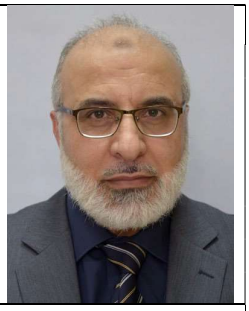
SUMMARIZED CURRICULUM VITAE

Name	**Dr. Samer A. Barakat**
Position	Full Professor
Address	Department of Civil Engineering, University of Sharjah P.O. Box 27272 Sharjah-UAE
Tel. No.	00971-6-5050958
Fax. No.	00971-6-5585173
E-mail	sbarakat@sharjah.ac.ae
Specialization	Civil/Structural Engineering



Staff Profile

- **Education:**
  -**Ph.D**., Doctor of Philosophy in Structural Engineering: The University of Colorado at Boulder, U.S.A., May 1994. Dissertation: "Structural System Reliability with Applications to Bridge Analysis, Design and Optimization".
  -**M.S., Master** of Engineering in Structural Engineering: Jordan University of Science and Technology, Irbid- Jordan, May 1989. Thesis: "Buckling and post-buckling behavior of stiffened cylindrical shells under uniform lateral loads".
  -**B.Sc**., Bachelor in Civil Engineering/Structural Engineering: Yarmouk University, Irbid - Jordan, May 1984.

- **Employment:**

Jordan University of Science and Technology,
Lecturer in the Civil Engineering Department, 1994.
Assistant Professor, 1994-1999.
Associate Professor in Civil Engineering from August 1999 to March 2007.
Professor in Civil Engineering from March 2007 to present.
Chairman of the Civil Engineering Department from September 2006 to September 2007.

University of Sharjah
Professor in Civil Engineering from January 2011 to present.
Associate Professor in Civil Engineering from September 2007 to April 2011.
Associate Professor in Civil Engineering from August 2000 to September 2006.
Assistant to Dean of the College of Engineering from February 2006 to September 2006.

- **Courses Taught:**
  (Undergraduate Level): Statics, strength of materials, structural analysis 1 and 2, advanced structural analysis and design, reinforced concrete design, steel design, matrix analysis, prestressed concrete, bridge engineering, Special topics in structural engineering, graduation projects,
  (**Graduate Level):** Special Topics in structural engineering (structural reliability), advanced mechanics of materials, theory of elasticity, FEM, Applied Engineering Statistics, Advanced Behavior and Design of concrete structures, supervising master thesis.
- **Thesis Supervised:** 12 Master's Theses at UOS and nine at JUST, 2 PhD Theses at UOS.
- **Graduation Projects:** More than 100 graduation projects completed.
- **Research Areas:** Optimization of structures; structural reliability and reliability-based design and optimization; composite materials and retrofitting of structures; neural networks and structural control.
- **Publications:** Author and co-author of more **than 155** journal and conference publications.
- **Consulting**: Consultation for local and regional companies in Jordan, UAE, and GCC.
- **Professional Membership:** Membership of the Jordan Engineering Association (1984-present).

DETAILED CURRICULUM VITAE

PERSONAL INFORMATION

College	**Engineering**		
Department	**Civil**		
Name	**Samer Barakat**		
Date of Birth	**1963**	Rank	**Professor**
Number of years of service	**Started January 1994**	Date of Rank	**30-01-2011**

Degrees:		
B.S.C.E.	Yarmouk University – Jordan	1984
M.S.	Jordan Univ. of Science & Technology – Jordan	1989
Ph.D.	The University of Colorado at Boulder - USA	1994

Other related experience:

Full Professor	1/2011 – 8/2025	UoS
Associate Professor	9/2007 – 1/2011	UoS
Professor & Chairman	3/2007 – 9/2007	JUST
Associate Professor & Chairman	9/2006 – 3/2007	JUST
Associate Professor	9/2000 –9/2006	UoS
Associate Professor	8/1999 – 9/2000	JUST
Assistant Professor	5/1994 – 8/1999	JUST
Lecturer	1/1994 – 5/1994	JUST

I. TEACHING ACTIVITIES

A. Courses Taught

(Include undergraduate and postgraduate courses)

Course Title	Level
Statics	Undergraduate
Dynamics	
Mechanics of Materials	
Structural Analysis	
Reinforced Concrete Design	
Advanced Structural Analysis and Design	
Matrix Structural Analysis	
Advanced Reinforced Concrete Design	
Steel Design (ADS, LRFD)	
Prestressed Concrete	
Senior Design Project (1 & 2)	
Advanced Mechanics of Materials	Master
Finite Element Method	
Structural optimization	
Advanced Behavior and Design of Concrete Structures	
Applied Engineering Statistics	
Bridge Engineering	PhD
Probability and Reliability in CE	

B. Development of Teaching and Learning Activities

Preparing courses on BlackBoard Bb such as mechanics, Structural Analysis, Prestressed Concrete, Special Topics in Structural Engineering, Advanced Structural Analysis and Design, Advanced Structural Mechanics, and Applied Engineering Statistics.

C. Use of Information Technology and the University Network in Teaching and Learning

1. Use of computers in the instruction of the courses
2. Developing computer-based educational resources using Bb
3. Construction of online courses
4. Organizing seminars or workshops related to the use of technology in teaching and learning.

D. Supervision of Students' Graduation Projects

Real-life projects (Multi-story Building, Steel Structures, or Prestressed Concrete Bridges) are given to students as their graduation project.

II. ACADEMIC ADVISING

Date	2020-2021		2021-2022		2022-2023		2023-2024	
	F	S	F	S	F	S	F	S
No. of Students	32	32	20	20	32	32	36	36

