

# RAMI H. HADDAD



Professor of Civil Engineering  
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[https://www.researchgate.net/profile/Rami\\_Haddad](https://www.researchgate.net/profile/Rami_Haddad)  
<https://scholar.google.com/citations?user=j7L3jccAAAAJ&hl=en>

## PERSONAL

Born: December 29, 1966 in Irbid, Jordan.

Marital Status: Married

Children: Son, Haythem; Daughters, Kareen and Laura

## SUMMARY AND QUALIFICATION

An expert on concrete quality control, concrete durability and behavior and repair of concrete structures. Supervised more than 55 master's and PHD students; served in more than 15 thesis defense committees and published more than 90 journal and conference technical papers in field of concrete materials, and durability, repair of structures using advance composite materials, and structural behavior. Taught wide spectrum of courses in structures and concrete materials. Referred many promotion applications, and master's and PHD theses for well-known international universities and more than one hundred international technical papers. Supervised several engineering consultations and served in several committees via Ministry of Works; especially that of bridge maintenance code. Participated in Erasmus mobility program through short term visits. Served as chairmen of the largest department on campus for three years, CE department and chaired several departmental committees including Engineering Training. Currently, serving as the editor-in-chief of the Jordan Journal of Civil Engineering.

## EDUCATION

**Ph.D., Civil Engineering, Virginia Polytechnic Institute and State University, Jan., 1996.** *Dissertation Title: Characterization of Portland Cement Concrete and Deterioration Detection Using Electromagnetic Waves over a Wide Band of Frequency.*

**M.Sc., Civil Engineering (Structure), Jordan University of Science and Technology, Irbid - Jordan August, 1991.** *Thesis Title: Effect of Early Damage of Concrete on Its Later Strength Development.*

**B.Sc., Civil Engineering, Jordan University of Science and Technology, Irbid - Jordan January 1989.**

## IMPORTANT GRADUATE COURSES

- Sustainable Construction Materials and Technology (PHD course)
- Advanced Structural Mechanics
- Theory of Elasticity
- Fracture Mechanics
- Advanced Reinforced Concrete
- Advanced Concrete Technology
- Structural Dynamics
- Theory and Design of Plates and Shells
- Structural Stability
- Finite Element Method
- Characterization of cementitious Materials

## PROFESSIONAL TEACHING & RESEARCH EXPERIENCE

- **Sept. 2014-Present**, Professor of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.
- **Sept. 2013-2014**, Professor of civil engineering, Applied Science University, Amman, Jordan.
- **Sept. 2010-2013**, Professor and Chairman of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.
- **Sept. 2009-Sept. 2010**, Professor of civil engineering, Applied Science University, Amman, Jordan.
- **Feb. 2009-Sept. 2009**, Professor of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.
- **Feb. 2009-Sept. 2009**, Professor of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.
- **Feb. 2004- Feb. 2009**, Associate Professor of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.

- **March 1998-Feb. 2004**, Assistant Professor of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.
- **January 1997-March 1998**, Full-Time Lecturer of civil engineering, Jordan University of Science and Technology, Irbid, Jordan.
- **January 1993-1996, PHD student, Virginia Polytechnic Institute and State University, Blacksburg VA.**
  - ✓ Teaching Assistant, Civil Engineering Department, Virginia Tech, Blacksburg, VA.
  - ✓ Developing (member of a team) techniques to measure the dielectric properties of Portland cement concrete over radio and microwave frequencies; correlating concrete deterioration with changes in measured dielectric properties of concrete.
  - ✓ Utilizing ultrasonic waves in testing concrete infrastructures; evaluating the effect of different concrete mix parameters and forms of deterioration on the wave signature and lag time.
  - ✓ Assessment, rehabilitation and maintenance of infrastructures. This include treatments of deteriorated bridge decks as a result of steel corrosion; rehabilitation and design of flexible and rigid pavements; and design of overlays, drainage Systems, and hot-mix asphalt.
- **August 1989-June 1991, M.Sc. Student, Jordan University of Science and Technology, Irbid, Jordan.**
  - ✓ Teaching Assistant, Civil Engineering Department, Jordan University of Science and Technology, Irbid, Jordan.
  - ✓ Working on concrete behavior, specifically, effect of early loading of concrete on its later strength. Investigating the effect of early damage that concrete, in some structure, receives at early ages on its latter performance.

