MAHMOUD REDA TAHA, PH.D., P. ENG., FACI

Professor, Chair and Regents' Lecturer
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RANK AND TITLES

Professor and Chair
Department of Civil Engineering, University of New Mexico (2014-present)
Founding Director
UNM Resilience Institute (UNMRI) (2016- present)
Fellow
American Concrete Institute (ACI)

CROSS-DEPARTMENTAL APPOINTMENTS

Department of Electrical and Computer Engineering, UNM (2005 – Present)
Department of Mechanical Engineering, UNM (2007 – Present)
Biomedical Engineering Center (2012 – Present)

PERSONAL INFORMATION

Birth date: April 20, 1971
Citizenship: US Citizen

FORMAL EDUCATION

Ph.D., Civil Engineering, University of Calgary, Calgary, Canada, 2000
M.S., Structural Engineering, Ain Shams University, Cairo, Egypt, 1996
B.S., Structural Engineering, Ain Shams University, Cairo, Egypt, 1993 (Honors)

OTHER APPOINTMENTS

Visiting Professor, July 2012, Sejong University, Seoul, South Korea
Visiting Professor, 2012 – 2013, American University of Sharjah, Sharjah, United Arab Emirate

PROFESSIONAL APPOINTMENTS

University of New Mexico, Albuquerque, New Mexico, USA
- Founding Director, UNM Resilience Institute, University of New Mexico, Albuquerque, NM, USA, 2016-Present.
- Professor and Chair, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, July 2014-Present.
- Professor and Regents' Lecturer, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, June 2012 – Present.
- Director of Structural Engineering Laboratory, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, 2007 – Present.
- Director of Graduate Programs, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, September 2010 – 2012.
- Tenured Associate Professor and Regents' Lecturer, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, June 2010 – June 2012.
- Tenure Track, Associate Professor & Regents' Lecturer, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, June 2008 – June 2010.
- Tenure Track, Assistant Professor of Structural Engineering, Department of Civil Engineering, University of New Mexico, Albuquerque, NM, USA, December 2003 – May 2008.

Structural Consultant, Calgary, Canada
- Structural Engineer, Stantec Consulting Ltd., Calgary, Canada, June 2000 – December 2003.
- Structural Engineer, Campbell Woodall and Assoc., Calgary, Canada, June 1999 – June 2000.

University of Calgary, Calgary, Canada

Research Associate, Department of Civil Engineering/Department of Geomatics Engineering, The University of Calgary, Calgary, Canada, 1999 – 2003.
Research and Teaching Assistant, Department of Civil Engineering, The University of Calgary, Calgary, Canada, 1996 – 1999.
Ain Shams University, Cairo, Egypt, Teaching Assistant/Associate Lecturer, Structural Engineering Department, Ain Shams University, Cairo, Egypt, 1994 – 1996.

HONORS AND AWARDS

• STC.UNM Award for issued Patent in 2017, April 2017.
• Fellow, American Concrete Institute, 2017.
• Advisory Board member: Preprints – by MDPI, Switzerland, November 2016.
• Board member: International Congress of Polymers in Concrete (ICPIC), January 2016.
• 14th Ain Shams University Structural Engineering Conference, Honorary Award, Cairo, Egypt, 2015.
• Ambassador for American Concrete Institute (ACI) to International Congress on Polymers in Concrete (ICPIC-15, 2015), October 2015, Singapore.
• STC.UNM Award for issued Patent in 2014, April 2014.
• STC.UNM Award for issued Patent in 2012, April 2013.
• American Concrete Institute (ACI) Walter P. Moore Jr. Faculty Achievement Award, American Concrete Institute, March 2010.
• UNM School of Engineering, Junior Faculty Research Excellence Award, May 2010.
• UNM Regents' Lecturer, University of New Mexico**,** 2007.
• Stamm Endowed Lectureship Outstanding Faculty Performance, UNM Civil Engineering, 2007.
• New Mexico Professional Engineers (NMPE) Service Award, 2007.
• Sigma-Xi Young Investigator Award, Sigma-Xi University of New Mexico Chapter, 2007.
• Egypt State Award (ESA), Academy of Scientific Research, Cairo, Egypt 2005.
• Oak Ridge Associated Universities (ORAU), Ralph E. Powe Junior Faculty Enhancement Award, 2004.
• Institute of Navigation (ION) Best Paper/Presentation Award, for research on Fuzzy Logic for Positioning Research, Portland, Oregon, USA, 2003.
• H.W.H. West, Special Recognition Award, 9th Canadian Masonry Symposium, Fredericton, Canada, 2001.
• Best PhD Thesis, Department of Civil Engineering, University of Calgary, Canada, 2000.
• Egyptian Government Scholarship for top listed students, 1988 – 1993.
• Dean's List, Ain Shams University, Cairo, Egypt, 1988 – 1993.

AWARDS FOR RESEARCH TEAM

• Borowski, Department of Defense National Scholarship for PhD, 2017.
• Borowski, E., Sigma-Xi Research Excellent Award, UNM Sigma-Xi Chapter, 2016.
• Salas, C., Best Graduate Student Award, Biomedical Engineering Program, UNM 2014.
• Borowski, E., Space Grant Fellowship for Graduate Students, New Mexico Space Grants, 2014.
• Twitchell, E., Space Grant Scholarship for Undergraduate Students, New Mexico Space Grants, 2014.
• Jalalpour, M., Best Graduate Student Award, Department of Civil Engineering, UNM, 2012.
• Fan, T., Best Graduate Student Award, Sigma-Xi, UNM Chapter, 2011.
• Soliman, E., Best Graduate Student Award, Department of Civil Engineering, UNM, 2011.
• Foley, E., SRA Award, Defense Threat Reduction Agency (DTRA), 2010.
• Grahn, R., Appointed to Los Alamos National Laboratory Summer School, 2010.
• Neidigk, S., Appointed to Los Alamos National Laboratory Summer School, 2009.
• Azarbayejani, M., Sigma-Xi Research Award, 2009.
• Garner, A., SRA Award, Defense Threat Reduction Agency (DTRA), 2008.
• Kim, J., Best Paper Award, 5th ASCE Int. Eng. & Const. Conference (IECC'5), Irvine, CA, 2008.
• Salas, C., NSF-IGERT Fellowship on Nano-Materials, 2008.
• Reinhardt, A., SRA Award, Defense Threat Reduction Agency (DTRA), 2007.
• Meshgin, P., New Mexico Society of Professional Engineers' Scholarship, 2007.
• Azarbayejani, M., School of Engineering Scholarship, UNM 2006.
• McCuskey, M., Received NSF Scholarship, April 2006.
• McCuskey, M., Structural Engineering Foundation Scholarship, Illinois, 2006.
• McCuskey, M., Appointed to Los Alamos National Laboratory Summer School, 2006.
• Sheyka, M., Sigma Xi Superior Undergraduate Award, 2006.
• McCuskey, M., Outstanding Senior Student Civil Engineering Department, UNM 2006.

• Schnalzer, R., SRA Award, Defense Threat Reduction Agency (DTRA), 2005.
• Sheyka, M., SRA Award, Defense Threat Reduction Agency (DTRA), 2005.
• McCuskey, M., UNM President's Award, Undergraduate Research Symposium, 2005.
• Sheyka, M., Tom Cummings' Engineering Award, Undergrad Research Symposium, 2005.
• McCuskey, M., School of Engineering Award, Undergraduate Research Symposium, 2005.