III. RESEARCH ACTIVITIES

A. Published Papers

1. Alateyat, Aroob, Raghad Awad, Abdulrahman Metawa, M. Talha Junaid, Salah Altoubat, Mohamed Maalej, and **Samer Barakat**. "Punching shear behavior of GFRP-reinforced concrete flat slabs using finite element analysis." *Journal of Building Engineering* 105 (2025): 112507.
2. Leblouba, Moussa, Zaid Al-Sadoon, **Samer Barakat**, Ahmed Fageeri, and Raghad Awad. "Assessing the performance of a novel granular material-based energy dissipation box damper for earthquake-resistant structures." *Journal of Building Engineering* (**2025**): 111999.
3. Habib, Ahed, Ausamah AL Houri, Zaid A. Al-Sadoon, **Samer Barakat**, and Murat Saatcioglu. "Seismic isolation of buildings with multi-stage friction pendulum bearings: design, analysis, and energy dissipation perspectives." *International Journal of Dynamics and Control* 13, no. 2 (**2025**): 48.
4. **Barakat, Samer**, Aroob AlAteyat, M. Talha Junaid, Salah Altoubat, Mohamed Maalej, Raghad Awad, and Abdulrahman Metawally. "Experimental Study on the Punching Shear of GFRP-RC Slabs with Normal and High Strength Concrete." *Journal of Building Engineering* (**2025**): 111975.
5. Al-Ateyat, Aroob, **Samer Barakat**, M. Talha Junaid, Salah Altoubat, Mohamed Maalej, and Raghad Awad. "Experimental and Numerical Analysis of Punching Shear of GFRP-RC Slabs." *Civil Engineering Journal* 10 (**2025**): 344-358.
6. Habib, Ahed, M. Talha Junaid, Samir Dirar, **Samer Barakat**, and Zaid A. Al-Sadoon. "Machine learning-based estimation of reinforced concrete columns stiffness modifiers for improved accuracy in linear response history analysis." *Journal of Earthquake Engineering* 29, no. 1 (**2025**): 130-155.
7. Obaid, Lubna, Khaled Hamad, and **Samer Barakat**. "Incident duration reliability assessment using Monte-Carlo simulation and kernel density estimation of machine learning-based models." *International Journal of Transportation Science and Technology* (**2024**).
8. Alsuwaidi, Hadif, Zaid A. Al-Sadoon, Salah Altoubat, **Samer Barakat**, M. Talha Junaid, Mohamed Maalej, Abdulrahman Metawa, and Ahed Habib. "Evaluation and Restoration of Corrosion-Damaged Post-Tensioned Concrete Structures." *Civil Engineering Journal* 10, no. 12 (**2024**): 3834-3850.
9. Metawa, Abdulrahman, Moussa Leblouba, and **Samer Barakat**. "Hybrid Reinforced Concrete Frames with Engineering Cementitious Composites: Experimental and Numerical Investigations." *Sustainability (2071-1050)* 16, no. 22 (**2024**).
10. Habib, Ahed, Ausamah AL Houri, M. Talha Junaid, and **Samer Barakat**. "A systematic and bibliometric review on physics-based neural networks applications as a solution for structural engineering partial differential equations." In *Structures*, vol. 69, p. 107361. Elsevier, **2024**.
11. Nassif, Nadia, M. Talha Junaid, Mohamed Maalej, Salah Altoubat, and **Samer A. Barakat**. "Durability of Fiber-Reinforced Polymer (FRP) Bars: Progress, Innovations and Challenges Based on Bibliometric Analysis." *Civil Engineering Journal* 10 (**2024**): 136-173.
12. Sati, Ala, Saleh Abu Dabous, **Samer Barakat**, and Waleed Zeiada. "Pavement Sections' Reliability Based on Deterioration Model Using Artificial Neural Network (ANN)." *Jordan Journal of Civil Engineering* 18, no. 4 (**2024**).
13. Alateyat, Aroob, Raghad Awad, Basil Ibrahim, Muhammad-Talha Junaid, Salah Altoubat, Mohamed Maalej, and **Samer Barakat**. "Punching shear strength of fiber-reinforced polymer concrete slabs: Database-driven assessment of parameters and prediction models." *Engineering Structures* 315 (**2024**): 118511.
14. Habib, Ahed, **Samer Barakat**, Salah Al-Toubat, M. Talha Junaid, and Mohamad Maalej. "Developing machine learning models for identifying the failure potential of fire-exposed FRP-strengthened concrete beams." *Arabian Journal for Science and Engineering* (**2024**): 1-16.
15. Shrif, Mazen, **Samer Barakat**, Zaid Al-Sadoon, Omar Mostafa, and Raghad Awad. "Optimized neural network-based model to predict the shear strength of trapezoidal-corrugated steel webs." *Heliyon* 10, no. 15 (**2024**).
16. Leblouba, Moussa, **Samer Barakat**, Raghad Awad, Saif Uddin Al-Khaled, Abdulrahman Metawa, and Abdul Saboor Karzad. "Buckling behavior of bundled inclined columns: Experimental study and design code verification." *Steel and Composite Structures* 52, no. 2 (**2024**): 183.
17. **Barakat, S.A.**, Arab, M.G., Awad, R.A., Malkawi, D.A.H., Metawa, A. and Omar, M., Probabilistic seismic hazard assessment for the United Arab Emirates using integrated seismic source model. Journal of Asian Earth Sciences: X, 11, 100173, **2024**.

18. MT Junaid, N Nassif, S Altoubat, M Maalej, **S Barakat**, Review of bond strength coefficient (kb) between FRP bars and concrete, Structures 63, 106419, **2024**.
19. Nassif, N., Junaid, M.T., Altoubat, S., Maalej, M. and **Barakat, S.**, Data-Driven Prediction of The Bond Coefficient Between Fibre-Reinforced Polymer (FRP) Bars and Concrete. Special Publication, 360, **2024**.
20. Awad, R., Al Ateyat, A., Junaid, M.T., Al-Sadoon, Z., Altoubat, S., Maalej, M. and **Barakat, S.,** Punching shear capacity of fiber-reinforced concrete suspended slabs: Database analysis and models assessments. Journal of Building Engineering, 83, **2024**.
21. Alnaqbi, Ali Juma, Waleed Zeiada, Ghazi G. Al-Khateeb, Khaled Hamad, and **Samer Barakat**. **2023**. "Creating Rutting Prediction Models through Machine Learning Techniques Utilizing the Long-Term Pavement Performance Database" *Sustainability* 15, no. 18: 13653. https://doi.org/10.3390/su151813653
22. Tarabin, Mohamed, et al. "Experimental and probabilistic analysis of the crack propagation in fiber reinforced concrete." *Engineering Failure Analysis* (**2023**): 107388.
23. Altoubat, Salah, Mohamed Maalej, Nadia Nassif, and **Samer Barakat**. "Punching shear behavior of RC slabs incorporating macro-synthetic fibers." *Journal of Building Engineering* 67 (**2023**): 105983.
24. Alotaibi, Emran, Nadia Nassif, and **Samer Barakat**. "Data-driven reliability and cost-based design optimization of steel fiber reinforced concrete suspended slabs." *Structural Concrete* (**2023**).
25. Karzad, Abdul Saboor, Mohamed Ali Khalil, Abdulrahman Mostafa Mohamed, and **Samer Barakat**. "Modeling the shear capacity of externally bonded fiber reinforced polymer strengthened beams by artificial neural network." *International Journal of Applied Science and Engineering* 20, no. 1 **(2023)**: 1-14.
26. Ahmat, Khaled, **Samer Barakat**, Salah Altoubat, and Mohamad Alhalabi. "Probabilistic assessment of ACI 318 minimum thickness requirements for two-way slabs." *Australian Journal of Structural Engineering* 24, no. 2 (**2023**): 136-148.
27. Leblouba, Moussa, Abdul Saboor Karzad, Sami W. Tabsh, and **Samer Barakat**. "Plated versus Corrugated Web Steel Girders in Shear: Behavior, Parametric Analysis, and Reliability-Based Design Optimization." *Buildings* 12, no. 12 (**2022**): 2046.
28. Junaid, M. Talha, Ahmed Shweiki, **Samer Barakat**, Mohamad Alhalabi, and Omar Mostafa. "Flexural characterization and ductility assessment of small-scale mortar beams reinforced with 3D-printed polymers." In *Structures*, vol. 45, pp. 1751-1761. Elsevier, **2022**.
29. **Samer Barakat**, Mohammad AlHamaydeh, "Preliminary Design of Seismic Isolation Systems Using Artificial Neural Networks," International Journal of Neural Networks and Advanced Applications, vol. 9, pp. 12-17, **2022**
30. Leblouba, Moussa, Mohamad Taklas, and **Samer Barakat**. "Concrete-concrete shear friction behavior under cyclic loading: Laboratory test, mathematical modeling, and code provisions." In *Structures*, vol. 45, pp. 1667-1687. Elsevier, **2022**.
31. Awad, Raghad, **Samer Barakat**, Moussa Leblouba, Salah Altoubat, and Mohamed Maalej. "Reliability-based design of fiber reinforced concrete slabs-on-ground in flexure as per ACI 360." In *Structures*, vol. 39, pp. 207-217. Elsevier, **2022**.
32. Leblouba, Moussa, **Samer Barakat**, Salah Altoubat, Mohamed Maalej, and Raghad Awad. "Resistance factors for reliability based-design of fiber reinforced concrete suspended slabs in flexure." *Journal of Building Engineering* 57 (**2022**): 104911.
33. Leblouba, Moussa, Salah Altoubat, A. S. Karzad, Mohamed Maalej, **Samer Barakat**, and Abdulrahman Metawa. "Impact response and endurance of unreinforced masonry walls strengthened with cement-based composites." In *Structures*, vol. 36, pp. 262-279. Elsevier, **2022**.
34. Taklas, Mohamad, Moussa Leblouba, **Samer Barakat**, Ahmed Fageeri, and Firass Mohamad. "Concrete-to-concrete shear friction behavior under cyclic loading: experimental investigation," *Scientific Reports* 12, no. 1 (**2022**): 9451.
35. **Barakat Samer,** Mohamad Alhalabi, Omar Mostafa, and Ibrahim Haj Fattouh. "Size Optimization of Truss Structures Using Calibrated Shuffled Complex Evolution Algorithm." *Jordan Journal of Civil Engineering* 16, no. 4 (**2022**).
36. Alotaibi, Emran, Nadia Nassif, Mohamad Alhalabi, Humam Al Sebai, and **Samer Barakat**. "Numerical investigation on redundancy of bridges with AASHTO I-girders." *Bridge Structures* 17, no. 1-2 (**2021**): 41-50.
37. Ibrahim, Basil, Moussa Leblouba, Salah Altoubat, and **Samer Barakat**. "Shear strength of externally U-bonded carbon fiber-reinforced polymer high-strength reinforced concrete." *Materials* 14, no. 13 (**2021**): 3659.