## FUNDED RESEARCH

### External Funding

- Producing Masonry Cement Using Natural Jordanian Pozzolan, Jordan Cement Factory, Amman in 2006. Budget: JD 10,000.
- Retrofitting of Reinforced SCC cantilever beam exposed to elevated temperature using CFRP-under static and dynamic loading. Funded by **Higher Council for Science and Technology** in 2016 (**Eng/ 2/ 08/ 2015**).

### Internal Funding

- Behavior of Fiber Reinforced Concrete as Subjected to Thermal Cycling.

- Arresting Alkali-Silica Reaction Cracks in Concrete Using Fiber Reinforcement.
- Self-Healing of High-Strength Concrete Damaged by Freezing and Thawing; Pozzolanic Effect.
- Bond Loss between Corroded Reinforcement and Fiber Reinforced Concrete. Funded by Dean of Scientific Research.
- Effect of Durability Produced Cracks on the Bond Strength between Reinforcing Steel and Concrete; Alkali-Silica Reaction and Freezing Thawing Effects.
- Bond Recovery in Fire- Damaged Reinforced High Strength Concrete After Post-Fire-Curing. Funded by Dean of Scientific Research.
- Repair of Durability Deteriorated or Damaged Reinforced Concrete Members Using Advanced Composite Materials.
- Effect of High Temperature on the Mechanical Properties of Confined and Unconfined Lightweight Aggregate Concrete.
- Effect of Elevated Temperature on Bond between reinforcing steel and lightweight aggregate Concrete.
- Behavior of Steel and Synthetic Fiber Reinforced Normal and High Strength Concrete in Seawater.
- Bond behavior between reinforcing steel and fiber reinforced concrete undergoing alkali-silica reaction.
- A threefold study of bond strength behavior between sound or damaged concretes and carbon fiber reinforced composites.
- Modeling chloride intrusion into self-compacting heat-damaged concrete.
- An anchorage system of fiber reinforced polymer strengthened cantilever beams.
- Shear repairing of heat-damaged reinforced concrete beams using near surface mounted CFRP strips.
- Potential of Producing Structural Geopolymer Concrete Using Jordanian Natural Pozzolan (JNP).
- Retrofit RC beams severely damaged by reinforcing steel corrosion: Use of CFRP composites.
- Bond behavior between advanced composite materials and fire-damaged reinforced concrete.
- Side near surface mounted- carbon fiber reinforced polymeric ropes at different profiles for repairing heat-damage concrete beam.

## **COURSES TAUGHT**

- CE 201: Statics
- CE 202: Strength of Materials
- CE 203: Engineering Mechanics
- CE 231: Structure Analysis for Architect Students
- CE 324: Construction Materials
- CE 326: Construction Materials Laboratory

- CE 332: Structure Analysis I
- CE 431: Structure Analysis II
- CE 432: Reinforced Concrete I
- CE 521: Advanced Construction Materials
- CE 591-592: Graduation Project
- CE 721: Advanced Concrete Technology
- CE 783: Special Topics in Civil Engineering: Repair of Concrete Structures
- CE 902: Sustainable Construction Materials and Technology

