*".

2. Mohamad Y. Yaghi, "*Investigating the behavior of indeterminate steel beams strengthened using carbon fiber reinforced polymer (CFRP) composite plates utilizing the finite element method*".

Completed Ph.D. Thesis

1. Hani A. K. Qedan, *" Buckling of steel portal frames considering geometric and material non-linearities "*, March 2003, Co-supervisor (Jordan University).

2. Raja M. Younes, *" Effect of Welding on lateral-torsional buckling resistance of I-shaped built-up sections", February 2008, Co-supervisor (Jordan University).*

Ongoing Ph. D. Thesis

1. Abeer A. Dallou, "Improving The Critical-Moment Strength Due to Lateral-Torsional-Buckling of CFRP-Strengthened Built-up Steel Beams".

GRANTS AND CONTRACTS:

- Contract working as *Associate Professor (B*) Al-ISRA University, Amman, Jordan, 1993-1994.

- *Ph.D.* Grant: Bizzari Engineering Incorporation, Geneva, Switzerland (Their subsidiaries. Stemmos Ltd. , London), 1979-1984.

- Contract working with Al-Hani Company as *Site Engineer*, Kuwait, 1978-1979.

- Grant No. *2/87 (JUST)*: " Improvement of Finite Element Method " , Investigator : G. Abu-Farsakh.

- Grant No. *62/87 (JUST)*: " Vibration Analysis for Gas Turbine Engine Blades Using New Triangular Finite Element ", Investigators: G. Abu-Farsakh and N. Khader.

- Grant No. *15/97 (JUST), 2500 JD*: " Flexural Buckling of Pretwisted Columns: Experimental Study ", Investigators: S. A. Barakat, G. A. Abu-Farsakh and M. Smadi.

- Grant No. *30/2000 (JUST),5000 JD*: "Behavior of extended end-plate for beem-to-column connection (experimental study)", Investigators : Kh., Nusairat, G. A. Abu-Farsakh and S. Barakat.

- Grant No. *12/2002 (JUST), 3000 JD*: "Structural seismic behavior of beam-column joints using high performance concrete ", Investigators: M. J. Shonnak, and G. A. Abu-Farsakh.

- Grant No. *166/2002 (JUST),1050:* " Effect of material nonlinearity on failure progress in laminated fibrous composite shells using finite element method", Ghazi A. Abu-Farsakh and Amin H. Almasri.

- Grant No. *168/2002 (JUST),700 JD:* "A micro-mechanical model for prediction of fibrous composites stiffness and strength properties", Investigators: Ghazi A. Abu-Farsakh and Tareq B. Z. El-Ghul.

- Grant No. 7/2014 (Yarmouk University), 22,012 JD. "Retrofitting of reinforced beam-column joint with FRP under cyclic loading". Yasmin Obeidat, Ghazi Abu-Farsakh and Ahmad Shteiat.

- Grant No. 883/2022 (JUST), 9,985 JD. "Improving The Critical-Moment Strength Due to Lateral-Torsional-Buckling of CFRP-Strengthened Built-up Steel Beams". Ghazi A. Abu-Farsakh.

HONORS AND AWARDS

- Ghazi Abu-Farsakh and Amin Almasri from JUST Get the Best Software Award from the University of Philadelphia for year 2015, Software Title: ALYAF-CSD, Amman-Jordan, 5/5/2016.

ACADEMIC PERFORMANCE

- First through primary to high school.
- Seventh of Merit list in final of secondary school in state of Kuwait, 1973.
- Awarded seven gold medals from state of Kuwait on the extra-ordinary performance in school .
- Stood third in an International United Nation student standard test (10th grade, 1971).
- Stood second in a nation-wide essay contest on the subject: Electro-Magnetic Waves, Kuwait, 1972.
- Stood first amongst Structural Group with first class honors in B.Sc. Civil Engineering Department, Ain Shams University, Cairo, Egypt, 1978.