38. Leblouba, Moussa, Sami W. Tabsh, and **Samer Barakat**. "Reliability-based design of corrugated web steel girders in shear as per AASHTO LRFD." *Journal of Constructional Steel Research* 169 (**2020**): 106013.

39. Altoubat, Salah, et al. "Experimental study of the steel/CFRP interaction in shear-strengthened RC beams incorporating macro-synthetic fibers." *Structures*. Vol. 25. Elsevier, 2020.

40. Moussa Leblouba, **Samer Barakat**, Mohammed SA Ahmed, Salah Altoubat, Shear strength at the interface of precast bridge concrete decks and girders subjected to cyclic loading with varying speeds, **Engineering Structures**, Elsevier, 196, 2019.

41. Moussa Leblouba, Muhammad Rahman, **Samer Barakat**, "Behavior of polycal wire rope isolators subjected to large lateral deformations", **Engineering Structures**, 191,117-128, 2019**.**

42. **Samer Barakat**, Salah Al-Toubat, Moussa Leblouba, Eman Al Burai, 2019, "Trends of Shear Strengthened RC Beams with Externally Bonded Fiber-Reinforced Polymer", **Structural Engineering and Mechanics**, An International Journal, 69(5), 579-589, 2019**.**

43. M Leblouba, **S Barakat**, M Maalej, S Al-Toubat, AS Karzad, Normalized shear strength of trapezoidal corrugated steel webs: Improved modeling and uncertainty propagation, Thin-Walled Structures 137, 67-80, 2019.

44. Moussa Leblouba, **Samer Barakat**, Zaid Al-Sadoon, "Shear behavior of corrugated web panels and sensitivity analysis", Journal of Constructional Steel Research, **151, 94-107,** 2018.

45. **Samer Barakat**, Moussa Leblouba, "Experimental and Analytical Study on the Shear Strength of Corrugated Web Steel Beams", Steel and Composite Structures, 28(2) 251-266, 2018.

46. **Samer Barakat**; Abdullah Shanableh; Salah Altoubat; and Khader Abu-Dagga: Assessment of Seismic Structural Risk for Model Buildings in the City of Sharjah, UAE, Jordan Journal of Civil Engineering, Vol. 12, No. 1, 2018.

47. Moussa Leblouba, **Samer Barakat**, Salah Altoubat, Talha M. Junaid, and Mohammed Maalej, "Normalized shear strength of trapezoidal corrugated steel webs, "Journal of Constructional Steel Research, 136 (2017), pp. 75-90.

48. Leblouba, Moussa, M. Talha Junaid, **Samer Barakat**, Salah Altoubat, and Mohamed Maalej. "Shear buckling and stress distribution in trapezoidal web corrugated steel beams." Thin-Walled Structures 113 (2017): pp. 13-26.

49. Mohammad H. AlHamaydeh**, Samer Barakat** and Omar Nassif: Optimization of Support Structures for Offshore Wind Turbines using Genetic Algorithm with Domain-Trimming (GADT)", Mathematical Problems in Engineering, August 2017. Volume: 2017, Page: 1-14, **DOI: 10.1155/2017/5978375**.

50. **Samer Barakat**, Salah Altoubat, Eman Al Burai. (2016) Shear Strengthening Reinforced Concrete Beams with Externally Bonded Fiber-Reinforced Polymer: Updated Data Base. *International Journal of Theoretical and Applied Mechanics,* **1**, 142-148.

51. **Samer Barakat**, Ahmad Al Mansouri and Salah Altoubat, Experimental Study on the Shear Strength of Steel Beams with Trapezoidal Corrugated Webs, International Journal of Civil and Structural Engineering– IJCSE, Volume 2: Issue 2, ISSN: 2372-3971, 2015.

52. **Samer Barakat** and Omar Nassif, Optimization of Truss Structures Using Genetic Algorithms with Domain Trimming (GADT), International Journal of Civil and Structural Engineering– IJCSE, Volume 2: Issue 2, ISSN: 2372-3971, 2015.

53. Altoubat, S., Ousmane, H., & Barakat, S. (2015). Experimental Study of In-Plane Shear Behavior of Fiber-Reinforced Concrete Composite Slabs. *Journal of Structural Engineering*, Volume 142, Issue 3.

54. **Barakat, S**., Alzubaidi, R., & Omar, M. (2015). Probabilistic-based assessment of the bearing capacity of shallow foundations. *Arabian Journal of Geosciences*, *8*(8), 6441-6457.

55. **Barakat, S.,** Al Mansouri, A., & Altoubat, S. (2015). Shear strength of steel beams with trapezoidal corrugated webs using regression analysis. *STEEL AND COMPOSITE STRUCTURES*, *18*(3), 757-773.

56. Altoubat, S., Ousmane, H., & Barakat, S. (2015). Effect of fibers and welded-wire reinforcements on the diaphragm behavior of composite deck slabs. *Steel and Composite Structures*, *19*(1), 153-171.

57. Radhi Al Zubaidi, Samer Barakat, Salah Altoubat, Effects of Adding Brass Byproduct on the Basic Properties of Concrete. Journal of Construction and Building Materials. Construction and Building Materials 38 (**2013**) 236–241.

58. Abed, F.H., Al Hamayidah, M., and **Barakat, S.,** "Nonlinear Finite Element Analysis of Buckling Capacity

of Pretwisted Steel Bars," *ASCE Journal of Engineering Mechanics*, **139: 791-801, 2013**.