LEADERSHIP ACTIVITIES

As the Department Chair (2014-present), managed to achieve the following:

• Launched the largest fund raising campaign in UNM Civil Engineering "*UNM CE 2030 – Lobos for the future*" targeting raising a total of $2.5M to upgrade UNM Civil Engineering facilities and instantiate a two new endowed chairs, 2017-2018.
• Lead the department to a successful name change, Fall 2017
• Lead the department to a successful six-year ABET accreditation in September 2016 to Fall 2022. Department received strong accolades for successful visit by ABET accreditors.
• Lead the department to a successful six-year ACCE accreditation in September 2014 to Fall 2020. Department received strong accolades for successful visit by ACCE accreditors.
• Implemented the largest scholarship program in UNM Civil Engineering history with $150K annually.
• Improved research productivity represented by research expenditures for UNM Civil Engineering from $3.2M (FY 2014), $5.2M (FY 2015), $5.8M (FY 2016), $5.2M (FY 2017).
• Established the first graduate student travel grants by UNM Civil Engineering funding graduate students annually to travel and present work in national and international conferences.
• Founding Director of *UNM Resilience Institute*.
A UNM School of Engineering Center including 30 faculty members from Civil Engineering, Electrical and Computer Engineering, Computer Science, UNM Health Science Center, Department of Geography, School of Law, School of Architecture and Planning and Anderson School of Management.
• Launched the largest participation of department faculty in University Transportation Centers competition co-leading the department being key participant in Regional UTC 2017-2022.
• Conducted Strategic Planning meetings and discussions in 2015 and implemented the new plan in 2016.
• Hired two new faculty members in UNM Civil Engineering, reaching the highest number of faculty in department history (department always had 20 faculty members).
• Launched a large school outreach campaign for UNM Civil Engineering "*Be a Lobo Builder – Innovate*".
• Reformed and extended the Civil Engineering Advisory Board (CEDAB), 2015, 2017.
• Established a *formal mentoring program* to all Civil Engineering junior faculty starting Fall 2014.
• Re-established the bi-annual Faculty teaching peer review process in Civil Engineering.
• Launched the first permanent annual UNM Civil Engineering study abroad program on "*Historical Construction Methods*" in Italy/Greece to start summer 2016. Designed two additional programs: Structures in Spain, and Water Resources in The Netherlands Summer 2016, Summer 2017.
• Oversaw promotions to full professor: Kerry Howe, Andy Schuler and Susan Bogus Halter (2014- 2016).
• Oversaw tenure case and promotions to Associate professor: Mark Stone (2016), Jose Cerrato (2017).
• Oversaw five mid-probationary reviews for tenure-track faculty (2014, 2015, 2017).
• Launched the Master of Construction Management-MBA degree program between UNM Civil Engineering and Anderson School of Management.
• Launched the Master of Engineering-MBA degree program between UNM Civil Engineering and Anderson School of Management.
• Launched the first 100% online graduate program in UNM School of Engineering, "*Master of Construction Management*". Program started Fall 2015 and fully implemented Fall 2017. Program enrollment jumped from 2 students in 2015 to little less than 20 students in 2017.
• School of Engineering representative in the UNM Budget Compaction Panel, summer 2015.
• Served as Chair for the Search Committee for a new Electrical & Computer Engineering Chair, Fall 2015.

As the Director of Graduate Programs (2010-2012), managed to complete the following:

• Launched the Master of Engineering (MENG) degree in UNM Civil Engineering.
• Reviewed the graduate manual for Civil Engineering graduate students and leveled course requirements.
• Raised GPA and GRE requirements for admission to the PhD degree in UNM Civil Engineering.

TEACHING ACTIVITIES

Courses numbered 100–400 are primarily undergraduate classes
Courses numbered 500 are primarily graduate classes

COURSES TAUGHT AT UNM AND AT OTHER INSTITUTES

1. CE 202 Statics, 2012*
2. CE 302 Mechanics of Materials, 2005, 2012*,2015, 2016
3. CE 305 Civil Engineering Materials, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2013
4. CE 310 Structural Design, 2012
5. CVE 310 Structural Dynamics, 2013*
6. CE 411/511 Design of Concrete Structures, 2006, 2007, 2009, 2010, 2017
7. CE 424/524 Design of Steel Structures, 2004, 2005, 2006, 2007, 2008, 2013*, 2013
8. CE 506 Prestressed Concrete Design, 2006, 2010, 2015
9 CE 548 Fuzzy Logic with Engineering Applications, 2005, 2008
10. CE 598FRP Design of RC Structures Reinforced and Strengthened with FRP, 2004, 2011, 2012*
11. CE 598WM Design of Masonry Structures, 2008
12. CE 598FM Fracture Mechanics of Engineering Materials, 2009, 2011, 2016
13. CE 598 Structural Reliability, 2008*

* Indicates teaching at another institute as a visiting professor

NEW COURSES DEVELOPED

1. CE 598FRP Design of Concrete Structures Reinforced and Strengthened using FRP, 2004, 2011, 2012*
2. CE 598WM Design of Masonry Structures, 2008.
3. CE 598FM Fracture Mechanics of Engineering Materials, 2009, 2011, 2016.

TEACHING EVALUATIONS FROM STUDENTS – AT UNM

ICES RATINGS **(Scores are out of Possible 6.0)**

#	Semester	Course-Section	# of students	ICES-Evaluation Summary Rate the Course	Rate the Instructor
1	Spring 2004	CE 424 - Design of Metallic Structures	7	5.6	5.7
2	Spring 2004	CE 524 - Design of Metallic Structures	1	6.0	6.0
3	Fall 2004	CE 598 - Design of FRP Structures	6	5.0	5.5
4	Fall 2004	CE 305 - Civil Engineering Materials	27	4.7	5.0
5	Spring 2005	CE 424 - Design of Metallic Structures	5	5.0	4.3
6	Spring 2005	CE 524 - Design of Metallic Structures	3	5.0	5.7
7	Spring 2005	CE 548 - Fuzzy Logic w. Applications	8	5.5	5.5
8	Spring 2005	CE 302 - Mechanics of Materials	20	5.3	5.5
9	Fall 2005	CE 305 - Civil Engineering Materials	23	5.2	4.8
10	Spring 2006	CE 691 - Civil Engineering Seminar	18	N/A	N/A
11	Spring 2006	CE 424 - Design of Metallic Structures	5	5.3	5.0
12	Spring 2006	CE 524 - Design of Metallic Structures	4	5.8	5.5
13	Fall 2006	CE 305 - Civil Engineering Materials	26	5.0	5.1
14	Fall 2006	CE 411 - Design of Concrete Structures	9	5.5	5.7
15	Fall 2006	CE 511 - Design of Concrete Structures	3	5.0	5.7
16	Spring 2007	CE 424 - Design of Metallic Structures	3	6.0	6.0
17	Spring 2007	CE 524 - Design of Metallic Structures	5	5.6	5.6
18	Fall 2007	CE 411 - Design of Concrete Structures	9	5.0	4.8
19	Fall 2007	CE 511 - Design of Concrete Structures	3	5.0	5.5
20	Fall 2007	CE 305 - Civil Engineering Materials	43	5.4	5.5
21	Spring 2008	CE 598 - Design of Wood and Masonry	9	5.0	5.5
		Mean value (out of 6.0 maximum)		***5.3 (89%)***	***5.4(90%)***

IDEA RATINGS (Scores are out of Possible 5.0)