COMMITTEES

Participated in the following committees for several times:

1) Department Committees (JUST)

- Promotion
- Graduation Projects
- Courses and Graduation
- Computer and Library
- Social Activities
- Specialization
- Courses' Equivalency
- Department Promotion
- Scientific Research and Graduate Studies
- Appointments

2) College Committees (JUST)

- *College of Engineering Council (elected* twice)

- Promotion
- Appointment
- Library

3) University Committees (JUST)
- University Promotion-Regulations
- University Saving Committee

4) College Committees (Al-ISRA UNIV.)
- College of Engineering Council

5) University Committees (Al-ISRA UNIV.)
- University Council

6) University Committees (JERASH UNIV.)
- University Council
- Deans Council

WORKSHOPS AND TRAINING COURSES

- Presented a workshop on “Steel Bolted Connections: Part I”, using the AISC-Code, Jan. 29, Feb. 2-3, 2006.

- Presented a workshop on “ Stability of steel-frame structures”, Sep. 25-27, 2000.

- Prepared to give: Workshop on “ Advanced composite materials; mechanics & applications “.

COMMUNITY SERVICE

- Participated in the design of strong steel floor in the structural lab.- Civil Engineering Department at Jordan University of Science and Technology (*JUST*), JORDAN.

- Design of a steel ramp for the entrance of the structural lab. at Jordan University of Science and Technology (*JUST*), JORDAN , to support heavy machinery of maximum of 40 tons.

- Design of large cantilevered steel signals at the main entrance of (*JUST*), JORDAN.

- Participated in the design of the steel stage for the opening ceremony of at (*JUST)*, JORDAN.

- Chairman of committee for design of steel shelters for the Service & Transport Department at (*JUST*), JORDAN.

- Chosen as *ICCE/2* distinguished regional representative (*Second International Conference on Composites Engineering*), New Orleans, U.S.A.

MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL SOCIETIES

- Chosen as a member of both the Editorial Board and Local Advisory Committee for the *Jordanian Journal of Civil Engineering* assigned by Minister of Higher education for two successive periods three years each (2004- 2007, 2007-2010).

- Member of Advisory Board of Ghazi University *Journal of Science*, Turkey, 2006-2016.

- Invited member of International Community of Composites Engineering (*ICCE*), University of New Orleans, New Orleans, U.S.A., 1994-1996.

- Invited member of The International Advisory Committee as a representative to JORDAN, *Tenth International Conference on Composite Materials*, (*ICCM-10*), to be held in Vancouver-CANADA, 1995.

- Invited member of Scientific Committee, Ninth International Conference on Composite Materials, (*ICCM-9*), Madrid-SPAIN, 1993.

- Member of *Society for Experimental Mechanics* (*SEM*), 1984-1986.

- Member of *Jordanian Engineering Association,* since 1978.

- Member of *Kuwait Society of Engineers*, 1978-1979.

PROFESSIONAL AND SCIENTIFIC MEETINGS

1. *Conference on Experimental Mechanics* , Las Vegas, Nevada, June , 1985. Paper title: "Experimental Determination of the Geometric imperfections Related to Buckling of GRP-Shells".

2. *Twelfth International Congress for Statistics, Computer Science, Social and Demographic Research* , Ain Shams Univ., Cairo, 28 March -2 April 1987. Paper title: "A Modified Ten-Noded Triangular Finite Element for Coarse Mesh Divisions".

3. *First Alexandria Conference on Structural and Geotechnical Engineering,* Alexandria Univ., Alexandria, 1-3 Dec. 1990. Paper title: " Computer Aided Design of Steel Structures".

4. *Ninth International Conference on Composite Materials (ICCM-9)* ,Madrid-Spain, 12-16 July 1993. Paper title: "Prediction of Failure Modes of Fibrous Composite Materials".

5. *Second International Conference on Composites Engineering (ICCE/2)*, New Orleans, U.S.A., 21-24 August, 1995. Paper title: " Prediction of Failure of Laminated Fibrous Composite Materials".

6. *Ninth Arab Structural Engineering Conference (9ASEC),* Abu Dhabi, UAE, November 29- December 1, 2003. Paper title: " Effect of Material Nonlinear Behavior of Fibrous Composites on Bending of Plates".

7. *Seventh international Conference on Concrete Technology in Developing Countries (7th ICCT) "*, KualaLumpur, Malyasia, October 5-8, 2004. Paper title: " Effect of Material Nnonlinearity on Failure of Llaminated Fibrous Composite Shells Using Finite Element Method ".