59. AlHamaydeh, M.; **Barakat, S.;** Abed, F.; "Multiple Regression Modeling of Natural Rubber Seismic-Isolation Systems with Supplemental Viscous Damping for Near-Field Ground Motion," Journal of Civil Engineering and Management, **19 (5), 2013, 665-682**.
60. Samer A. Barakat, "Experimental Compression Tests on the stability of structural Steel Tabular Props'', Jordan Journal of Civil Engineering, Volume 5, No. 1, 2011.
61. Salah Altoubat, Hussein Ousman, Samer Barakat, and Klaus-Alexander Rieder," Viability of Synthetic Fibers to Replace Steel Wire Mesh in Composite Metal Decks Construction", Key Engineering Materials, Vols. 471-472 (2011) pp 552-557, Trans Tech Publications, Switzerland.
62. Samer A. Barakat and Farid H. Abed, "Experimental investigation of the axial capacity of Inelastically pretwisted steel bars", ASCE –Journal of Engineering Mechanics, August 2010, Vol. 136, Number 8, ISSN 0733-9399
63. Samer A. Barakat & Salah Altoubat "Concrete Welding using Steel Fibers", Engineering Structures 32 (2010) 2065_2073.
64. Barakat SA, Altoubat S. Application of evolutionary global optimization techniques in the design of RC water tanks. Engineering Structures 31 (2009), 332-344.
65. Samer Barakat, Abdalla Shanableh, "A Comparative Earthquakes Risk Assessment Approach Applied to the United Arab Emirates", Jordan Journal of Civil Engineering, Volume 2, 2008.
66. K. Abdalla, G. Abu-Farsakh, S. Barakat, "Experimental investigation of force-distribution in high-strength bolts in extended end-plate connections." Steel and Composite Structures, Nov. 2007.
67. Samer Barakat, Abdallah Malkawi and Maher Omar, "Parametric study using FEM for the stability of the RCC Tannur DAM", Geotechnical and Geological Engineering, 23:61-78, 2005.
68. Khaldoon Bani-Hani, Samer Barakat. Seismic Repair and Strengthening of Qasr Al-Bint Historical Monument -Petra, Jordan. Engineering Structures Journal, 26:3, Nov. 2005.
69. Samer Barakat, Nabil Kallas, Mohammed Q. Taha, "Single Objective Reliability-Based Optimization of Prestressed Concrete Beams", Computers and Structures Journal, 81, pp. 2501-2512, 2003.
70. Samer Barakat, Khaldoon Bani-Hani, Mohammed Q. Taha, "Multi- Objective Reliability-Based Optimization of Prestressed Concrete Beams", Structural Safety Journal, Volume 26, Issue 3, July 2004, Pages 311-342.
71. Mohamed A. H. Abdel-Halim and Samer A. Barakat, "Cyclic Performance of Concrete-Backed Stone Masonry Walls", ASCE-structural, Vol. 129, No. 5, pp 596-605, May 2003.
72. Adnan A. Basma, Samer Barakat, and Maher Omar, "Reliability Based Safety Index for the Design of Reinforced Earth Structures", Geotechnical and Geological Engineering, Vol. 21, No. 3, pp. 225-242, 2003.
73. Adnan A. Basma, Samer Barakat and Maher Omar, "Modeling of Time Dependent Swell of Clays Using Sequential Artificial Neural Networks", Environmental and Engineering Geoscience, Vol. IX, No. 3, pp. 279-288, 2003.
74. Maher Omar, Abdallah Shanableh, Adnan A. Basma, and Samer Barakat, " Compaction characteristics of granular soils in United Arab Emirates", Geotechnical and Geological Engineering, Vol. 21, No. 3, pp. 283-295, 2003.
75. Mohammed Shanag, Samer Barakat, and Mohammed Ibrahim, "Cyclic Behavior of HPFRC-repaired reinforced concrete interior beam-column Joints", Materials and Structures, Vol. 53, July 2002, pp 348-356.
76. Mohammed Shanag, Samer Barakat and Feras Jaber "Structural behavior of retrofitted shear-deficient reinforced concrete beams", Magazine of Concrete Research, England, Vol. 53, No. 6, December 2001.
77. Mousa F. Attom, Samer Barakat, "Investigation of Three Methods for Evaluating Swelling Pressure of Soils. Environmental & Engineering Geoscience, Vol. VI, No.3, pp. 293-299, 2000.
78. G. Abu-Farsakh, S. A. Barakat, and N. R. Al-Zoubi, "Effect of Material nonlinearity in unidirectional composites on the behavior of beam structures", International Journal of Solids and Structures, 37, 2673-2694, 2000.
79. Barakat, S.A. and Abu-Farsakh, G.A., "The use of an energy-based criterion to determine optimum configurations of fibrous composites", Composites Science and Technology, volume/issue: 59/12, pp. 1891-1899, 1999.
80. G. Abu-Farsakh, S. A. Barakat, and F. H. Abed, "A Macromechanical Damage Model of Fibrous Laminated

Composites", Applied Composite Materials, Vol. 6, Issue 2, pp. 99-119, 1999.

81. Samer A. Barakat, Abdallah I. Malkawi, Ra'ed H. Tahat, "Reliability-based optimization of laterally loaded piles", STRUCTURAL SAFETY, Vol. 21, Issue 1, pp. 45-64, 1999.
82. Adnan A. Basma, Samer Barakat, and Salim Al-Oraimi, "Prediction of Cement Degree of Hydration Using Artificial Neural Networks", ACI Materials Journal, Vol. 95, No. 2, March/April, 1999.
83. Malkawi A. H., K. S. Numayr K.S. and Barakat S. A., (1999)." The Aqaba Earthquake November 22, 1995", Earthquake Spectra, Volume 15, No. 3, pp. 397-415, August 1999.
84. M. Al-Sheriadeh, S. Barakat and M. Shawagfeh, "Application of a Decision-Making Analysis to Evaluation Direct Recharging of an Unconfined Aquifer in Jordan", Water Resources Management, 13: pp. 233-252, 1999.
85. S. Barakat, M. Attom, " Comparison between Multiple Regression Analysis and Artificial Neural Networks in Evaluating Pressure of Clayey Soil using Three Methods", IE(I) Journal-CV, volume 80, pp. 86-93, 1999.
86. H. Malkawi, F. A. Abdulla, S. A. Barakat, and M. S. Al-Sheriadeh, (1999)."Application of Extreme Value Statistics to Annual Maximum Magnitudes in Jordan Employing a Mixture Distribution", ", Earthquake Spectra, Volume 15, No. 4, November 1999.
87. Barakat, S.A; Husein Malkawi, A.I. and A. Al-Shatnawi, "A step Towards Evaluation of the Seismic Response Reduction Factor in Multistory Reinforced Concrete Frames", Natural Hazards, Vol. 16: 65-80, 1997.
88. Malkawi A. H., K. S. Numayr K.S. and Barakat S. A., "The Aqaba Earthquake of November 22, 1995." Preliminary Reconnaissance Report submitted to the Deanship of Scientific Research (JUST), 1997.
89. Barakat Samer. Frangopol Dan. M., "Design of Composite Hybrid Girder Bridges Based on Reliability and Optimization", Structural safety, 1994.
90. Frangopol, Dan, M. and Samer Barakat, "Incorporation of Corrosion Effects in Reliability-Based Optimization of Composite Hybrid Plate Girders", Structural Safety, 1994.
91. Samer Barakat and Dan Frangopol, "System Reliability and Redundancy in Structural Design and Evaluation", Structural safety, 1994.

B. Conferences:

92. Ibrahim, Basil, Salah Altoubat, Samer Barakat, Moussa Leblouba, Hamdy M. Mohamed, and Hend Elzefzafy. "Sustainable Decision Making in the Shear Strengthening of Concrete Beams." In *2024 International Conference on Decision Aid Sciences and Applications (DASA)*, pp. 1-4. IEEE, 2024.
93. Ibrahim, Basil, Samer Barakat, Moussa Leblouba, Hamdy M. Mohamed, and Hend Elzefzafy. "Decision Making to Optimize Two-Way Slabs Thickness for Sustainable Development in Structural Design." In *2024 International Conference on Decision Aid Sciences and Applications (DASA)*, pp. 1-4. IEEE, 2024.
94. Ibrahim, Basil, Moussa Leblouba, Samer Barakat, Hamdy M. Mohamed, and Hend ElZefzafy. "Sustainable Decision in using Tuned Liquid Column Dampers for the Structural Energy Dissipation of Earthquake." In *2024 International Conference on Decision Aid Sciences and Applications (DASA)*, pp. 1-4. IEEE, 2024.
95. ROUBA ALZOUBI, SAMER A. BARAKAT, and MUHAMMAD TALHA JUNAID, "DATA-DRIVEN ASSESSMENT OF SHEAR STRENGTH OF SINUSOIDAL CORRUGATED STEEL WEBS", Proceedings of International Structural Engineering and Construction, 11(2), 2024, Developing Materials and Structures for Sustainable Engineering Edited by Gribniak, V., Rimkus, A., Holschemacher, K., Quapp, U., Singh, A., and Yazdani, S., ISSN: 2644-108X, www.doi.org/10.14455/ISEC.2024.11(2).SUS-09
96. ABDELAZIZ SALIM, M. TALHA JUNAID, and SAMER BARAKAT, "USING MACHINE LEARNING TO PREDICT THE MECHANICAL PROPERTIES OF PET FIBERREINFORCED CONCRETE", Proceedings of International Structural Engineering and Construction, 11(2), 2024, Developing Materials and Structures for Sustainable Engineering Edited by Gribniak, V., Rimkus, A., Holschemacher, K., Quapp, U., Singh, A., and Yazdani, S., ISSN: 2644-108X, www.doi.org/10.14455/ISEC.2024.11(2).SUS-09
97. Salah Altoubat, Mohamad Alhalabi, Mohamed Maalej, Samer Barakat, Ibrahim Fattouh, " EFFECT OF REINFORCEMENT CORROSION ON THE PUNCHING SHEAR OF RC SLABS INCORPORATING MACRO SYNTHETIC FIBERS", The Twelfth International Structural Engineering and Construction Conference, Chicago, Illinois, USA, August 14-18 2023, Published by: ISEC Press, PO Box 1334, Fargo, ND 58107, USA.
98. Alhalabi, M., Fattouh, I.H., **Barakat, S**., Altoubat, "EVALUATION OF THE EFFECT OF RAW

SUNFLOWER SEED SHELLS ON THE WORKABILITY AND HEAT OF HYDRATION OF CONCRETE", S. CESARE Conference Publications, **2022**.