## MASTERS THESIS SUPERVISING

- Self-Healing of Cracked Fiber Reinforced Concrete, by **Ma'en Bsoul**, (1999).
- Behavior of Fiber Reinforced Concrete Subjected to Thermal Cycling, by **Karim Al-Sa'aed**, (1999).
- Effects of Curing and Mixing Temperature on the Mechanical Properties of Fiber Reinforced Concrete, by **Esam Ja'far**, (1999).
- Bond Loss between Corroded Reinforcement and Fiber Reinforcement Concrete, by **Ahmed Ashteyat**, (2000). Dr. Ashteyat is currently a professor of civil engineering, University of Jordan, Amman, Jordan.
- Role of Fibers in Maintaining Steel Bond with Concrete Subjected to Heating-Cooling Cycles, by **Ra'ed Abendah**, (2000). Dr. Abendah is an assistant professor of civil engineering, Al-Zaytoonah University, Amman, Jordan.
- Static and Dynamic Analysis of Roller Compacted Concrete Dams", by **Inmar Badwan**, (2000). Hold a PHD from The University of Akron, USA.
- Bond Recovery in Fire- Damaged Reinforced High Strength Concrete After Post-Fire-Curing", by **Linda Shannis**, (2003).
- Repair of Heat-Damaged Reinforced Concrete T-beams Using Fibrous Composite Materials by **Rami J. Hamad**, (2006).
- Repair of Heat-Damaged Reinforced Concrete Shallow Beams Using Advanced Composite Materials by **Ala'a M. Moh'd** (2006).
- Repair of Reinforced Concrete Beams Damaged by Alkali-Silica Reaction by **Mohammed Al-Hambout**, (2006).
- Effect of Elevated Temperature on Bond between Steel Reinforcement and Fiber Reinforced Concrete by **RaedAl-Saleh**, (2006).
- Effect of High Temperature on the Mechanical Properties of Confined and Unconfined Lightweight Aggregate Concrete by **Dima M. Ashour**, (2006).
- Effect of Elevated temperature on Bond between reinforcing steel and lightweight aggregate Concrete by **Zain Al-Kofahi** (2006). She is currently a part-time lecturer at Jordan University of Science and Technology, Irbid, Jordan.
- Bond Behavior between Reinforcing Steel and Fiber Reinforced Concrete Undergoing Alkali-Silica Reaction by **Ebtesam Al-Jammal** (2008). She is currently a part-time lecturer at Jordan University of Science and Technology, Irbid, Jordan.

- Role of Fibers in Controlling Expansion & Preventing Damage in Concrete Subjected to Sulfate Attack by **Abeer Andrawes** (2008). She is currently a part-time lecturer at Jordan University of Science and Technology, Irbid, Jordan.
- Repair of Heat-damaged One-way Reinforced Concrete Slabs Using Fibrous Composite Materials by **Nadmi AL-Mekhlafy** (December 2008).
- Repair of sulfate damaged reinforced concrete beams using advanced composite materials by **Moh'd Tahat**, (August 2009).
- Repair of shear-deficient reinforced concrete beams damaged by sulfate using composite materials by **Bashar Kh. AL-Sedyiri** (August, 2009).
- Modeling chloride intrusion into self-compacting heat - damaged concrete by **Ayat Hinawi** (2011).
- Repair of Shear-Deficient Light - Weight Aggregate Concrete Beams Damaged by Thermal Shock Using Advanced Composite Materials by **Ali Alsadi** (2011).
- Repair of Shear-Deficient Normal Weight Concrete Beams Damaged by Thermal Shock Using Advanced Composite Materials by **Alaa Swesi** (2011).
- FRP Plates As Shear Keys For Reinforced Concrete Composite Girders by **Ahmad Gazal** (2012).
- Size effect on carbon fiber reinforced polymers bond characteristics with concrete: Geometric configuration by **Lina Ghanma** (2012).
- On Bond Behavior between Carbon Fiber Reinforced Polymers and Concrete by **Zaid Nimri** (2012).
- Optimization of Cable-Stayed Bridges by **Mu'tazHajaj** (2012).
- Repair of Heat-Damaged Reinforced Concrete Columns Using Advanced Composite Materials by **Saad Afram** (2012).
- Bond - Slip behavior between Carbon Fiber Reinforced Polymers sheets and heat-damaged concrete by **Ashraf Almasry** (2012).
- Thermal performance of self-compacting concrete: Effect of relative humidity by **Ruba Odeh** (2012).
- Non-destructive evaluation of fire damage in self compacting concrete by **Hala Amawi** (2012).
- Effect of sulfates on bond behavior between carbon fiber reinforced polymer sheets and concrete by **Khawla Al-Sa'di** (2012).
- Quality and Safety Assurance in Northern Quarries of Jordan by **Nisreen Al-Al-Daoud**(August, 2013).
- Modeling Bond Behavior between CFRP and Concrete Using Nonlinear FiniteElement Analysis by **Albra Mana** (2013).
- Bond- Slip Behavior Between Self-Compacting Concrete (SCC) and Carbon Fiber Reinforced Polymer Sheets by **Ahmad Al-Halboni** (2013).
- An Effective Anchorage System For Reinforced Concrete Beams with Fiber Reinforced Polymer Composites by **Catreen Marji** (2013).
- Flexure Behavior of Heat Damaged Concrete Beams Reinforced with Fiber Reinforced polymers (FRP) by **Hanadi Al-Mahmoud** (2013)
- Shear repairing of heat-damaged reinforced concrete beams using near surface mounted CFRP strips by **Hatem Almasaeid** (July, 2015).
- Potential of Producing Structural Geopolymer Concrete Using Jordanian Natural Pozzolan (JNP) by **Odey Alshbuol** (August, 2015).