8. *Tenth Arab Structural Engineering Conference (10ASEC)*, Kuwait , November 13-15, 2006. Paper title: " Buckling of Steel Portal Frames Considering Material Nonlinearity: An Experimental Study".

9. *International Symposium on Aircraft Materials* (*ACMA-2010*), " Damage and Fatigue Diagnostics ", Marrakech, Morocco, May 12-14, 2010. Paper title: A Composite Finite Element to Predict Failure Progress in Composite Laminates: Comparison with Theories and Test Results.

10. *CESAE'14 Conference*, Amman, Jordan April 24-27, 2014. Paper title: "Investigation of Failure Progression in Composite Laminates".

11. *Global Conference on Material Sciences*, Antalya, Kemer, Turkey, 13-15 November , 2014. Paper title: " A nonlinear material model for fibrous composite materials and its effect on in-plane lamina stresses".

12. *International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems* (*ASCMCES-17*), Paper title: "Effect of nonlinear material behavior of laminated composite plates with central rectangular hole subjected to out -of- plane load". Sharjah University, UAE, April 18-20, 2017.

13. *International Conference Coordinating Engineering for Sustainability and Resilience-* (*CESARE'17*). Paper title: " Optimal aspect-ratio for different types of braced-domes subjected to gravity loads". In, Dead Sea, Jordan, May 3-8, 2017.

14. *Fourteenth Arab Structural Engineering Conference (ASEC-14)*. In Irbid, Jordan University of Science and Technology, April 12-15, 2018.

15. *The Thirteenth International Conference on Computational Structures Technology (CCST-2018)*. Paper title: "Effect of a central square hole on stress-concentration in an open cylindrical composite panel subjected to uniform axial tension loading". In Barcelona- Sitges-, Spain, September 4-6, 2018.

16. *The international conference on innovative materials, manufacturing, and advanced technologies* (*IMMAT'2019*). Paper title: "An innovative Damage-Model for Fibrous Composite Laminates with Multiple Material-Nonlinearities". In Monastir- Tunisia, 17-19 October 2019.

REVIEWER OF SCIENTIFIC ARTICLES

- Reviewer of several scientific papers in *Abhath Al-Yarmouk* journal, Yarmouk University, Irbid, JORDAN.
- Reviewer of several articles in the *ICCM-9 Conference* and member of Scientific Committee, 1993, Madrid, SPAIN.
- Reviewer of articles in *Journal of Sound and Vibration*, London, U.K.
- Reviewer of several articles in *ICCM-11 Conference*, Gold Coast, Australia, 1997.
- Reviewer of articles in *Jordan Journal of Applied Sciences*, Amman, Jordan.
- Reviewer of articles in *3rd Jordanian Civil Engineering Conference*, Amman, Jordan, 2002.
- Reviewer of articles in *Dirasat* journal, Jordan University.

- Reviewer of articles in *Najah University Research Journal* (*for Natural Sciences*).

- Reviewer of articles in *Steel and Composite Structures* journal,Techno-press.

- Reviewer of articles in *Gaza Islamic University* journal

- Chosen as a referee member for the best translated book prize suponsered by Philadelphia University, Jordan.

- Reviewer of articles in *Jordan Journal of Civil Engineering*, JUST, Jordan.

- Reviewer of articles in journal of Engineering Strutures, 2019.

COMPUTER CAPABILITIES

- Developed several computer programs using FORTRAN and BASIC programminig languages for different structural applications.

- Ability to deal with Personal (PCs) and Main System computers.

- A friendly user to several MS-Windows programs.

- A friendly user to internet applications and programs.

The research papers which appeared in the **PUBLICATION** section and my present research work have been categorized into three major areas according to their structural relations and have been incorporated into three developed different computer packages as follows:

- Finite element analysis and applications $\Rightarrow$ **FELINE**
- Mechanics of composite materials models and theories $\Rightarrow$ **MCOMP**
- Steel structures analysis and design aspects$\Rightarrow$ **PROSSAD**

- Developed a **FELINE** (**F**inite **E**lement **LINE**ar) computer package using a Windows-based Visual Basic computer language for:
  - Linear elastic analysis of plates and shells using finite element method.
  - Linear analysis of plates and shells considering nonlinear material effect.
  - Determination of laminate strength at failure.
  - Crack propagation in multi-layered composite shells.