99. A. Al-Ateyat, O. Mostafa, E. Alotaibi, and S. Barakat, "Reliability-based calibration for punching shear reduction factor for FRP reinforced slabs," *2022 Advances in Science and Engineering Technology International Conferences (ASET)*, 2022, pp. 1-6, doi: 10.1109/ASET53988.2022.9734966.
100. O. Mostafa, E. Alotaibi, A. Al-Ateyat, N. Nassif, and **S. Barakat**, "Prediction of Punching Shear Capacity for Fiber-Reinforced Polymer Concrete Slabs Using Machine Learning," *2022 Advances in Science and Engineering Technology International Conferences (ASET)*, 2022, pp. 1-6, doi: 10.1109/ASET53988.2022.9735107.
101. M. Taklas, M. Leblouba, **S. Barakat**, Z. Al-Sadoon "Concrete-to-concrete shear friction behavior under cyclic loading", 2nd International conference on civil and environmental engineering (ICCEE2022), Malaysia, 6-7 January **2022**.
102. Mohamad, F., Leblouba, M., **Barakat, S.**, Al-Sadoon, Z. A., and Taklas, M., "Reliability analysis of concrete beams reinforced with FRP bars", in E3S Web of Conferences, 2022, vol. 347. doi:10.1051/e3sconf/202234701003.
103. A. Fageeri, M. Leblouba, Z. Al-Sadoon, and **S. Barakat**, "Evaluation of the energy dissipation capacity of a steel damper", 2nd International conference on civil and environmental engineering (ICCEE2022), Malaysia, 6-7 January **2022**.
104. F. Mohamad, M. Leblouba, **S. Barakat**, and Z. Al-Sadoon, "Reliability analysis of concrete beams reinforced with FRP bars", 2nd International conference on civil and environmental engineering (ICCEE2022), Malaysia, 6-7 January **2022**.
105. A Reliability-Based Design Optimization of Cantilever Reinforced Concrete Retaining Walls, Humam Mhd. Al Sebai; **Samer Barakat**, Ph.D.; and Mohamed Arab, Ph.D. IFCEE 2021: From Traditional to Emerging Geotechnics. 2021
106. Nour Alrouh, Mohamed Maalej, and **Samer Barakat**, "Modeling the Shear Strength of FRP-Strengthened RC Beams Using Artificial Neural Networks," 4th International Conference on Civil Engineering and Architecture (ICCEA 2021), July 10-12, 2021.
107. Ahmed Hassan, M Talha Junaid, Samer Barakat, Mechanical Properties Of Geopolymer Concrete: Statistical Analysis And Prediction Models", 5th International Conference on Civil, Structural and Transportation Engineering (ICCSTE'20) | Nov. 12-14, 2020.
108. **Samer Barakat**, "Design of the base isolation system with artificial neural network models", The 4th International Conference on Compute and Data Analysis (ICCDA 2020), Silicon Valley, San Jose, USA, March 9-12, 2020.
109. Raghad Awad, **Samer Barakat**, Salah Altoubat, Moussa Leblouba, "Reliability-Based Design for the Flexural Capacity of Fiber Reinforced Concrete Slabs on Ground", 5th International conference on Structural Engineering and Concrete Technology (ICSECT'20), Lisbon, Portugal April 19 - 21, 2020.
110. Hazem Al-Farra, Mohamed Maalej and **Samer Barakat**, "Shear Strengthening of T-Section RC Beams Using Double-Side Externally Bonded CFRP", The fifth International Conference on Building Materials and Construction (ICBMC 2020) 26-29 February 2020, Tokyo, Japan.
111. A. Shabib, M. Khalil, M. Abuzwidah and **S. Barakat**, "Public Perception and Willingness to Pay for High-Occupancy Toll (HOT) Lanes in the United Arab Emirates: Questionnaire-Based Survey," *2020 Advances in Science and Engineering Technology International Conferences (ASET)*, Dubai, United Arab Emirates, 2020, pp. 1-6, doi: 10.1109/ASET48392.2020.9118315.
112. Y. Elbaz, M. Naeem, M. Abuzwidah and **S. Barakat**, "Effect of Drowsiness on Driver Performance and Traffic Safety," 2020 Advances in Science and Engineering Technology International Conferences (ASET), Dubai, United Arab Emirates, 2020, pp. 1-6, doi: 10.1109/ASET48392.2020.9118242.
113. Ibrahim Al-jumaili, **Samer Barakat** and Zaid Al-Sadoon, "Experimental compression tests on the Stability of Structural Steel Tubular Props", 4th International Sustainable Buildings Symposium (ISBS2019), Dallas, Texas, USA, 18-20 July 2019.
114. Lubna Obaid, Sama Alani, Maher Omar, **Samer Barakat**, Mohamed Arab, Moussa Leblouba, Abdallah Shanableh, Ali Tahmaz, "The Development of a Local Ground Motion Prediction Equation from Recorded Data", 4th International Conference on Geotechnical Research and Engineering (ICGRE'19), Rome, Italy, April 7-9, 2019.
115. A. Shweiki, M. Talha Junaid, **S. Barakat**, "FLEXURAL CHARACTERISTICS OF MORTAR CEMENT REINFORCED WITH 3D-PRINTED POLYMER", 4th International Conference on Structural Engineering and Concrete Technology (ICSECT'19), Rome, Italy, April 7 - 9, 2019.

116. Yousef Elbaz, Marwan Alaa Naeem, Muamer Abuzwidah, and **Samer Barakat**, "Effect of Drowsiness on Driver Performance and Traffic Safety", 3rd International Conference on Sustainable Environment and Urban Infrastructure, Dubai, UAE, February 4-6, 2020.

117. Basil Ibrahim, M. Leblouba, Salah Altoubat, **Samer Barakat**, 2018, "Experimental study on the out-of-plane strengthening of unreinforced masonry walls using cement-based fiber composites, 2nd Intl. Symposium on Civil and Environmental Engineering (ISCEE'18), 3-4/12/2018, Kuala Lumpur, Malaysia.

118. **Samer Barakat** and Moussa Leblouba, Shear Strength of Corrugated Web Steel Beams: Experimental and Analytical Investigation, Transportation Research Board 97th Annual Meeting, Transportation Research Board, TRB, Washington, DC, USA, January 7-11, 2018.

119. Moussa Leblouba, **Samer Barakat**, "Performance of Wire Rope Isolators in the Seismic Protection of Equipment", Proceedings of the International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17), Sharjah, United Arab Emirates, April 18–20, 2017

120. **Samer Barakat,** Salah Altoubat, Eman Al Bourai**,** Shear Strengthening Reinforced Concrete Beams with Externally bonded Fiber-Reinforced Polymer: Updated Data Base, 9th International Conference on Engineering Mechanics, Structures, Engineering Geology- EMESEG '16, Istanbul, Turkey, April 15-17, 2016.