#	Semester	Course-Section	# of students	IDEA Summary	
				Rate the Course IDEA	Rate the Instructor IDEA
22	Fall 2008	CE 305 - Civil Engineering Materials	47	3.9	4.2
23	Spring 2009	CE 411 - Design of Concrete Structures	10	5.0	4.9
23	Spring 2009	CE 511 - Design of Concrete Structures	10	5.0	5.0
24	Spring 2009	CE 598 - Fracture Mechanics	12	4.0	4.8
25	Fall 2009	CE 305 – Civil Engineering Materials	44	4.1	4.5
26	Spring 2010	CE 411 – Design of Concrete Structures	4	5.0	5.0
27	Spring 2010	CE 511 – Design of Concrete Structures	6	4.0	4.2
28	Fall 2010	CE 305 – Civil Engineering Materials	45	4.1	4.4
29	Fall 2010	CE 506 – Prestressed Concrete Design	13	4.6	4.8
30	Spring 2011	CE 598 – Fracture Mechanics	14	4.6	4.9
31	Fall 2011	CE 305 – Civil Engineering Materials	40	4.3	4.7
32	Spring 2012	CE 310 – Structural Design	20	---	---
33	Spring 2012	CE 598 – RC Design with FRP	7	4.9	4.9
34	Fall 2013	CE 305 – Civil Engineering Materials	50	3.9	4.2
35	Fall 2013	CE424 – Design of Steel Structures	18	4.5	4.7
35	Fall 2013	CE524 – Design of Steel Structures	4	4.7	5.0
36	Fall 2014	CE424 – Design of Steel Structures	28	4.3	4.5
36	Fall 2014	CE524 – Design of Steel Structures	10	4.7	4.6
37	Spring 2015	CE 506 –Prestressed Concrete Design	15	4.6	4.6
38	Fall 2015	CE 302 – Mechanics of Materials	46	4.4	4.6
39	Spring 2016	CE 504 – Fracture Mechanics	12	4.2	4.0
40	Fall 2016	CE 302 – Mechanics of Materials	50	4.7	4.4
41	Spring 2017	CE 411 – Design of Concrete structures	13	5.0	5.0
42	Spring 2017	CE 511 – Design of Concrete structures	5	4.5	4.5
43	Sum. 2017	CE 598 – Construction Materials - Online	5	4.2	4.2
44	Fall 2017	CE 598 – RC Design with FRP	11	---	---
		Mean value (out of 5.0 maximum)		***4.46 (89%)***	***4.61 (92%)***

TEACHING EVALUATIONS FROM STUDENTS – AT OTHER INSTITUTIONS

Visiting Professor – American University of Sharjah (AUS), UAE (Scores are out of Possible 5.0)

#	Semester	Course-Section	# of students	Summary	
				Rate the Course	Rate the Instructor
1	Fall 2012	CVE 220 - Engineering Statics (Civil)	20	4.0	4.3
2	Fall 2012	MCE 220 – Engineering Statics (Mechanical)	30	4.5	4.6
3	Fall 2012	CVE 223- Mechanics of Materials	12	4.1	4.3
4	Spring 2013	CVE 310 – Structural Dynamics	28	4.1	4.3
5	Spring 2013	CVE 312 – Structural Steel Design	18	4.4	4.5
6	Spring 2013	CVE 312 – Structural Steel Design	16	4.4	4.5
		Mean value (out of 5.0 maximum)		***4.3 (85%)***	***4.4 (88%)***

SUPERVISION ACTIVITIES

Graduate Advisor of (Total of 48 students – 40 graduated: 31 MS & 9 PhD)

#	Advisee	Degree	Year	Department	Gender	Current Placement
1	S. Horton	MSc	2006	Civil Engineering	M	CH2M Hill, OR
2	E. Altunok	MSc	2006	Electrical Comp. Eng	M	Private Business, Turkey
3	P. Meshgin	MSc	2006	Civil Engineering	F	Sandia National Lab, NM
4	M. McCuskey	MSc	2007	Civil Engineering	F	Sandia National Lab, NM
5	G.B. Farfan	MSc	2008	Electrical Comp. Eng	M	Consulting, Santa Fe, NM
6	M.P. Sheyka	MSc	2008	Civil Engineering	M	Ball Aerospace, NM
7	C. Salas	MSc	2008	Mech. Engineering	F	UNM PhD
8	R. Zaragoza	MSc	2009	Civil Engineering	M	US Air Force, Germany
9	J.J. Kim	PhD	2009	Civil Engineering	M	Kangnam Univ., South Korea
10	A. Reinhardt	MSc	2009	Civil Engineering	M	Patent Attorney, NC Chapel
11	M. Azarbayejani	PhD	2009	Civil Engineering	M	UT Pan-American, TX*
12	C. Murray	MSc	2010	Civil Engineering	M	Consultant, NM
13	A. Garner	MSc	2011	Civil Engineering	M	Sandia National Lab, NM
14	R. Grahn	MSc	2011	Civil Engineering	M	Tower Engineering, NC
15	J. Hayes	MSc	2011	Civil Engineering	M	AMEC, NM
16	E. Foley	MSc	2011	Civil Engineering	F	Palo Verde Plant, AZ
17	R. Schnalzer	MSc	2011	Civil Engineering	M	ACTA Inc., CA
8	M. Grigoriev	MSc	2011	Mech. Engineering	M	Air Force Lab, NM
19	M.P. Sheyka	PhD	2011	Mech. Engineering	M	Ball Aerospace, NM
20	E. Soliman	PhD	2011	Civil Engineering	M	Assiut Univ., Egypt*
21	T. Fan	PhD	2012	Civil Engineering	M	Consulting – PA
22	M. Jalalpour	PhD	2012	Civil Engineering	M	Struct. Engineers, MD
23	S. Abobakr	MSc	2013	Civil Engineering	M	UNM PhD
24	S. Neidigk	MSc	2013	Civil Engineering	M	Sandia National Lab, NM
25	A. Griffin	MSc	2013	Civil Engineering	M	QPEC Consultants, NM
26	S. Daghash	MSc	2013	Civil Engineering	M	Univ. of Virginia, PhD
27	C. Salas	PhD	2014	Biomedical Eng.	F	UNM, HSC*
28	M. Begaye	MSc	2014	Civil Engineering	F	US Army
29	M. Genedy	MSc	2014	Civil Engineering	M	UNM, PhD
30	J. Brantley	MSc	2014	Biomedical Eng.	M	Univ. of Houston, PhD
31	M. Peterson	MSc	2014	Civil Engineering	M	Air Force Lab, NM
32	S. Abobakr	MSc	2015	Nano Science	M	UNM, PhD
33	R. Chennareddy	MSc	2015	Civil Engineering	M	UNM, PhD
34	N. Trujillo	MSc.	2016	Civil Engineering	F	California, Consulting
35	A. Douba	MSc.	2017	Civil Engineering	M	Columbia U, PhD
36	E. Borowski	MSc	2017	Civil Engineering	F	Northwestern U, PhD
37	M. Maadandar	MSc.	2017	Civil Engineering	F	SIPI
38	A. Garner	MSc.	2017	Civil Engineering	F	Sandia National Lab
39	M. Genedy	PhD	2018	Civil Engineering	M	UNM – post doc
40	M. Scherbarth	PhD	2018	Mech. Engineering	M	Air Force Research Lab
41	R. Chennareddy	PhD	Exp. 2019	Civil Engineering	M	---
42	M. Peterson	PhD	Exp. 2019	Mech. Engineering	M	----
43	C. Rusch	MSc.	Exp. 2018	Civil Engineering	M	---
44	J. Leyba	MSc.	Exp. 2018	Civil Engineering	M	---
45	S. Vemuganti	PhD	Exp. 2019	Civil Engineering	F	---
46	M. Jaradat	PhD	Exp. 2019	Civil Engineering	M	---
47	B. Aguilera	MSc.	Exp. 2019	Civil Engineering	M	---
48	D. H. Murcia	PhD	Exp. 2020	Civil Engineering	M	---

Main Advisor for the following PhD Dissertations and MS Theses

PhD Dissertation (7 Complete)

1- Kim, J.J., Uncertainty Quantification in Serviceability of Reinforced Concrete Structures, 2009 (Distinction).