- Developed a **MCOMP** (**M**echanics of **COMP**osites) computer package using a Windows-based Visual Basic computer language for the prediction of composite materials behavior such as:
  - Material property constants.
  - Prediction of stress-strain response in different fiber directions.
  - Prediction of lamina and laminate strengths for different plane-stress combinations.
  - Damage analysis of composite lamina and laminates.

- Developed a steel **PROSSAD** (**PRO**gram for **S**teel **S**tructures **A**nalysis & **D**esign) computer package using a Windows-based Visual Basic computer language for analysis and design of different plane steel structures using the AISC-ASD specifications.

OTHER ACTIVITIES

- Participated in *Engineering Education* Workshop, JUST, JORDAN, Sept. 1987.

- Participated in *Administrative and Financial Development* Workshop, JUST, JORDAN, Jan. 1993.

- Participated in several *Education* Workshops, AL-ISRA university, JORDAN, 1994.

- Participated in a Workshop on *Graduate Studies, Part 1: Supervising Master Thesis*, JUST, JORDAN, April 1995.

- Participated in Workshop on *Graduate Studies, Part 2: Comprehensive Exam, Master Thesis, Grades and Evaluation*, JUST, JORDAN, June 1995.

- Chosen as a referee-member for several promotions for the rank of Professorship for several Arab universities.

CONSULTATIONS

- Participated (as a team leader) in the rehabilitation of a four-story concrete building in Irbid city having crushed column-necks slightly above the foundation level, (1998).

- Assigned, from the Higher Education Council in Jordan, as a member of the general accreditation committee for the Al-Zaytoonah Jordanian Private University, (1999).

- Assigned from the Ministry of Higher Education/ Accreditation Committee as a chairman of the accreditation committee for three community colleges: Al-Razi, Ibn-Khaldoon and Al-Mafraq National colleges.

- Participated (as part of a team) in re-analysis and re-design of Al-Ramtha stadium (concrete structure), Al-Ramtha city - Jordan, (2000).

- Assigned, from the Minister of Public Works and Housing, as a member of the technical committee for investigating reasons of failure of several steel structures in Jordan due to the revealing weather conditions (2003).

PRESENTATIONS

1. Presented a paper entitled: " Experimental Determination of the Geometric Imperfections Related to Buckling of GRP-Shells ", In *Conference on Experimental Mechanics*, Las Vegas, Nevada, USA ,June 1985.

2. Presented a paper entitled: " A modified Ten-Noded Triangular Finite Element for Coarse Mesh Divisions ", In *Twelfth International Congress for Statistics, Computer Science, Social and Demographic Research*, Ain Shams Univ., Cairo, Egypt, 28 March-2 April, 1987.

3. Presented a paper entitled: " Computer Aided-Design of Steel Structures ", In *First Alexandria Conference on Structural and Geotechnical Engineering* . Alexandria Univ., Alexandria, 1-3 Dec., 1990.

4. Presented a paper entitled: " Prediction of Failure Modes of Fibrous Composite Materials ", In *Ninth International Conference on Composite Materials (ICCM-9)*, Madrid, Spain, 12 - 16 July, 1993.

5. Presented a paper entitled: " Prediction of Failure of Laminated Composite Materials ", In *Second International Conference on Composites Engineering (ICCE/2)*, New Orleans, U.S.A., 21-24 August, 1995.

6. Presented a paper entitled: " Effect of Material Nonlinear Behavior of Fibrous Composites on Bending of Plates". In *Ninth Arab Structural Engineering Conference (9ASEC),* Abu Dhabi, UAE, November 29- December 1, 2003.

7. Presented a paper entitled: “ Effect of Material Nonlinearity on Failure of Laminated Fibrous Composite Shells Using Finite Element Method *“.* In *Seventh international Conference on Concrete Technology in Developing Countries (7th ICCT)*, KualaLumpur, Malyasia, October 5-8, 2004.

8. Presented a paper entitled: ”Buckling of Steel Portal Frames Considering Material Nonlinearity: An Experimental Study”, In *10th Arab Structural Engineering Conference*, Kuwait , November 13-15, 2006.