121. **Samer Barakat**, Omar Nassif, Optimization of Truss Structures Using Genetic Algorithms with Domain Trimming (GADT), 3rd International Conference On Advances in Civil and Structural Engineering (CSE 2015– Kuala Lumpur, Malaysia, 11-12 April 2015.

122. **Samer Barakat**, Ahmad Al Mansouri, Salah Altoubat, Experimental Study on the Shear Strength of Steel Beams with Trapezoidal Corrugated Webs, 3rd International Conference On Advances in Civil and Structural Engineering (CSE 2015– Kuala Lumpur, Malaysia, 11-12 April 2015.

123. **Samer Barakat**, Mohammad AlHamaydeh, Omar Nassif, Optimization of Seismic Isolation Systems with Viscous Fluid Dampers using Genetic Algorithms, COMPDYN 2015, 5th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete Island, Greece, 25-27 May 2015.

124. Mohammad AlHamaydeh, **Samer Barakat**, Omar Nassif Optimization of Quatropod Jacket Support Structures for Offshore Wind Turbines Subject to Seismic Loads using Genetic Algorithms, COMPDYN 2015, 5th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete Island, Greece, **25-27 May 2015**.

125. **Samer Barakat**, Ahmad Al Mansouri, Salah Altoubat, Shear Strength of Steel Beams with Trapezoidal Corrugated Webs Using Regression Analysis, Civil Engineering for Sustainability and Resilience International Conference, CESARE'14, Amman, Jordan, **24-27 April 2014.**

126. **Samer Barakat** and Mohamad AlHamaydeh, Preliminary Design of the base isolation system with artificial neural network models, The 2014 International Conference on Neural Networks - Fuzzy Systems, Venice, Italy, **March 15-17, 2014.**

127. Hisseine Ousmane, Salah Al-Toubat, and **Samer Barakat**, "Horizontal shear strength of fiber-reinforced composite deck slabs tested in the weak direction." In: Proceedings of the 2nd International Conference on the Advances of Civil, Structural, and Environmental Engineering (ACSEE), **October 2014**, Zurich, Switzerland.

128. **Samer Barakat**, Abdullah Shanableh, and Khader Abu-Dagga, Indicative seismic risk GIS-based maps for the city of Sharjah, UAE, ASEA-SEC-1. The First Australasia and South-East Asia Structural Engineering and Construction Conference, Perth, Australia, Nov 28-Dec 2, 2012.

129. **Samer Barakat** and Helal Al Sahi, Seismic Performance of Vertically Mass Irregular RC Buildings, ASEA-SEC-1. The First Australasia and South-East Asia Structural Engineering and Construction Conference, Perth, Australia, Nov 28-Dec 2, 2012.

130. Samer Barakat and Hisham Ibrahim, Application of Shuffled Complex Evolution Global Optimization Technique in the Design of Truss Structures, ICMSAO 2011 - INTERNATIONAL CONFERENCE ON MODELING, SIMULATION AND APPLIED OPTIMIZATION 2011 - 19-21 April 2011, Kuala Lumpur, Malaysia.

131. Farid Abed, Samer Barakat, and Mohamad AlHamaydeh, Numerical Simulation of Buckling of Pretwisted Non-Circular Bars, ICMSAO 2011 - INTERNATIONAL CONFERENCE ON MODELING, SIMULATION AND APPLIED OPTIMIZATION 2011 - 19-21 April 2011, Kuala Lumpur, Malaysia.

132. Farid H. Abed, Samer A. Barakat, and Mohammad AlHamaydeh NONLINEAR FINITE ELEMENT

ALNALYSIS OF BUCKLING CAPACITY OF PRE-TWISTED BARS Engineering Mechanics Institute Conference (EMI2011), Northeastern University, Boston, MA, June 2-4, 2011.

133. SALAH AL TOUBAT, HUSSEIN OUSMAN, SAMER BARAKAT, Diaphragm Testing of Fiber-Reinforced Composite Metal Decks with Reentrant Profile, IMS/4 INTERNATIONAL CONFERENCE ON THE APPLICATIONS OF TRADITIONAL & HIGH PERFORMANCE MATERIALS IN HARSH ENVIRONMENT MARCH 24-25, 2010.

134. Samer Barakat, A Shoveled Complex Evolution Optimizer for Truss Structure Optimization International Conference on Computing in Civil and Building Engineering 2010, NOTTINGHAM, UK

135. Khader Abu-Dagga, Samer Barakat, and Abdullah Shanableh, Seismic Fragility Assessment for Selected Buildings in Sharjah, United Arab Emirates, International Conference on Computing in Civil and Building Engineering 2010, NOTTINGHAM, UK

136. Salah Altoubat, Hussein Ousman, Samer Barakat, Diaphragm testing of fiber-reinforced composite metal decks with reentrant profile, ims/4 international conference on the applications of traditional & high performance materials in harsh environment, American university of Sharjah, Sharjah, United Arab Emirates, MARCH 24-25, 2010

137. Samer Barakat, Optimization of prestressed concrete flanged-section beams, 8th International Congress on Civil Engineering, Shiraz University, Shiraz, Iran, May 11-13, 2009.

138. Salah Altoubat, Samer Barakat, Yazdanbakhsh Ardavan, and Klaus-Alexander Rieder SHEAR STRENGTH AND DUCTILITY OF BEAMS REINFORCED WITH SYNTHETIC MACRO-FIBERS, RILEM, Poland, 2009.

139. S. Barakat, A. Shanableh, M. Omar, From Course Learning Outcomes to Program Objectives-Based Assessment Process, Symposium on Engineering Education, UAE University, Al-Ain, United Arab Emirates 2009

140. Samer Barakat and Salah Altoubat, Application of Shuffled Complex Evolution Global Optimization Technique," Third International Conference on Modeling, Simulation, and Applied Optimization (ICMSAO'09), AUS, Sharjah, 2009.

141. Salah Altoubat and Samer Barakat, Shear Behavior of Concrete composites with Synthetic Macro Fibers, Seventh International Conference on Composite Science & Technology (ICCST/7), AUS, Sharjah, 2009.

142. Maher Omar, Abdallah Shanableh and Samer Barakat, Another dimension of student engagement - student satisfaction survey, UB – NE ASEE 2009 Conference, USA.

143. A Framework for Comparative Risk Assessment of Earthquakes Consequences in the United Arab Emirates. A. Shanableh, S. Barakat and A. I. H. Malkawi, International Symposium Disaster Reduction on Coasts, Monash University, Melbourne, Australia 14 – 16 November 2005.

144. Samer Barakat, Osman Ibrahim, "Welding of Precast Reinforced Concrete Beams", Published in 5th ASIA PACIFIC STRUCTURAL ENGINEERING AND CONSTRUCTION CONFERENCE, 26-28 August 2003, Johor Bahru, Malaysia, pp 261-274.

145. Salah, Altoubat, Samer Barakat and Akthem Almanaseer, "Effect of Shrinkage Admixtures on Prestressed Concrete Beams", Presented in First International Conference on Application of Traditional and High performance Materials on Harsh Environment, AUS, UAE, January 20-22, 2004.

146. Abdallah Shanableh, Maher Omar, Bassem Younes, and Samer Barakat "Perceptions On Effective Engineering Education", 33rd, ASEE/IEEE Frontiers in Education Conference, November 5 - 8, 2003, Boulder, Colorado S4B 1-6.

147. Abdallah, I.H. Malkawi, Samer Barakat, Ehab Shatnawi, "Static and Dynamic Stability Analysis of Al-Wehdah RCC Dam", Seismology and Earthquakes in the Arabian Gulf Region- Towards Cooperative efforts in Seismology", 22-25 February 2004, Sharjah, UAE.

148. Maher Omar, Abdallah Shanableh, Samer Barakat, Adnan Basma, Ali Tahmaz, Braja Das, "Compaction Characteristics of Some Granular Soils" **12th** Asian Regional Conference on Soil Mechanics and Geotechnical Engineering Singapore pp. 517, August 2003.