- An anchorage system of fiber reinforced polymer strengthened cantilever beams by **Mahmood Abdel-Wahab** (December, 2015).
- Critical Success Factors (CSFs) for Public-Private Partnership (PPP) of Construction Projects in Jordan by **Maymoon Al-Hami** (April, 2016).
- Impact of Corrosion Generated Cracks on Concrete's Bond with Carbon Fiber Reinforced Polymer (CFRP) Sheets by **Abeer AL Dalou'** (May 2016).
- Flexural performance of post-heated reinforced concrete beams repaired with near-surface mounted (NSM) carbon fiber reinforced polymer (CFRP) strips by **Oubaida Almomani** (May, 2016).
- Producing Structural Geopolymer Mortar Using Jordanian Oil Shale Ash by **Zeinab Lababneh** (July, 2016).
- Shear repairing of heat-damaged reinforced concrete beams using near surface mounted CFRP strips by **Hatem Al-Masaeed** (2017). Dr. Al-Masaeed is currently an assistant professor of civil engineering at Al-Zaytoonah University, Amman, Jordan.
- Potential of Producing Structural Geopolymer Concrete Using Jordanian Natural Pozzolan (JNP) by **Odey Al-Shboul** (2017). Dr. Al-Shboul is currently an assistant professor of civil engineering at the Hashemite University, Zarka, Jordan.
- Impact of alkali-silica reaction (ASR) generated cracks on concrete's bond with carbon fiber reinforced polymer (CFRP) sheets by **Ahmad Al-Sayed** (2018).
- Prediction of Bond Strength between Fiber Reinforced Polymer composite and Concrete Using Artificial Neural Networks by **Madlaine Haddad** (2018).
- Bond behavior between heat-damage reinforced concrete and near surface mounted-carbon fiber polymeric composites by **Imad Rabadi** (2018).
- Concrete cover separation in fire-damaged reinforced concrete blocks: a simulation study by **Areen Al-Rabadi** (2018).
- Side Near Surface Mounted-Carbon Fiber Reinforced Polymer with Different Profile of Heat-Damaged Beams by **Emad Yagmour** (2018). Mr. **Yagmour** (currently a PHD student at Leigh University, USA).
- Using side near surface mounted- carbon fiber reinforced polymeric ropes at different profiles for repairing heat-damage concrete beams by **Ali Harb** (2019).
- Efficiency of Using Steel End Caps In Improving The Post-Fire Flexural Behavior Of FRP Reinforced Concrete Beams by **Rami Hamad** (PHD dissertation, University Sains Malaysia, 2017).

## THESIS COMMITTEE SERVING

- "Effect of Cracking and Material Non-Linearities on the Dynamic Behavior of Reinforcement Concrete Beams", by Sa'adJubeer, (2000).
- "Forced Vibration of Sandwich Beams", by Yousef Al-Rjoub, (2000).
- "Pozzolanic Reactivity of Wheat Straw Ash Concrete, by Bilal Abu-Alfoul, (2000).