2- Azarbayejani, M., Optimal Sensor Network for Efficient Structural Health Monitoring with Field Application to A Reinforced Concrete Bridge on I-40, 2009 (Distinction).

3- Soliman, E. Next Generation Fiber Reinforced Composites Incorporating Carbon Nanotubes, November 2011 (Distinction).

4- Sheyka, M., A Homogenization Approach for Design and Simulation of Blast Resistant Composites, November 2011 (Distinction).

5- Fan, T., Concrete Microstructure Homogenization Technique with Applications to Model Concrete Serviceability, March 2012.

6- Jalalpour, M., Structural Health Monitoring of Bolted Joints Using Ultrasonic Signals and Thermal Resistance, April 2012 (Distinction).

7- Salas, C., The Trapeziometacarpal Joint: Tissue Characterization and Surgical Techniques for Treatment of Osteoarthritis, April 2014, Biomedical Engineering. (Distinction).

MS Thesis (31 Complete)

1- Horton, S., A Neural Wavelet Module for Intelligent Damage Detection in SHM, 2006.

2- Altunok, E., Fu**z**zy and Possibility Methods for Damage Detection in Structural Health Monitoring, 2006.

3- Meshgin, P., Creep of Epoxy at the Concrete-Fiber Reinforced Polymer (FRP) Interfaces, 2007.

4- McCuskey, M., Structural Damage Classification using Optimization of a Neural-Wavelet Module and Possibility Fusion, 2007 (Distinction).

5- Farfan, B., Optimization of Photonic Crystals: Methods and Applications, 2008 (Distinction).

6- Salas, C., A Biomechanical Comparison of Locking Plates Contrasted with Conventional Treatment of Distal Femur Fracture, 2008 (Distinction).

7- Sheyka, M., Analytical and Experimental Investigations of Photonic Crystals for Sub-Micron Damage Detection, 2008 (Distinction).

8- Zargoza, R., Review of Design of Cold Formed Steel Stud Walls (Project), 2009.

9- Reinhardt, A., Macro and Nanoscale Creep of Self-Consolidating Concrete, 2009 (Distinction).

10- Murray, C., Analysis of Wood Shear Walls Using Linear Elastic FE Method (Project), 2010.

11- Schnalzer, R., Acoustic Bandgap Sensors for Hot Spot Damage Monitoring, 2011.

12- Hayes, J., Short and Long Term Properties of Self Consolidating Concrete (SCC), 2011.

13- Grahn, R., Creep and Fracture of Self Consolidating Concrete Incorporating Fly Ash, 2011.

14- Foley, E., Synthesis and Nano-mechanical Characterization of Calcium Silicate Hydrates (CSH), 2011 (Distinction).

15- Garner, A., Strengthening of RC Slabs Using a Combination of CFRP and UHPC, 2011 (Distinction).

16- Girgoriev, M.M., Manufacturing Thin Composite Laminates for High Strain Testing and Nonlinear Elastic Constitutive Modeling, 2011.

17- Aboubakr, S. H., Epoxy-Clay Nanocomposite for Carbon Fiber Reinforced Polymer Applications using Nanoclay, 2013 (Distinction).

18- Griffin, A., Significance of Incorporating Nanosilica in Type G Oil Well Cement Pastes, 2013.

19- Neidigk, S., Detection and Characterization of Impact Damage in Carbon Fiber Aircraft Fuselage Structure, 2013.

20- Daghash, S. M., Next Generation Polymer Concrete Incorporating Carbon Nanotubes, 2013 (Distinction).

21- Genedy, M. A New CFRP-UHPC System for Strengthening Reinforced Concrete T-Beams, 2014 (Distinction).

22- Begaye, M. Synthesis and Multi-Scale Characterization of Calcium Silicate Hydrate at Multiple CaO/SiO_2 Mixture Ratios, 2014.

23- Brantley, J. A Biomechanical Analysis of One-Third Tubular Plates for the Treatment of Benign Lesions in the Distal Femur. 2014 (Distinction).

24- Peterson, M. E., High Shear Strain Characterization of Plain Weave Fiber Reinforced Lamina, 2014 (Distinction).

25- Aboubakr, S.H., Mechanical Characterization of Cell Silica Bio-composite, Nanoscience and Microsystems, 2015 (Distinction).

26- Chennareddy, R., Examining the Performance of GFRP Surface Mounted Reinforcement with Beam Confinement, 2015.

27- Trujillo, N. Mix Design and Mechanical Characterization of Stabilized Compressed Earth Blocks and Assemblies for The Jemez Pueblo in New Mexico, 2016.

28- Borowski, E. Viscoelastic Effects in Deployable Carbon Fiber Reinforced Polymer High Strain Composite Tape Springs, 2017. (Distinction).

29- Garner, A. Viscoelastic Behavior of Carbon Fiber Composites Incorporating Nanomaterials, Spring 2017.

30- Maadandar, M. A New Structural Composite Using Recycled Carbon Fiber Reinforced Polymer, Spring 2017.

31- Douba, A. Mechanical Characterization of Polymer Concrete with Nanomaterials, Spring 2017. (Distinction).

Member of the Graduate Advising Committee of (Total of 42 students)

#	Advisee	Degree	Year	Department	Main Supervisor
1	J. Brown	PhD	2004	Civil Engineering	A. Maji
2	D. Harp	MSc	2005	Civil Engineering	J. Stormont
3	Y. Lee	MSc	2006	Civil Engineering	W. Gerstle
4	G. Urgessa	PhD	2006	Civil Engineering	A. Maji
5	J. Robbins	PhD	2006	Mech. Engineering	T. Khraishi
6	G. Chavez	PhD	2007	Civil Engineering	T. Ross
7	P. Sridhar	PhD	2007	Electrical Comp. Eng.	M. Jamshidi
8	J.E.A. Gonzalez	MSc	2007	Civil Engineering	W. Gerstle
9	S. McEntire	PhD	2008	Mech. Engineering	Y.L. Shen
10	M. Higgins	PhD	2008	Electrical Comp. Eng.	C. Christodoulou
11	C. Ortega	MSc	2008	Civil Engineering	W. Gerstle
12	M.F. Su	PhD	2008	Electrical Comp. Eng.	C. Christodoulou
13	J. Baranes	MSc	2008	Civil Engineering	A. Maji
14	R. Rammohan	PhD	2010	Computer Science	J. Luger
15	N. Xu	PhD	2011	Electrical Comp. Eng.	C. Christodoulou
16	B. Vernon	MSc	2011	Civil Engineering	A. Maji
17	A. Harnovar	MSc	2011	Civil Engineering	A. Maji
18	S. Chapman	MSc	2011	Civil Engineering	W. Gerstle
19	A. Rahman	MSc	2012	Civil Engineering	W. Gerstle
20	H. Sobien	MSc	2012	Civil Engineering	R. Tarefder
21	A. Carbera	MSc	2012	Civil Engineering	R. Tarefder
22	E. Zuraiqi	PhD	2012	Electrical Comp. Eng.	C. Christodoulou
23	M. Neidigk	PhD	2012	Mech. Engineering	Y.L. Shen
24	A. Torres	PhD	2013	Civil Engineering	A. Maji
25	K. N. Cicotte	PhD	2013	Biomedical Engineering	E. Dirk
26	G. Barlas	MSc	2013	Civil Engineering	R. Tarefder
27	M. T. Weldegiorgis	PhD	2013	Civil Engineering	R. Tarefder
28	M. Cordova	MSs	2014	Mechanical Engineering	Y.L. Shen
29	J. Lawrance	PhD	2014	Electrical Comp. Eng.	C. Christodoulou
30	S. Gomez	MS	2015	Civil Engineering	J. Stormont
31	A. Suszko	PhD	2015	Mechanical Engineering	M. El-Genk
32	S. McVey	MSc	2015	Civil Engineering	W. Gerstle
33	S. Vemuganti	MSc	2015	Civil Engineering	W. Gerstle
34	G. Ortiz	MSc	2016	Mech. Engineering	C. Salas
35	R. Tufaro	MSc	2016	Mech. Engineering	C. Salas
36	A. Mannan	PhD	2017	Civil Engineering	R. Tarefder
37	R. Piat	MSc	2016	Mech. Engineering	M. Tehrani
38	A. Jwary	MSc	2017	Civil Engineering	A. Maji
39	J. Gomez	MSc	2017	Civil Engineering	F. Moreu
40	A. Mannan	PhD	2017	Civil Engineering	R. Tarefder
41	M. Anderson	MSc	2017	Civil Engineering	S. Bogus Halter
42	N. van de Werken	MSc	2017	Mechanical Engineering	M. Tehrani
43	S. G. Fernandez	MSc	2017	Civil Engineering	J. Stormont