149. Salah, Altoubat, Samer Barakat and Akthem Almanaseer, "Effect of Shrinkage Admixtures on Prestressed Concrete Beams", Presented in ACI Spring Convention, Concrete- A Century of Innovation, Washington, D.C., USA, March 14-18, 2004.

150. Salah, Altoubat, Samer Barakat and Akthem Almanaseer, "Effect of Shrinkage Admixtures on Prestressed Concrete Beams", submitted to First International Conference on Application of Traditional and High

performance Materials on Harsh Environment, AUS, UAE, January 20-22, 2004.

151. Samer Barakat, Abdallah Husein and Ayad, Humadi, "Parametric Study using FEM for the RCC Tannur Dam", International conference on Roller Compacted Concrete Dam Construction in Middle East, 7-10 April 2002, Jordan.

152. Mohammed Shanag, Feras Jaber, Samer Barakat, "Repair and Strengthening of Concrete Structures using High Performance Cementitious Composites", Second International Conference on Engineering Materials, August 16-19, 2001, California, USA.

153. Al-Harthy A.S., Barakat A.S., (1996) " An Algorithm for Structural Reliability Assessment", ICCE-96, The Second International Conference in Civil Engineering on Computer Applications, Research and Practice, Vol. 2, 459-464, Bahrain.

154. Basma A.A., Barakat A.S., (1996) " Prediction of Concrete Degree of Hydration Using Artificial Neural Networks", Concrete Technology for Developing Countries, Fourth International Conference, November 1996, Gazimagusa, North Cyprus.

155. Samer Barakat and Dan Frangopol (1995) "Towards Damage-Oriented Reliability-Based Design of Bridge Systems", Session at Structures Congress '95, Boston, USA, April 1995.

156. Frangopol, D.M.; S. Barakat and M. M. Tudor, (1993) "Experiences in Reliability-Based Optimization of Plate Girders for Highway Bridges"; 5th WG 7.5 Conference on Reliability and Optimization of Structural Systems, Takamatsu-shi, Kagawa, Japan, March 24-26, 1993.

C. Book Chapters

157. Talha Junaid, M., **Barakat, S**., Awad, R., Anwar, N. (**2024**). Adopting the Power of AI Chatbots for Enriching Students Learning in Civil Engineering Education: A Study on Capabilities and Limitations. In: Al-Marzouqi, A., Salloum, S.A., Al-Saidat, M., Aburayya, A., Gupta, B. (eds) Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom. Studies in Big Data, vol 144. Springer, Cham. https://doi.org/10.1007/978-3-031-52280-2_3

D. Edited Books

158. Proceedings of the International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17), Editors: Shanableh, A., Maalej, M., Barakat, S., Omar, M., Al-Toubat, S., Al-Ruzouq, R., and Hamad K. MATEC Web of Conferences, Volume 120 (2017), EDP Sciences, France, eISSN: 2261-236X. (DOI: 10.1051/matecconf/201712000001).

E. Technical Reports:

159. Malkawi, A. H., Barakat, S. A., Shanableh, A., Al Bdour, W., Omar, O. and Altoubat, S. "Seismic Hazard Assessment and Mitigation of Earthquake Risk in United Arab Emirates", UOS-3, College of Graduate Studies and Research, University of Sharjah, 2007.

F. Funded Projects

F1. Funded by UOS –Office of Vice Chancellor for Research and Graduate Studies

Active

1. **Lead Investigator: "Experimental Study on Shear Strength** of Steel Beams with Sinusoidal Corrugated Webs" (Competitive Research Project No.23020401292). Prof. Salah Altoubat, Prof. Mohamed Maalej, Dr. M Talha Junaid, and Dr. Zaid Al-Sadoon. **2023-present**.
2. **Co-Investigator** with Prof. Mohamed Maalej, Prof. Salah Altoubat, Dr. M Talha Junaid: " Investigating the Punching Shear Behavior of Fiber Reinforced Polymer (FRP) Flat Slabs Incorporating Macro-Synthetic Fibers", **2023-present**.
3. **Lead Investigator**: Characterization of flexural and post-cracking residual strength of fiber-reinforced concrete and correlation between different testing standards protocols, Project ID 22020401236, **2022 - Present.**

Closed

4. Co-Investigator with M. Talha Junaid, Competitive Research funding from the University of Sharjah, "3D-

Printed Polymer-Based Reinforcement for Structural Elements" **2020-2023.**

5. Project No. G.R.C/S.R. 332/2014, UOS: "Shear strength of trapezoidal corrugated steel webs", 2014-2015.
6. Experimental Study on Shear strength of trapezoidal corrugated steel webs, **Samer Barakat**, Salah Altoubat, Mohmed Maalej, Moussa Leblouba, Competitive Research No. 1502040112-P, 2015 -2018.
7. Rapid Strengthening of Unreinforced Masonry Walls for Out-of-Plain Action Using Fiber Reinforced Shotcrete, Salah Altoubat, Mohmed Maalej, **Samer Barakat**, Moussa Leblouba, Pierre Estephane, Competitive Research No. 15020401008-P, 2015 -2021.
8. Seismic Retrofitting of Deficient Reinforced Concrete Buildings using Buckling Restrained Braces and Innovative Materials, Zaid Al-Saddon, Moussa Leblouba, **Samer Barakat**, S Altoubat, M Maalej, 2019-2022.
9. Innovative Vibration Attenuation Devices for Equipment and Structures, Mohmed Maalej, Moussa Leblouba, Salah Altoubat, Samer Barakat, Competitive Research No. 15020401009-P, 2015 -2021.
10. Estimation of Earthquake Hazard in Sharjah, Prof. S**amer Barakat**, Dr. Salah Altoubat, Prof. Mohmed Maalej, Dr. Moussa Leblouba, Dr. Maher Omar, Prof. Abdallah Shanableh, Collaborative research No. 1602040147-P, October 2016-2021.

F2. Funded by UOS – College of Graduate Studies and Research

11. Project No. 070408 College of Graduate Studies and Research, UOS: "Buckling of Pretwisted Columns", Samer Barakat, December 2007-closed.
12. Project No. 040106 Research Center UOS: " Concrete Weld: Long-Span Beams from Precast Elements", Samer Barakat, 2001-2006.
13. Project funded by Research Center UOS: Collaboration and Capacity Building in Seismology – Methodology for Assessing Earthquakes Impact on Health, Environment, and Infrastructures in UAE, Samer Barakat, Abdullah Shanableh, Maher Omar from UoS/Research Center, and JUST - Dean of Scientific Research.

F3. Funded by the Deanship of Scientific Research at JUST

14. Grant No. 15/97 JUST: "Flexural Buckling of pre-twisted columns (Experimental study)", Investigators: S. Barakat, G. Abu-Farsakh and M. Smadi.
15. Grant No. 1/98 JUST: "On the evaluation of ductility of RC Structures": S. Barakat and A. H. Malkawi.
16. Grant No. 3/95 JUST: "Determination of pile Dynamic Capacity with Artificial Network": A. Malkawi, S. Barakat and M. Al-Shriadeh.
17. Grant No. 43/95 JUST: "Hydrogeological Decision-Making: A Case Study of Recharging Unconfined Aquifer in the Yarmouk Basin": M. Al-Shriadeh, S. Barakat and A. Malkawi.
18. Grant No. 11/98 JUST: "The Rehabilitation & Restoration of the Zaidaniah Mosque in Tibneh, Koura, Jordan": R. Daher, S. Barakat and A. Malkawi.
19. Grant No. 80/98 JUST: "Effect of Scale and Progressive Failure on the Shear Strength of Non-Persistent Rock-Like Materials Joints": Omer Magied and Samer Barakat.
20. Grant No. 226/99 JUST: Structural behavior of retrofitted shear-deficient reinforced concrete beams": Mohammed J. Shannag, Samer A. Barakat, and Feras K. Jaber.
21. Grant No. 234/99 JUST: "Structural Seismic Behavior of Retrofitted Beam-Column R.C. Joints", Samer A. Barakat, Mohammed J. Shannag and Mohammed A. Ibrahim.