- Local Buckling of Delaminated Composite Beams, by Muhannad Suleiman, (1999).
- An Experimental study of Properties of Concrete Incorporating Rubber as Fine Aggregate, by Mohamed Al-Satari, (1998).
- Free Vibration of Composite Plates using Finite Difference Method, by Madhar Haddad, (1998).
- On Coupled Bending and Torsional Vibration of Beams, by Husam Al-Qablan, (1998).
- Three Dimensional Micromechanical Model to Predict the Compressive Strength of Fibrous Composites, by Ma'an Al-Jundi, (1998).
- Free Vibration of Composite Beams using the Finite Difference Method, by AmerAyoub, (1997).
- Structural Behavior of Repaired Reinforced Concrete Beams Undergoing Reinforcement Corrosion, by Suzan Al-Ateek, (2003).
- Upgrading the Structural Seismic Behavior of GLD-Frames with HPFRC-Jackets, by Mohammed Alhassen, (2003).

## Departmental Activities

- A member of the **graduate studies** committee for more than one time.
- Chair and member the Scientific **Research committee**.
- Chair and member of **Social committee**.
- A member of **laboratories committee**.
- Coordinator of **Engineering Training** since 2016. Developed training software to manage training process and follow on the progress of training students in coordination with the computer center.

## ACTIVITIES

- ❖ Editor-in-Chief, Jordan Journal of Civil Engineering, sponsored by the higher council of scientific research, Ministry of Higher Education.
- ❖ Editorial board of Insight-Engineering and Technology Journal. <http://insight.piscomed.com/index.php/IET/about/editorialTeam>
- ❖ American Society of Civil Engineering, ASCE, Associate Member.
- ❖ Jordanian Engineering Association, Member.
- ❖ Civil Engineering Department Committees: higher studies; scientific Research, students Affair.



## CONFERENCES

- ❖ Haddad, R.H. Deterioration detection of Portland cement concrete using Electromagnetic waves, **5th International Conference on Composite Engineering**, Las Vegas, July 5-11, 1998.
- ❖ Haddad R.H., Shannis L. Bond recovery in reinforced high strength concrete after post-heating recurring, **ISEC-02**, Rome, Italy, Sept 23-26, 2003.
- ❖ Haddad R.H., Qudah A. Statistical modeling of post-heating residual strength for Portland cement concrete, **11th International Conference on Civil, Structural, and Environmental Engineering Computing**, Malta, Sept. 18-21, 2007.
- ❖ Haddad, R.H., Ashour D. Thermal mechanical behavior of confined fibrous lightweight aggregate concrete, **12th International Conference on Mechanics of Composite Materials, Varna, Bulgaria**, Sept. 22-24, 2009.
- ❖ Haddad R.H., Al-Rousan R.Z., and Al-Sedyri B. Kh. Repair of shear-deficient and sulfate-damaged concrete beams using composite materials, **9th International congress on Advances in Civil Engineering (ACE 2010)**, Trabzon, Turkey Sept. 27-30, 2010.
- ❖ Haddad R. H., Al-Rousan R.Z., Almasry A. Bond-slip behavior between carbon fiber reinforced polymer sheets and heat-damaged concrete, **Advanced Composites in Construction (ACIC) 2011**, Coventry, England, and Sept. 6-8, 2011.
- ❖ Haddad R. H., Al-Rousan R.Z., Almasry A. Analytical prediction of bond-slip behavior between CFRP sheet and hear-damaged concrete, **7th Asian Symposium on Polymer in Concrete**, Istanbul, Turkey Oct. 3-5, 2012.
- ❖ Haddad R.H., Al-Rousan R.Z., Al-Asadi A. Repair of shear-deficient LWAC beams damaged by thermal shock, **17th International Conference on Composite Structures**, Porto, Portugal, June 17-21, 2013.
- ❖ Haddad R.H. Retrofit steel corroding RC beams using CFRP composites: NLFE analysis, **ASEA-SEC2**, Bangkok, Thailand, Nov. 3-5, 2014.
- ❖ Haddad R.H., Hinawi, A. Chloride intrusion into thermally damaged self-compacting concrete, **International conference materials, methods and Technologies**, Elenite, Bulgaria, June 7-11, 2015.
- ❖ Haddad R.H., Al-Shboul O. Structural geopolymer concrete with natural pozzoaln, **CSA 2015, 8th International Symposium on Cement Based Materials for A Sustainable Agriculture**, Romania, Oct. 22-25, 2015.
- ❖ Haddad R.H., Marji C. An effective anchorage system for reinforced concrete beans with fiber reinforced polymer composites, **World Multidisciplinary Civil Engineering Architecture-Urban Planning Symposium**, Czech Republic, June 13-17, 2016.
- ❖ Haddad R. H., Lababneh Z. Producing Geopolymer concrete for multiple uses using hybrid base materials, **The 28th International Conference on Adaptive Structures and Technology**, Krakow, Poland, Oct. 8-11, 2017.
- ❖ Haddad R. H., Modeling bond between corrosion-cracked reinforced concrete and CFRP sheets, **435th International Conference on Innovative Engineering Technology (CIET)**, Antalya, Turkey, August, 7-8, 2018.