Member of the Examining Committee – Other Academic Institutions (Total of 7 students)

#	Advisee	Degree	Year	University	Country
1	N.Y. Osman,	PhD	2007	Swinburne University of Technology	Australia
2	G. A. Al-Shamsi,	MSc	2013	American University of Sharjah	UAE
3	F. Abdelghafar,	MSc	2014	Chemistry – Bani Seuif University	Egypt
4	H. Hassan,	PhD	2015	Chemistry – Ain Shams University	Egypt
5	S.H. Mahdavi,	PhD	2015	Engineering – University of Malaya	Malaysia
6	Jegadesh, J. S. S.	PhD	2016	Civil Eng., NIT, Tiruchirappalii	India
7	Mohamed Soliman.	PhD	2017	Civil Engineering, Memorial University, Newfound land	Canada

Supervisor for the following undergraduate students for research (Total of 17 students)

#	Advisee	Degree	Year	Dept/Final Degree/Year	Gender
1	M. Sheyka	BSc	2006	Mechanical Eng. PhD (2011)	M
2	M. McCuskey	BSc	2006	Civil Eng. MS (2007)	F
3	Z. Williams	BSc	2007	Civil Eng. BS (2007)	M
4	A. Reinhardt	BSc	2007	Civil Eng. MS (2009)	M
5	R. Schnalzer	BSc	2006	Civil Eng. MS (2011)	M
6	B. Garner	BSc	2009	Civil Eng. MS (2011)	M
7	E. Foley	BSc	2009	Civil Eng. MS (2011)	F
8	J. Hayes	BSc	2009	Civil Eng. MS (2011)	M
9	R. Grahn	BSc	2009	Civil Eng. MS (2011)	M
10	M. Dunlap	BSc	2012	Civil Eng. BS. (2012)	M
11	D. Bonham	BSc	2012	Civil Eng. BS. (2012)	M
12	S. Neidigk	BSc	2009	Civil Eng. MS (2012)	M
13	M. Begaye	BSc	2013	Civil Eng. MS (2013)	F
14	E. Borowski	BSc	2013	Civil Eng. MS (2013)	F
15	E. Twitchell	BSc	2014	Civil Eng. MS (2014)	F
16	J. Libya	BSc	2016	Civil Eng. MS (2018/Expected)	M
17	C. Rusch	BSc	2016	Civil Eng. MS (2018/Expected)	M
18	B. Aguilera	BSc	2018	Civil Eng. MS (2019/Expected)	M

Supervisor of the following High Qualified Personnel – Post Doctor Fellows (Total of 13 Fellows)

#	Post-doctor	Graduating school	Period
1	J. Lucero	PhD, University of New Mexico, USA	2004 – 2004
2	S. Taheri	PhD, University of New Mexico, USA	2005 – 2005
3	I. Adam	PhD, Okayama University, Japan	2006 – 2006
4	K.K. Choi	PhD, Seoul National University, Korea	2005 – 2007
5	U. Kandil	PhD, Penn State University, USA	2010 –2010
6	J.J. Kim	PhD, University of New Mexico, USA	2009 –2012
7	A. B. Colak-Altunc	PhD, Arizona State University, USA	2008 –2011
8	E. Soliman	PhD, University of New Mexico, USA	2011 –2012 & 2014-2015
9	A. Khan	PhD, Virginia Tech, USA	2015-2016
10	M. Emiroglu	PhD, Duzce University, Turkey	2015-2017
11	X. Guo	PhD, Hibben University, China	2017-present
12	L. Wang	PhD, Hibben University, China	2018-
13	E. Soliman	PhD, University of New Mexico, USA	2018-

PUBLICATIONS

PUBLICATION STATISTICS

Number of **papers published/accepted for publication**: **309**
Number of Special Publications (Volumes and Book Chapters): 10
Number of Journal articles published/accepted: 132
Number of articles in refereed conference proceedings: 167

Number of patents: **3 issued (+10 pending)**

Number of Refereed Medical Abstracts: **17**

Number of citations (Google Scholar Citation Report): **2474**
h index (Google Scholar Citation Report) :26
i10- index (Google Scholar Citation Report) :59

★ Indicates trainee co-authors

PATENTS

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Fit-for-purpose Methyl Methacrylate (MMA) polymer nanocomposites for wellbore seal repair, Genedy, M., Stenko, M., Stormont, J., Matteo, E., Dewers, T., Reda Taha, M. M.*, Provisional Patent filed,* August 2017.

Encapsulated Polymer Nanocomposite for Efficient Crack Repair and Monitoring of Cement, Rock, and other Brittle Materials, Reda Taha, M.M, *Matteo, E. N., Stormont, J.,* Patent Filed, August 2017.

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Methods for Making Polymer Concretes with Extreme Ductility for Infrastructure Applications, Reda Taha, M.M, *Douba, A. E., Emiroglu, M., Kandil, U. F.,* Patent Filed, July 2016.

Stiffener Free Lightweight Composite Panels for Civil, Automotive and Aerospace Applications Using Nanomaterials and/or 3D Printing Technology", Reda Taha, M.M, *Khan, A. I, Soliman, E.A.* Patent Filed, March 2016.

Use of N-Containing Compounds with Carbon Black to Replace PAN, Kemp, R., and Reda Taha, M.M, Patent Filed, December 2015.

Composite wellbore seal system with sensing and self-healing capabilities, Stormont, J. and Reda Taha, M.M, Patent Filed, December 2015.

Ductile FRP Plates and Reinforcing Bars Using Mono-type Fibers, Reda Taha, M.M, and Soliman, E. Patent Filed, November 2015.

Break away Coupling with Enhanced Fatigue Properties for Highway or Roadside Appurtenances, Dinitz, A. M., Stenko, M. S. and Reda Taha, M.M, Patent Filed, Oct. 2013.

Low-Profile, High Tension Mesh Plate for Subcutaneous Fracture Fixation, Rise, L., Salas, C., Dickens, A. and Reda Taha, M.M, ***US Patent # 9,517,097***, December 13, 2016.

Generation of Polymer Concrete Incorporating Carbon Nanotubes, Reda Taha, M.M., Kandil, U. and Soliman, E. ***US Patent # 8,426,501 B1***, April 23, 2013.