F4. Funded by Higher Council of Science and Technology in Jordan

22. Earthquake Hazards Evaluation and Methods of Mitigating their environmental impacts, National Project, Structural group, 1997-2000.

G. Research Groups

1. Member out of six of the research group, "Sustainable construction materials and structural systems" Office of Vice Chancellor for Research and Graduate Studies through Research Institute for Sciences and Engineering, **2015 - Present**.

H. Supervised and co-supervised several Master and PhD Thesis

No.	Title	Type	Student	Date
1	Analytical and Experimental Study on the Punching Shear of FRP bars Reinforced Concrete Slabs, **Aroob Al-Ateyat. PhD**	**Main with Prof. Salah Altouba and Dr. M. Talaha Junid @** University of Sharjah, Joint supervision	**Aroob Al-Ateyat. PhD**	2022-2024
2	Reliability-Based Study on the Shear Strength of Sinusoidal Corrugated Web Steel Beams, **Rouba Al Zoubi, Samer Barakat.**	**Main @** University of Sharjah,	**R**ouba Al Zoubi **MSc**	2023-2024
3	Modelling the Shear Strength of Corrugated Web Steel Beams (CWSB) Using Machine Learning, **Mazen Shrif**, **Samer Barakat**, Zaid Al Sadoon.	**Main with Dr. Zaid Al Sadoon, @** University of Sharjah, Joint supervision	Mazen Shrif **MSc**	2021-2022
4	Concrete to Concrete Shear Friction Behavior Under Cyclic Loading , Mohamad Ihsan Taklas, Moussa Leblouba, **Samer Barakat**.	**Co with Dr. Moussa Leblouba**, @ University of Sharjah, Joint supervision	M. Taklas **MSc**	2020-2021
5	Fiber Reinforced Polymers Reinforced Concrete Flexural Members: Reliability Analysis and Calibration of Strength Reduction Factors.	**Co with Dr. Moussa Leblouba**, @ University of Sharjah, Joint supervision	Firass M. Ammar **MSc**	2020-2021
6	Modelling the Shear Strength of FRP-Strengthened RC Beams Using Artificial Neural Networks	**Co with Prof. Mohamad Maalej**, @ University of Sharjah, Joint supervision	Nour Alrouh **MSc**	2020-2021
7	Fiber-Reinforced Concrete Slabs: Reliability Analysis and Calibration of Strength Reduction Factors	**Main with Prof. Salah Altouba, @** University of Sharjah, Joint supervision	Raghad Awad **MSc**	2019-2020
8	Mechanical Properties of Geopolymer Concrete: Statistical Analysis and Prediction Models	**Co with Dr. M. Talaha Junid**, @ University of Sharjah, Joint supervision	Ahmad Hassan **MSc**	2019-2021
9	Experimental Compression Tests on the Stability of Structural Steel Tubular Props	**Co with Dr. Zaid Al Sadoon**, @ University of Sharjah, Joint supervision	Ibrahim Adnan Al- Jumaili	2018-2019
10	Experimental Study on The Shear Strength of Externally S-Bonded Carbon Fiber Reinforced Polymers (EX-FRP) Reinforced Concrete (RC) Beams	**Co with Prof. Mohamad Maalej**, @ University of Sharjah, Joint supervision	Student: Hazem Al Farra	2018-2019
11	3d printed polymer reinforcement for mortar cement	**Co with Dr. M. Talaha Junid**, @ University of Sharjah, Joint supervision	Student: Ahmad Shewaki	2018-2019
12	MSc: Stability Analysis of Thin-Walled Steel Multi-Column Bundles	**Main with Dr. Moussa Leblouba, @** University of Sharjah, Joint supervision	Student: Saif Uddin M. Al- Khaled	2017-2019
13	MSc: Dynamic behavior of the connection girder-stud-deck of reinforced concrete bridges: an experimental study	**Co with Dr. Moussa Leblouba**, @ University of Sharjah, Joint supervision	Student: Mohammed Siraj Aldeen Khoudhair	2017-2018

14	Control of Wind-Induced Motions in Tall Buildings: Performance and Cost-Efficient Solutions.	**Main with Dr. Moussa Leblouba**, @ University of Sharjah, Joint supervision	Student: Anas Mustapha Cherkaoui	2016
14	Optimization of the Seismic Performance of Frames with Engineered Cementitious Composites	**Co with Dr. Moussa Leblouba**, @ University of Sharjah, Joint supervision	Student: Abdulrahman Mustafa	2016- 2018
15	Probabilistic Assessment of ACI 318 Minimum Thickness Requirements for Two-Way RC Slabs	**Co with Prof. Salah Altoubat**, @ University of Sharjah, Joint supervision	Student: Khalid Ali Ahmat	2016
16	Behavioral Trends of RC Beams Strengthened in Shear with Externally Bonded Fiber Reinforced Polymer (EB-FRB)	Main with Dr. Salah Altoubat	Eman Nayef Alburai	**2016**
17	Numerical and Experimental study on the shear strength of steel beams with Trapezoidal Corrugated Webs.	Main with Dr. Salah Altoubat	Ahmad Almansouri	**2015**
18	OPTIMIZATION OF NATURAL RUBBER SEISMIC ISOLATION SYSTEMS WITH SUPPLEMENTAL VISCOUS DAMPING FOR NEAR-FIELD GROUND MOTION	Master Thesis – **Main supervisor**	Omar Nassif	2014
19	Optimization of Concrete Arches Through Prestressing.	**Co with Dr. Salah Altoubat**, @ University of Sharjah, Joint supervision	Humam Alsebai	2014
20	Seismic Risk Assessment for Buildings in Sharjah, MSc. Thesis 2009.	Master Thesis – **Main supervisor**	Khader Abu Daqa	2007-2009
21	Diaphragm action of composite metal deck with fibers. MSc. Thesis, 2009.	Master Thesis – **Co-supervisor**	Husien Osman	2007-2009
22	Seismic Performance of Vertically Mass Irregular Reinforced Concrete Structures, 2009.	Research Project **Supervisor**	Helal Al Sahi	2009

I. Honors and Awards

1. Recipient, University of Sharjah, outstanding research award sponsored by Bank of Sharjah, "Reliability-based risk index for the design of reinforced earth structures".
2. Best Research Group (Group coordinator)– 4th Annual Scientific Research Forum – 2008.
3. Recipient of annual faculty incentive awards in the field of research for the year 2009/2010
4. Recipient of annual faculty incentive awards in the field of research for the year 2014/2015

J. Other Research Related Activities

No.	Activity	Location
1	**Active Reviewer for Journals**	**Top International Journals**
2	Member of the Scientific Committee of CESARE', 17, 20, 22	Jordan, May 6-9, 2022 Shanghai, China, 22 -25 April 2020
3	Co-Chair the technical committee of the Advances in Sustainable Construction Materials & Civil Engineering Systems(ASCMCES-17)	Sharjah, UAE, April 18–20, 2017

IV. COMMUNITY SERVICE

No.	Activity	Duties	Date	
			From	To
1	Structural Safety of University Buildings	Chair/UOS	2022-2023	Present
2	PhDCE program coordinator	Coordinator	2019	Present
3	College Research Committee	Member/College	2020	Present
4	Assessment and Accreditation Committee	Chair/Dept.	9-2013	present
5	Graduate Studies Committee	Member/Dept.	9-2013	present

V. ADMINISTRATIVE ACTIVITIES

I have participated in the following task forces at the level of Dept., College and University:

No	Activity	Beneficiaries	Date
1	Member of the Scientific Committee of CESARE'22	International	Jordan, May 6-9, 2022
2	Assessment Committee	Dept.	2018 - Present
3	Graduate Studies Committee	Member/Dept.	2018 - Present
4	Member of the research group "Sustainable Materials and Structural Systems": to be hosted by CEED.	Faculty members from CEED	2015 - Present