## **Erasmus Program**

- ❖ Short teaching visit to NOVA University, Lisbon, Portugal, May 13-19, 2018.
- ❖ Short teaching visit to VGTU, Lithuania, Oct. 21-27, 2018.

## **WORKSHOPS AND SEMINARS**

- ❖ Attending a one- day seminar on invasive testing of materials organized by Civil Engineering Department, Virginia Tech, VA (August 1993).
- ❖ Participated in Workshop on Teaching and Evaluation Technology, Jordan University of Science and Technology (September 6-10, 1997).
- ❖ Participated in Workshop on Teaching and Evaluation Technology (specialized), Jordan University of Science and Technology (January 24-26, 1998).
  
- ❖ Joint supervision on a workshop concerned with Maintenance and Rehabilitation of Concrete structures, Irbid Municipal (February 22-25, 2001).
- ❖ Supervised A Workshop on Bridge Deteriorations & Rehabilitation, Ministry of Public Works and Housing (Jan. 23-27, 2011).
- ❖ Supervised A Workshop on Design of Bridge Rehabilitation, Ministry of Public Works and Housing (Jan. 20-Feb 3, 2011).
- ❖ Supervised A Workshop on Rehabilitation of Concrete Structure, Jordan University of Science and Technology (June 21-23, 2011).

## **PUBLIC SERVICE**

- ✓ Carried out specialized experimental and field consultation for regional and local parties; including live full-scale loading tests of different buildings under construction in Irbid region, Jordan.
- ✓ A cement special committee member, ministry of general works (2006-2007).
- ✓ A member of a special committee member for developing a bridge rehabilitation code, Ministry of Public Works, Jordan (2010-2015). Tasks included preparing an Arabic version of this code relating to different existing universal codes; while incorporating state of art knowledge related to evaluation and repair of concrete bridges.