Methods for Making Multi-Scale Carbon Structures. Al-Haik, M., Luhrs, C., Philips, J. and Reda Taha, M.M., ***US Patent # 8,277,872***, Oct. 2, 2012.

EDITORIAL ASSIGNMENTS

Associate Editor, ASCE Journal of Materials in Civil Engineering, 2015-Now

Proceedings of the International Congress on Polymers in Concrete (ICPIC 2018), Washington DC, USA Reda Taha, M.M. and Urgessa, G., Editors, Springer, 2018.

Fibers, Special Issue on *Fiber Reinforced Polymers (FRP) for Infrastructure Applications*. Guest Editor: Reda Taha, M.M., 2017.

ACI Special Publication on *Frontiers on Polymers in Concrete*. (ACI, SP-278), Guest Editor: Reda Taha, M.M. March 2011.

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Refereed Journal Articles (Published and Accepted for Publication)

2018

El-Dieb, A. S., Reda Taha, M.M., Kanann, D. M., Aly, S., "Ceramic Waste Powder from Landfill to Sustainable Concretes", *Construction Materials, ICE*, In press, 2018.

Soliman, E., Aboubakr★, S. H., Reda Taha, M.M., "Estimating Fracture Toughness of C-S-H using Nanoindentation and The Extended Finite Element Method", *International Journal of Advances in Engineering Sciences and Applied Mathematics*, In press, 2018.

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Genedy★, M., Chennareddy★, R., Soliman, E., Kandil, U. F., Reda Taha, M.M. "Improving Shear Strength of GFRP Bolted Lap Joints Using Carbon Nanotubes", *Journal of Reinforced Plastics and Composites*, Vol. 36, No. 13, pp. 958-971, 2017.

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Kim, J. J. and Reda Taha, M.M "Experimental and Numerical Evaluation of Direct Tension Test for Cylindrical Concrete Specimens", *Advances in Civil Engineering*, Vol. 2014, Article ID 156926, 8 pages, doi:10.1155/2014/156926. 2014.

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Aboubakr★, S.H., Kandil, U. F., and Reda Taha, M.M. "Creep of Epoxy-Clay Nanocomposite Adhesive at the FRP Interface: A Multi-scale Investigation", *International Journal of Adhesion and Adhesive*, Vol. 54, 2014, pp. 1–12.

Jalalpour★, M., Austin, E. M, El-Osery, A. I., and Reda Taha, M.M "Health monitoring of 90° bolted joints using fuzzy pattern recognition of ultrasonic signals", *Smart Materials and Structures*, Vol. 23, 2014, Paper No. 015017, DOI:10.1088/0964-1726/23/1/015017.

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Kim, J. J., Rahman, M.K., Abdulaziz, A.A., Al-Zahrani, M. and Reda Taha, M.M "Nanosilica Effects on Composition and Silicate Polymerization in Hardened Cement Paste Cured under High Temperature and Pressure", *Cement and Concrete Composites*, Vol. 43, 2013, pp. 78–85, DOI:10.1016/j.cemconcomp.2013.07.002.

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Kim, J. J., H-C, Noh, Reda Taha, M.M., Mosallam, A. "Establishing Design Limits for RC Slabs Strengthened with Hybrid FRP-HPC Retrofit System", *Journal of Composites. Part B: Engineering*, Vol. 51, 2013, pp. 19–27, DOI: 10.1016/j.compositesb.2012.12.012.

Kim, J. J., Foley★, E., Reda Taha, M.M. "Nano-Mechanical Characterization of Synthetic Calcium-Silicate-Hydrate (C-S-H) with varying CaO/SiO2 Mixture Ratios", *Cement and Concrete Composites*, Vol. 36, 2013, pp. 65–70, DOI: 10.1016/j.cemconcomp.2012.10.001.

2012

Kim, J. J., Rahman, M. and Reda Taha, M.M. "Examining Microstructural Composition of Hardened Cement Paste Cured Under High Temperature and Pressure Using Nanoindentation and 29Si MAS NMR", *Journal of Applied Nanoscience*, Vol. 2, No. 4, 2012, pp. 445–456, DOI: 10.1007/s13204-012-0058-z.

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Kim, J. J., Fan★, T. and Reda Taha, M.M. "Quantifying Deflection Variation in RC Beams Propagated from Microstructural Variability in Concrete using Homogenization Technique", *ACI Special Publication- SP-284, Andy Scanlon Symposium on Serviceability and Safety of Concrete Structures,* 2012, *10 pp*.

Soliman★, E., Kandil, U. and Reda Taha, M.M. "Limiting Shear Creep of Epoxy Adhesive at the FRP-Concrete Interface Using Multi-Walled Carbon Nanotubes", *International Journal of Adhesion and Adhesives*, Vol. 33, 2012, pp. 36–44.

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PUBLIC PRESENTATIONS

Keynote Speaker

Next Generation Nano-Modified Polymer Composites for Infrastructure Applications, ***Keynote Speaker,*** SECOND INTERNATIONAL CONGRESS ON MATERIALS & STRUCTURAL STABILITY, RABAT, MOROCOO, November 2017.

New Generation of Polymer Concrete Incorporating Carbon Nanotubes, ***Keynote Speaker,*** INTERNATIONAL CONGRESS ON POLYMERS IN CONCRETE (ICPIC), ICPIC 2015, SINGAPORE, October 2015.

Invited Talks

Artificial Intelligence in Structural Engineering, ***Invited Lecture,*** TECHNICAL UNIVERSITY OF AACHEN, AACHEN, GERMANY, July 2004.

Research and Development Towards Intelligent Structural Health Monitoring, ***Invited Lecture,*** ROYAL MILITARY COLLEGE OF CANADA, KINGSTON, ONTARIO, CANADA, April 2005.

High Performance Concrete: Fundamentals, ***Invited Lecture,*** Department of Structural Engineering, AIN SHAMS UNIVERSITY, CAIRO, EGYPT, June 2005.

Modeling Creep of the Medial Collateral Ligaments Using Fuzzy Set Theory, ***Invited Lecture,*** Department of Orthopaedics, HEALTH SCIENCE CENTER, UNIVERSITY OF NEW MEXICO, August 2006.

Integrative Structural Health Monitoring Research in New Mexico, ***Invited Lecture,*** ASCE NEW MEXICO CHAPTER, Las Cruses, NM, March 2006.

Towards Intelligent Structural Health Monitoring, ***Invited Lecture,*** SIGMA-XI NEW MEXICO CHAPTER, October 2007.

Structural Health Monitoring: From Machine Maintenance to Machine Intelligence, ***Invited Talk,*** UNIVERSITY OF NOTRE DAME, SOUTH BEND, INDIANA, February 2008.

Next Generation Nano-based Materials for Construction and Infrastructure Monitoring: A Peek at 2030! ***Invited Talk,*** EGYPTIAN PETROLEUM RESEARCH INSTITUTE, Cairo, Egypt, December 2008.

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Next Generation Materials and Structures! ***Invited Talk,*** NEW MEXICO ASSOCIATION OF STRUCTURAL ENGINEERS, Albuquerque, New Mexico, September 2009.

Strengthening and Health Monitoring of Bridges in New Mexico! ***Invited Talk,*** ASCE NEW MEXICO CHAPTER, Albuquerque, New Mexico, October 2009.

Sustainable Structural Health Monitoring for Bridges in New Mexico! ***Invited Talk,*** 47th PAVING CONFERENCE, Albuquerque, New Mexico, January 2010.

Nano-Materials for a New Generation of Structural Composites! ***Invited Talk,*** EGYPTIAN PETROLEUM RESEARCH INSTITUTE, Cairo, Egypt, July 2010.