9. Presented a paper entitled: "A Composite Finite Element to Predict Failure Progress in Composite Laminates: Comparison with Theories and Test Results", In *International Symposium on Aircraft Materials* (*ACMA-2010*): *Damage and Fatigue Diagnostics*, Marrakech, Morocco, May 12-14, 2010.

10. Presented a paper entitled: " Investigation of Failure Progression in Composite Laminates ", In *CESAE'14-Conference*, Amman, Jordan April 24-27., 2014.

11. Presented a paper entitled: " A nonlinear material model for fibrous composite materials and its effect on in-plane lamina stresses", In *Global Conference on Material Sciences*, Antalya-Kemer, Turkey, 13-15 November , 2014.

12. Presented a paper entitled: " Effect of nonlinear material behavior of laminated composite plates with central rectangular hole subjected to out -of- plane load. In *International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems* (*ASCMCES-17*), Sharjah University, UAE, April 18-20, 2017.

13. Presented a paper entitled: " Optimal aspect-ratio for different types of braced-domes subjected to gravity loads, In *International Conference Coordinating Engineering for Sustainability and Resilience-* (*CESARE'17*), Dead Sea, Jordan, May 3-8, 2017.

14. Presented a paper entitled: "Effect of a central square hole on stress-concentration in an open cylindrical composite panel subjected to uniform axial tension loading". In *The Thirteenth International Conference on Computational Structures Technology (CCST-2018)*, Barcelona-Sitges, Spain, September 4-6, 2018.

15. Presented a paper entitled: “An innovative Damage-Model for Fibrous Composite Laminates with Multiple Material-Nonlinearities”. In *The international conference on innovative materials, manufacturing, and advanced technologies* (*IMMAT’2019*). Monastir- Tunisia, 17-19 October 2019.

PUBLICATIONS (REFEREED & INDEXED JOURNALS)

1. Abu-Farsakh, G.A.R. and Lusher J.K. " Buckling of Glass Reinforced Plastic Cylindrical Shells Under Combined Axial Compression and External Pressure ". *AIAA Journal*, Vol. 23, No. 12, 1985, pp. 1946-1951.

2. Abu-Farsakh, G. " Experimental Buckling of GRP Cylindrical Shells ". *Experimental Mechanics (SEM)*, Vol. 27, No. 1, 1987, pp. 1-9 .

3. Abu-Farsakh, G. " New Triangular Finite Element for Plates and Shells ". *Engineering Computations* , Vol. 4, No. 2, 1987, pp. 149-160 .

4. Abu-Farsakh, G. , and Khader, N. " A New Triangular Finite Element for the Analysis of Free Vibration of Plates ". *The International Journal of Analytical and Experimental Modal Analysis (SEM)*, Vol. 2, No. 3, 1987, pp. 136-143 .

5. Abu-Farsakh, G. " New Material Models for Nonlinear Stress-Strain Behavior of Composite Materials ". *Composites* , Vol. 20, No. 4, 1989, pp. 349-360.

6. Abu-Farsakh, G. " An Alternative Model for Nonlinear Stress-Strain Behavior of Composite Materials ". *Materials Science* , Vol. 24, 1989, pp. 4009-4023.

7. Abu-Farsakh, G. " A Modified Triangular Element for Plate and Shell Analysis ". *Journal of Structural Engineering* (IIT), Vol. 17, No. 1,1990, pp. 1-18.

8. Khader, N.A., and Abu-Farsakh G. " A Triangular Shell Element for Vibration of Cambered and Twisted Fan Blades ". *Finite Elements In Analysis and Design*, Vol. 6, 1990, PP. 287-301.

9. Abu-Farsakh, G.A., and Al-Zebdeh, Kh. " An improved Ten-Node Flat Shell Element and Performance Studies ". *Journal of Structural Engineering* (IIT), Vol. 18, No. 2, 1991, pp. 43-53.

10. Abu-Farsakh, G.A. " A Bimodular Material Model for Orthotropic Composite Thin Plates ". *Journal of Composites Technology & Research* (*ASTM)*, Vol. 14, No. 1, 1991, pp. 31-36.