## PUBLICATIONS

1. Haddad RH, Harb AN CFRP ropes for retrofitting heat-damaged concrete beams, *Journal of Building Engineering* 42, 102522, 2021. <https://doi.org/10.1016/j.jobbe.2021.102522>.
2. Haddad R., Al-Rabadi E. Bond behavior between near-surface mounted fiber reinforced polymer strips and concrete using nonlinear finite element: a parametric study, *Journal of Adhesion Science and Technology*, 2020. <https://doi.org/10.1080/01694243.2020.1852777>.
3. Haddad R., Al Dalou A. Modeling Bond Between Corrosion-Cracked Concrete and Composite Sheets, *International Journal of Civil Engineering*, 2020. <https://doi.org/10.1007/s40999-020-00541-4>.
4. Haddad R., Yagmour E. Retrofitting Heat-Damaged concrete beams using different profiles of side NSM CFRP strips, *Structures* 28, 2232–2243, 2020. <https://doi.org/10.1016/j.jobbe.2020.101772>.
5. Haddad R., Yagmour E. Side NSM CFRP strips with different profiles for strengthening reinforced concrete beams, *Journal of Building Engineering* 32, 101772, 2020.
6. Ashteyat A., Obaidat Y., Murad Y., Haddad R. Compressive Strength Prediction of Lightweight Short Columns at Elevated Temperature Using Gene Expression Programming and Artificial Neural Network, *Journal of Civil Engineering and Management*, 26( 2), 189–199, 2020.
7. Ashteyat A., Haddad R., Obaidat Y. Repair of heat-damaged SCC cantilever beams using SNSM CFRP strips, *Structures*, 24, 151–162, 2020.
8. Haddad R., Lababneh Z. Geopolymer composites using natural pozzolan and oil-shale ash base materials: A parametric study, *Construction Building Materials*, 240, 117899, 2020.
9. Haddad R. , Al-Sayed A. Bond behavior between ASR-damaged concrete and CFRP sheets: Empirical modeling, *Journal of Building Engineering*, 29, 101166, 2020.
10. Haddad R., Haddad M. Predicting fiber-reinforced polymer–concrete bond strength using artificial neural networks: A comparative analysis study, 2019.
11. Haddad R. An Anchorage System for Enhanced Bond Behavior between Carbon Fiber Reinforced Polymer Sheets and Cracked Concrete, *Latin American Journal of Solids and Mechanics*, 16(8), 1-16, 2019. <http://dx.doi.org/10.1590/1679-78255708>

12. Hamad R., Haddad R., Megat M. J. New anchorage system of bars to improve the mechanical performance of post-heated FRP-reinforced concrete beams, *Construction and Building Materials*, 229, 117090, 2019.
13. Haddad R., Marji C. Composite Strips with U-Shaped CFRP Wrap Anchor Systems for Strengthening Reinforced Concrete Beams, *International Journal of Civil Engineering*, 2019. <https://doi.org/10.1007/s40999-019-00447-w>.
14. Hamad R. , Johari A., Haddad R. Effects of Bars Slippage on the Pre- and Post-Heating Flexural Behavior of FRP Reinforced Concrete Beams: Experimental and Theoretical Investigations, *International Journal of Civil Engineering and Technology (IJCIET)*, 10(2), 2019.
15. Obaidat Y. T., Haddad R., .Abdulwahab M. A. Innovative strengthening schemes of concrete cantilever beams using CFRP sheets: End anchorage effect, *Construction Building Materials*, 190, 1215-1225, 2018.
16. Haddad R., Ashteyat A., Lababneh Z. Producing geopolymer composites using oil shale ash, *Structural Concrete*, 2018. DOI: 10.1002/suco.201800007.
17. Haddad R., Almomani O. Flexural performance and failure modes of NSM CFRP-strengthened concrete beams: A parametric study, *International Journal of Civil Engineering*, 2018. <http://doi.org/10.1007/s40999-018-0342-8>.
18. Haddad R. H., Obaidat Y.T. A nonlinear finite element model for shear deficient heat-damaged concrete beams repaired using NSM CFRP strips, *Construction and Building Materials*, 170:314-325, 2018.
19. Ashteyat A., Haddad R., Obaidat Y. Case study on Production of Self Compacting Concrete Using White Cement by Pass Dust, *Case Studies in Construction Materials*, 9, 2018, e00190.
20. Haddad R., Almomani, O. Recovering flexural performance of thermally damaged concrete beams using NSM CFRP strips, *Construction and Building Materials*, 154: 632–643, 2017.
21. Haddad R., Al Dalou A. Experimental study on bond behavior between corrosion-cracked reinforced concrete and CFRP sheets, *Journal of Adhesion Science and Technology*, 2017, <http://doi.org/10.1080/01694243.2017.1371912>.
22. Hamad R., Megat M., Haddad R. Mechanical properties and bond characteristics of different fiber reinforced polymer rebars at elevated temperatures, *Construction and Building Materials*, 142: 521–535, 2017.
23. Haddad R., Al-Rousan R. An anchorage system for CFRP strips bonded to thermally shocked concrete, *International Journal of Adhesion & Adhesives*, 71:10-22, 2016.