Next Generation Structural Composites Using Nanotechnology! ***Invited Talk,*** UNITED ARAB EMIRATES UNIVERSITY, Al-Ain, United Arab Emirates, February 2011.

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Multi-Scale Bio-inspired Optimization for Blast Resistant Cellular Composites! ***Invited Talk,*** Army Research Office Workshop on Bio-inspired Systems, April 2012.

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Nanotechnology for New Class of Structural Composites! ***Invited Talk,*** American Univeristy in Sharjah, Sharjah, UAE, March 2013.

Toward resilient oil well cement with varying CaO/SiO2 ratios for improved performance in deep oil wells ***Invited Talk,*** Schlumberger Doll Research, Boston, USA, September 2013.

UNM Resilience Institute, The Challenge, The Needs and The Opportunity ***Invited Talk,*** Sandia National Laboratories, USA, November 2016.

Polymer Nanocomposite for Sustainable Development in Egypt ***Invited Talk,*** Egyptian Petroleum Research Institute (EPRI), Cairo, Egypt, December 2016.

Panel Moderator and Invited Speaker, ***Redundancy: A Gateway for Resilience-Based Design of Civil Infrastructure***, 2017 Frontiers in Resilience Symposium – George Mason University- Washington DC, May 10, 2017

Guest Lecturer

Guest Lecturer, ChNE 499/361 *Undergraduate Biomolecular Engineering, December* Invitee: Dr. Heather Caravan, Department of Chemical Engineering, UNM. Fall 2008 and Fall 2009.

Guest Lecturer: *Introduction to Biomechanics for Orthopaedic Residents*. Invitee: Dr. Thomas DeCoster, Department of Orthopaedics, UNM. March 2008.

Technical Presentations since 2004

A Next Generation Low-Cost MEMS Based Sensors: Challenges for Implementation in SHM Systems, Second Canadian Workshop on Structural Health Monitoring, Winnipeg, Canada, September 2004.

A Fuzzy-Aided Wavelet Damage Recognition for Intelligent Structural Health Monitoring, Second European Workshop on Structural Health Monitoring, Munich, Germany, July 2004.

Automization of An INS/GPS Integrated System Using Genetic Optimization, 5th International Symposium on Soft Computing for Industry, WAC 2004, Seville, Spain, June 2004.

An Innovative Neuro-Fuzzy Model for Predicting Creep of the Medial Collateral Ligament, 5th International Symposium on Soft Computing for Industry, WAC 2004, Seville, Spain, June 2004.

Example Applications of Artificial Intelligence in Structural Engineering, ASCE NM Chapter, April 2004.

Biomechanics of Ligaments, Civil Engineering Seminars, UNM, Albuquerque, NM, Feb. 2004.

A Generic Fuzzy Metric for Damage Recognition in Structural Health Monitoring Systems. IEEE Conference on Systems Man and Cybernetics, Big Island, Hawaii, October 2005.

Nano Photonic Sensors for Damage Diagnosis: An Exploratory Simulation. IEEE Conference on Systems Man and Cybernetics, Big Island, Hawaii, October 2005.

Predicting Shear Cracking of Prestressed Concrete Beams Using Fuzzy Learning from Examples. Third International Conference on Construction Materials: (CONMAT 05), Vancouver, Canada, August 2005.

Rubber Concrete: A New Addition to Polymer Concrete. Third International Conference on Construction Materials: (CONMAT 05), Vancouver, Canada, August 2005.

On Investigating Recurrent Neural Networks for Predicting Masonry Creep. Third International Conference on Construction Materials: (CONMAT 05), Vancouver, Canada, August 2005.

Interrelating Creep and Stress Relaxation of Medial Collateral Ligaments Using A Fuzzily Modeled Collagen Fibre Recruitment. Twelfth International Conference on Computational Methods and Experimental Measurements, CMEM Valetta, Malta, June 2005.

Enhancing Uncertainty Tolerance in Modelling Creep of Ligaments Using Fuzzy Logic. Third International Symposium on Advanced Biomaterials /Biomechanics, ISAB2, Montreal, Canada, April 2005.

New Sensors for Damage Detection Using Nano Photonic Bandgap Materials. 10th Arab Structural Engineering Conference, November 2006, Kuwait City, Kuwait.

A Nouvelle Approach for Assessing the Possibility of Damage in Structures. 10th Arab Structural Engineering Conference, November 2006, Kuwait City, Kuwait.

Predicting the Punching Shear Strength of Interior Slab-Column Connections Using Fuzzy Systems. Joint International Conference on Computing and Decision Making in Civil and Building Engineering, Montreal, Canada, June 14, 2006.

Creep and Shrinkage of Self-Compacting Concrete: Preliminary Results. 12th International Colloquium on Structural and Geotechnical Engineering, Cairo, Egypt, December 2007.

An Inductive Reasoning Approach for Fuzzy Damage Detection in Structures. 12th International Colloquium on Structural and Geotechnical Engineering, Cairo, Egypt, December 2007.

Robustness to Uncertainty in Modelling Deflection of Reinforced Concrete Structures. 12th International Colloquium on Structural and Geotechnical Engineering, Cairo, Egypt, December 2007.

An Inductive Reasoning Approach for Damage Detection in Structural Health Monitoring. 41st Annual Asilomar Conference on Signals, Systems, and Computers, Nov 2007, Monterey, CA.

Investigating Long-term Behavior of Epoxy at the Concrete-FRP Interfaces. International Conference of FRP, July 2007, Patras, Greece.

FRP for Bridge Strengthening in New Mexico. 44th Paving Conference, January 2007, Albuquerque, NM.

Structural Health Monitoring Research for Efficient Structures. Sandia National Laboratories, Wind Energy Group, January 2007, Albuquerque, New Mexico.

Realizing the Possibility of Concrete Cracking. 5th ASCE International Engineering and Construction Conference (IECC'5), August 2008, Irvine, CA.

Hot-Spot Damage Monitoring in Aerospace Composites Using Acoustic Bandgap (ABG) Sensors. ASCE Earth & Space 2008, Long Beach, CA, March 2008.

Nano versus Macro Creep of Concrete. International Conference on Creep, Shrinkage and Durability of Concrete, CONCREEP 08, October 2008, Ise Shima, Japan.

Screening the Significance of Factors Affecting Concrete Shrinkage. International Conference on Creep, Shrinkage and Durability of Concrete, CONCREEP 08, October 2008, Ise Shima, Japan.

Next Generation Nano-based Materials for Construction and Infrastructure Monitoring: A Peek at 2050! Department of Civil Engineering Seminar, UNM, Feb. 2009, Albuquerque, New Mexico.

Fracture Toughness of Hydrated Cement Paste Using Nanoindentation! 7th FRAMCOS Conference, May 2010, Jeju, South Korea.

Damage Tracking in Pipelines Using Smart Sensor Network, First Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2011, February 2011, Dubai, UAE.

Sustainable structural health monitoring using field programmable gate array (FPGA) technology, Proceedings of the First Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2011, February 2011, Dubai, UAE,

Creep of Fiber Reinforced Polymer-Epoxy-Concrete Interface Incorporating Carbon Nanotubes, First Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2011, February 2011, Dubai, United Arab Emirates,

Short and Long Term Properties of Self-Consolidating Concrete Made Using New Mexico Aggregate, ACI New Mexico Chapter, October 25, 2011, Albuquerque, New Mexico.

Quantifying Deflection Variation in RC Beams Propagated from Microstructural Variability in Concrete using Homogenization Technique, Andy Scanlon Symposium, ACI Fall Convention, October 2011, Cincinnati, Ohio.