11. Abu-Farsakh, G.A. and Sheikh Qasem, M. " Global and Sub-Domain Smoothing of Stresses in Finite Elements ". *Journal of Structural Engineering* (IIT), Vol. 21, No. 3, 1994, pp. 213-220.

12. Al-Balbissi, A.H., Abu-Farsakh, G.A., and Basma, A.A. " A Binary Model for Estimating the Remaining Life of a Cracked Pavement Element ". *TRB 73 Annual Meeting*, Jan. 9-13,1994.

13. Abu-Farsakh, G. A., and Abdel-Jawad, Y. A., " A New Failure Criterion for Nonlinear Composite Materials ". *Journal of Composites Technology & Research* (*ASTM)*,Vol. 16, No. 2, April 1994, pp. 138-145.

14. Abu-Farsakh, G. A., and Qatu, M. S. " A Triangular Conforming Element for Laminated Shells ". *Thin-Walled Structures*, Vol. 21, 1995, pp.31-42.

15. Abu-Farsakh, G.A., and Abdel-Jawad, Y.A. " Modes of Failure of Fibrous Composite Materials as Affected by the Orientation Angle of Fiber ". *Journal of Composites Technology & Research* (*ASTM)*,Vol. 17, No. 2, 1995, pp. 90-98.

16. Abu-Farsakh, G. A., and Husein, N. M. " Crack Propagation in Laminated Fibrous Composite Plates Using Finite Element Method ". *Journal of Structural Engineering* (IIT), Vol. 23, No. 1, 1996, pp. 15-22.

17. Abu-Farsakh, G. A., and Khader, N. " Vibration Analysis of Multi-Layered Composite Thin Plates and Shells " . *Journal of Structural Engineering* (IIT), Vol. 23, No. 3, 1996, pp. 137-143.

18. Abu-Farsakh, G. A., Numayr, K. S. and Hamad, Kh. A. " A micro-mechanical model for predicting the compressive strength of fibrous composite materials ". *Composites Science & Technology*, Vol. 58, No. 9-10, 1997, pp. 1415-1422.

19. Abu-Farsakh, G. A. " Letter to the Editor on: A micro-mechanical model for predicting the compressive strength of fibrous composite materials ". *Composites Science & Technology*, Vol. 58, No. 1-2, 1998, pp. 1985.

20. Abu-Farsakh, G. A., and Abdel-Jawad, Y.A. " Determination of the Reference-axes for bimodulus cross-ply fibrous composite plates ". *Journal of Structural Engineering* (IIT), Vol. 25, No. 2, 1998, pp. 131-137.

21. Abu-Farsakh, G. A., Barakat, S. A. and Abed, F. H. " A macr-mechanical damage model of fibrous laminated composites ". *Applied Composite Materials*, Vol. 6, No. 2, 1999, pp. 99-119.

22. Barakat, S. A., and Abu-Farsakh, G. A. " The use of an energy-based criterion to determine optimum configurations of fibrous composites ". *Composites Science & Technology*, Vol. 59, 1999, pp. 1891-1899.

23. Abu-Farsakh, G. A., Barakat, S. A., and Al-Zoubi, N. R." Effect of material nonlinearity in unidirectional composites on the behavior of beam structures ". *International Journal of Solids and Structures*, Vol. 37, 2000, pp. 2673-2694.

24. Abu-Farsakh, G. A., Abdel-Jawad, Y. A., and Abu-Laila, Kh. M. " Mico-mechanical charachterization of tensile strength of fiber composite materials ". *Mechanics of Composite Materials and Structures*, Vol. 7, pp. 1-18, 2000.

25. Abu-Farsakh, G. A., Abdel-Jawad, Y. A., and Al-Abhari, K. O. " Prediction of failure of Laminated Fibrous Composite Materials ". *Journal of Structural Engineering* (IIT), Vol. 28, No. 4, 2002, pp. 183-189.

26. MJ Shannag, N. Abu-Dyya, G. Abu-Farsakh**, "** Lateral Load Response of High Performance Fiber Reinforced Concrete Beam-Column Joints", *Construction and Building Materials*, Vol. 19, No. 7, 2005, pp. 500-508.

27. Abu-Farsakh, G. A. and Abu-Alrub, R. K., "Moment and deflection redistributions in composite plates subjected to transverse loading ", *Journal of Structural Engineering* (IIT) , Vo. 33, No. 6, 2007, pp. 487-498.