24. Haddad, R. H. Hybrid repair configurations with CFRP composites for recovering structural performance of steel-corroded beams, *Construction Building Materials*, 124:508-518, 2016.
25. Haddad R. H., Alshbuol O. Production of geopolymer concrete using natural pozzolan: A parametric study, *Construction Building Materials*, 114:699-707, 2016.
26. Obaidat Y., Haddad R. Prediction of residual mechanical behavior of heat-exposed LWAC short column: a NLFE model, *Structural Engineering and Mechanics* 57(2): 265-280, 2016.
27. Haddad R. H. Almasaeid H. Recovering shear capacity of heat-damaged beams using NSM-CFRP strips, *Construction Building Materials*, 105:448-458, 2016.
28. Ramadan K. Z, and Haddad R. H. Self-healing of overloaded self-compacting concrete of rigid pavement, *European Journal of Environmental and Civil Engineering*, 2015, P15.
29. Haddad R. H. and Hinawi A. Chloride Intrusion into Thermally Damaged Self-Compacting Concrete, *Canadian Journal of Civil Engineering* 42(10):720-727, 2015.
30. Haddad R. , Al-Rousan R. Ganma L., Nimry Z. Modifying CFRP-Concrete bond characteristics from pull-out testing, *Magazine of Concrete Research*, 67(13)-707-717, 2015.
31. Irshidat M. R., Haddad R. H., and Almahmoud H. Post-heating behavior of concrete beams reinforced with fiber reinforced polymer bars, *Structural Engineering & Mechanics* 53(6), 2015, P17.
32. Al-RousanR., Haddad R., Al-Halboni A. Bond-slip behaviour between self-compacting concrete and carbon-fibre-reinforced polymer sheets, *Magazine of Concrete Research* 67(2):89-103, 2014.
33. Al-RousanR., Haddad R. H., Al Hijaj M. A. Optimization of the economic practicability of fiber-reinforced polymer (FRP) cable-stayed bridge decks *Bridge Structures* 10(4):129-143, 2014.
34. Al-RousanR. Z., Haddad R. H., SwesiA. O. Repair of shear-deficient normal weight concrete beams damaged by thermal shock using advanced composite materials *Composites Part B Engineering* 70:20-34, 2014.

35. Haddad R. H., Al-Rousan R. Z., Al-Sedyiri B. K. Repair of shear-deficient and sulfate-damaged reinforced concrete beams using FRP composites, *Engineering Structures* 56, 228-238, 2013.
36. Al-Nimry H., Haddad R., Afram S., Abdel-Halim M. Effectiveness of advanced composites in repairing heat-damaged RC columns, *Materials and structures* 46 (11), 1843-1860, 2013.
37. Haddad R. H., Al-Rousan R., Almasry A. Bond-slip behavior between carbon fiber reinforced polymer sheets and heat-damaged concrete, *Composites Part B: Engineering* 45 (1), 1049-1060, 2013.
38. Al-Rousan R., Haddad R. NLFEA sulfate-damage reinforced concrete beams strengthened with FRP composites, *Composite Structures* 96, 433-445, 2013.
39. Al-Rousan R., Haddad R., Al-Sa'di K. Effect of sulfates on bond behavior between carbon fiber reinforced polymer sheets and concrete, *Materials & Design* 43, 237-248, 2013.
40. Haddad, R. H., and Al-Mekhlafi N. Ashteyat A.M. Repair of heat-damaged one-way reinforced concrete slabs using composite materials , *Construction and Building Materials*, 25 (2011): 1213-1223.
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## **AWARDS**

Honor degrees in undergraduate and Graduate Studies; three times on the Dean honor list.

## **REFERENCES:**

Available upon request.