28. Abdalla, K. M., Abu-Farsakh, G. A. R. and Barakat, S. A. "Behavior of extended end-plate steel beam-to-column connections", *Steel and Composite Structures*, Vol. 7, No. 2, 2007, pp. 87-103.

29. Shannag, MJ. Abu-Farsakh, G. and Abu-Dyya, N. **,** "Modeling the cyclic response of fiber reinforced concrete joints", *Engineering Structures* , Vol. 29, 2007, pp. 2960-2967.

30. Younes, R. M., Abu-Farsakh, G. and Hunaiti, Y. M., "Effect of welding on lateral-torsional buckling resistance of I-shaped built-up sections", *JJCE* (*Jordan Journal of Civil Engineering*), Vol. 3, No. 4, 2009, pp. 295-313.

31. Obaidat, Y. T., Heyden S., Dahlblom, O., Abu-Farsakh, G. and Abdel-Jawad, Y. "Retrofitting of reinforced concrete beams using composite laminates", *Construction and Building Materials*, Vol. 25, 2011, pp. 591–597.

32. Abu-Farsakh, G. and Almasri, A. "A composite finite element to predict failure progress in composite laminates accounting for nonlinear material properties" *Structural Control and Health Monitoring*, Vol. 18, No. 7, 2011, pp. 752-768.

33. Abu-Farsakh, G. A., "Effect of shear stresses on failure of fibrous composite materials accounting for nonlinear material behavior", *Jordan Journal of Civil Engineering (JJCE)*, Vol. 7 No. 4, 2013, pp. 419-439.

34. Abu-Farsakh, G., Almasri A. and Qa'dan, D. , " Stress concentration around a central hole as affected by material nonlinearity in fibrous composite laminated plates subject to in-plane loading". *Science and Engineering of Composite Materials (SECM)*, Vol. 22, No. 1, 2015, pp. 31-36.

35. Abu-Farsakh, Ghazi A. F. R., " A nonlinear material model for fibrous composite materials and its effect on in-plane lamina stresses" *Global Journal on Advances in Pure & Applied Sciences* [Online] (GC-MAS-2014), Vol. 6, 2015, pp.24-30.

36. Abu-Farsakh, G. A. and Asfa, A. M., "Macro-mechanical damage modeling of fibrous composite materials accounting for non-linear material behavior". *Composites Science and Technology*, Volume 156C, 2018, pp. 287-295.

37. Abu-Farsakh, G. and Al-Huthaifi, N. "Optimal aspect-ratio for various types of braced domes under gravity loads", *Journal of Civil Engineering and Structures*, Vol. 2, No. 3, 2018, pp. 1-7.

38. Abu-Farsakh, G. A. and Al-Jarrah, H. M. " Micro-mechanical damage model accounting for composite materialnonlinearity due to matrix-cracking of unidirectional composite laminates". *Composites Science and Technology*, Vol. 167, 2018, pp. 268-276.

39. Obeidat, Y., Abu-Farsakh, G. A. and., and Ashteyat, A. M. "Retrofitting of partially damaged reinforced concrete beam-column joints using various plate-configurations of CFRP under cyclic loading". Construction & Building Materials, Vol. 198, 2019, pp. 313-322.

40. Abu-Farsakh, G. and Al-Rosan, S. "Effect of shell-curvature and geometric nonlinearity on stress concentration in composite thin-shell panels having a central square-hole and subject to uniaxial tension loading". *Jordan Journal of Civil Engineering*, Vol. 13, No. 3, 2019, pp. 431-445.

41. Khairedin M. Abdalla, Ghazi Abu-Farsakh, and Montaha Al-Shdiefat. “Viability of utilizing CFRP composites for improving the structural behavior of steel beams”. *Journal of Engineering Science and Technology Review*, Vol. 12, No. 4, 2019, pp. 60 – 68.

42. Abu-Farsakh, G. A. and Asfa, A. M. “A unified damage model for fibrous composite laminae subject to in-plane stress-state and having multi material-nonlinearity”. *International Journal of Damage Mechanics*, Volume: 29, No. 9, pp. 1329-1344, 2020.

43. Abu-Farsakh, G. A. and Odeh, I. N. “A new damage-based failure criterion for nonlinear behavior of fibrous composite materials”. *International Journal of Damage Mechanics*, Volume: 32, No. 7, 2023, pp. 940-961.

44. Abu-Farsakh, G. A. F. R., Obaidat, Y. T and Al-harahsheh, H. “Nonlinear finite element modeling of reinforced concrete beam–column joints retrofitted using various plates configurations of carbon fiber-reinforced polymers”. *Computational Particle Mechanics*, https://doi.org/10.1007/s40571-023-00690-y .

CONFERENCE PROCEEDINGS

1. Abu-Farsakh, G. A. F., and Resheidat, M. R. " Experimental Determination of the Geometric Imperfections Related to Buckling of GRP-Cylindrical Shells ". *Conference on Experimental Mechanics.* Las Vegas , Nevada, 9-14 June, 1985, pp. 508-514.

2. Abu-Farsakh, G. A. F. " A Modified Ten-Noded Triangular Finite Element for Coarse Mesh Divisions ". *Twelfth International Congress for Statistics, Computer Science Social and Demographic Research.* Ain Shams University, Cairo, 28 March -2 April 1987, pp. 387-416.

3. Abu-Farsakh, G. A. F., and Issa , S.M. " Computer Aided-Design of Steel Structures " *First Alexandria Conference on Structural and Geotechnical Engineering.* Alexandria University, Alexandria, 1-3 Dec. 1990, pp. 813-826.

4. Abu-Farsakh , G.A.F. and Abdel-Jawad Y.A., " Prediction of Failure Modes of Fibrous Composite Materials ", *Ninth International Conference on Composite Materials (ICCM-9).* Madrid -Spain, 12-16 July , 1993, Vol. V, pp. 129-136.

5. Abu-Farsakh, G. A., Abdel-Jawad, Y. A., and Al-Abhari, K. O., " Prediction of Failure of Laminated Fibrous Composite Materials ", *Second International Conference on Composites Engineering*. New Orleans LA, U.S.A., 21-24 August, 1995, pp. 1-3.

6. Abu-Farsakh, G. A. and Abu-Alrub, R. K. " Effect of Material Nonlinear Behavior of Fibrous Composites on Bending of Plates". *Ninth Arab Structural Engineering Conference (9ASEC),* Abu Dhabi, UAE, November 29- December 1, 2003, pp. 565-574.

7. Abu-Farsakh, G. A., and Almasri, A. H. " Effect of Material Nonlinearity on Failure of Laminated Fibrous Composite Shells Using Finite Element Method " . *Seventh international Conference on Concrete Technology in Developing Countries (7th ICCT): Modeling and Numerical Methods for Concrete Materials Proceedings*, KualaLumpur, Malyasia, October 5-8, 2004, pp. 63-75.

8. Abu-Farsakh, G. A., Hunati, Y. and Qadan, H."Buckling of Steel Portal Frames Considering Material Nonlinearity: An Experimental Study*", 10th Arab Structural Engineering Conference*, Kuwait , November 13-15, 2006, pp. 645-655.

9. Abu-Farsakh, G. A. and Almasri, A. H. "A Composite Finite Element to Predict Failure Progress in Composite Laminates: Comparison with Theories and Test Results", *International Symposium on Aircraft Materials* (*ACMA-2010*): *Damage and Fatigue Diagnostics*, Marrakech, Morocco, May 12-14, 2010. pp. 22-30.

10. Albostami, A. S., Abu-Farsakh, G., Hunaiti, Y. and Al Hamd, R. Kh. S. "The Effect of Geometric Parameters on the Stress Concentration of Rectangular Laminated Composite Plates with Central Rectangular Hole Under Transverse Loading", *5 th Aircraft Structural Design Conference*, University of Manchester, UK, October 4-6, 2016.

11. Abu-Farsakh, G. , Hunaiti, Y. and Albostami, A. " Effect of nonlinear material behavior of laminated composite plates with central rectangular hole subjected to out -of- plane load". *MATEC Web of Conferences*, Vol. 120, 01001 (2017) DOI: 10.1051/ 71200, *Proceedings of the International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17*), Sharjah, United Arab Emirates, April 18 – 20, 2017.