Fatigue of Glass Fiber Reinforced Polymer (GFRP) Incorporating Carbon Nanotubes, International Conference of Composite Science and Technology, Meo, M. Ed., Sorrento, Naples, Italy, April 2013.

Interlaminar Fracture Toughness of Woven Fabric Composites Reinforced with MWCNTs, International Conference of Composite Science and Technology, Meo, M. Ed., Sorrento, Naples, Italy, April 2013.

Creep of Epoxy-Clay Nanocomposite at the FRP Interface, International Conference of Composite Science and Technology, Meo, M. Ed., Sorrento, Naples, Italy, April 2013.

Nano-creep of Synthetic C-S-H produced using 1.5 and 0.7 CaO/SiO_2 Mixture Ratios, International Conference on Creep, Shrinkage and Durability of Concrete, CONCREEP 09, September 2013, MIT, Boston, MA, USA.

Alternative Flexural Strengthening for RC Slabs and Beams Using CFRP and UHPC, ACI Session on Towards Sustainable Construction with FRP Composites, October 2014, ACI Fall Convention, Washington DC.

Correlating Microstructural Features and Viscoelastic Characteristics of C-S-H with low C/S ratio, ACI Session on Novel Characterization Techniques: Tribute to James Beaudoin, October 2014, ACI Fall Convention, Washington DC.

Multi-scale Viscoelastic Characterization of Synthetic Calcium Silicate Hydrate (C-S-H), Fifth International Symposium on Nanotechnology in Construction (NICOM5), 2015, Chicago, USA.

Correlating Mechanical Properties and C-S-H Polymerization of Hardened Cement Paste Cured Under High Temperature and Pressure, Fifth International Symposium on Nanotechnology in Construction (NICOM5), 2015, Chicago, USA.

A New Class of Carbon Nanotubes: Polymer Concrete with Improved Fatigue Strength, Fifth International Symposium on Nanotechnology in Construction (NICOM5), 2015, Chicago, USA.

Apparent Vs. True Bond Strength of Steel and Polymer Concrete with NanoAlumina, International Congress on Polymers in Concrete (ICPIC 2015), October 2015, Singapore.

Quantifying Infrastructure Resilience Using Structural Health Monitoring Data, NSF Funded Workshop, US-EGYPT Workshop: Toward Resilient and Sustainable Infrastructure Development at the new Suez Canal region in Egypt; Dusit Thani Hotel, Dec. 2015, Cairo, Egypt.

Improving fracture toughness of polymer concrete using carbon nanotubes, 96th Transportation Research Board (TRB) annual meeting, 2017, Washington DC, USA.

Redundancy: A Gateway for Resilience-Based Design of Civil Infrastructure, Invited Talk, 2017 Frontiers in Resilience Symposium – George Mason University- Washington DC, May 10, 2017

RESEARCH FUNDING

CURRENT RESEARCH FOCUS:

Smart materials and structures and emerging construction technologies to enable resilient and sustainable infrastructure. My research focus is on experimental investigations of materials at the different length scales for developing next generation cementitious and polymer composites that enable adaptive, multi-functional, self-healing and self-sensing capabilities. Active research includes

- Seismic retrofit of bridges using 3D printed nano-modified concrete with superior ductility.
- Smart polymer nanocomposites for monitoring integrity of strategic petroleum reserves.
- Deployable aerospace antenna using topologically optimized 3D printed carbon fibers.

FUNDING STATISTICS:

Total funding as PI & Co-PI since January 2004: **$12,735,081** (60 grants, $909k/year – 14 years)
Total number of funded proposals since December 2003: 60
Pending proposals: 5

FUNDING AGENCIES WHO FUNDED TAHA's RESEARCH:

National Science Foundation (NSF)
Army Research Office (ARO)
Air Force Office of Scientific Research (AFOSR)
Air Force Research Laboratory (AFRL)
Department of Defense University Research Instrumentation Program (DURIP)
Defense Threat Reduction Agency (DTRA)
Department of Energy (DOE)
Transportation Research Board (TRB)
Federal Highway Administration (FHWA)
Department of Homeland Security (DHS)
Oak Ridge Associated Universities (ORAU)
New Mexico Department of Transportation (NMDOT)
United States Department of Transportation (USDOT)
Southern Plains Transportation Center, US Department of Transportation (SPTC)
Los Alamos National Laboratory, Department of Energy (DOE)
Sandia National Laboratories, Department of Energy (DOE)
STC.UNM, Private Industry.
CSA Engineering, Private Industry.
Stryker Foundation, Private Industry.
Orthofix Inc., Private Industry.

Funded Research (Total 60 Funded Research Project since Jan. 2004)

Year	*Details – Title*	*Agency*	*Award*	*Period (month)*
2017	Co-PI: Correlating damage, fracture and permeability enhancement in rocks subjected to high strain rate loading (PI: John Stormont)	New Mexico Research Consortium, Los Alamos National Laboratory (LANL)	432,000	36
2017	PI: Acoustic Contrast Cement Using Carbon Nanotubes (Co-PI: John Stormont)	Sandia National Laboratories (LDRD)	55,000	12
2017	Co-PI: High-Resolution X-Ray Diffractometer for Advanced Epitaxial Thin-Film and Nanoscale Materials Characterization (PI: Daniel Fizzel)	Department of Defense (DOD)	340.000	12

2017	Co-PI: Louisiana State University Transportation Center- Transportation Consortium of South-Central States (Tran-SET)- PI: Marwa Hassan, PI (UNM): Susan Bogus Halter	United States Department of Transportation (USDOT)	2,790,000	60
2016	PI "Fit-for-purpose seal material for cement-rock interface", Co-PI: John Stormont	Sandia National Laboratories (LDRD)	300,000	36
2016	PI" Field Implementation of Fatigue Enhanced Polymer Concrete Incorporating Nanomaterials", Co-PI: Rafi Tarefder	Southern Plains Transportation Center (SPTC)	150,000	12
2016	Co-PI "Monitoring and Repair of Damaged Cement-Geomechanical Interfaces in High Temperature High Pressure Repository and Borehole Scenarios ", PI: John Stormont	Sandia National Laboratories	100,000	12
2016	PI "Investigating Geomechanical size-effect of cement-rock interfaces", Co-PI: John Stormont	Los Alamos National Laboratory	132,660	12
2016	PI "Multi-scale Characterization of Cement-Shale Interface", Co-PI: John Stormont	Sandia National Laboratories	10,000	4
2016	PI "Optimization of Aerospace Tape Spring for Controlled Deployment"	Air Force Research Laboratory	50,000	6
2016	PI "Carbon Black for Producing Carbon Fibers: Phase I: Carbon Black Characterization", Co-PI: Rick Kemp	The Brayman Group	10,000	4
2015	Co-PI "Railroad Bridge Inspections for Replacement Prioritization Using Unmanned Aerial Vehicles (UAVs) with 3D Laser Scanning Capabilities", PI: Fernando Moreu	Transportation Research Board (US National Academies)	99,400	12
2015	PI "US-EGYPT Workshop: Toward Resilient and Sustainable Infrastructure Development at the new Suez Canal region in Egypt; Dec. 2015", Co-PI: Mark Stone	National Science Foundation (NSF)	39,430	12
2015	Co-PI" Time reversal methods for the detection and monitoring of CO2/brine leakage pathways in wellbore systems", PI: John Stormont	DOE – National Energy Technology Laboratory (NETL) – PI: Bill Carey, LANL- PI: John Stormont.	195,000	36
2015	PI" EAGER: Engineering A Low-Cost Recycled Carbon Fiber Composite" Co-PI: Mehran Tehranic	National Science Foundation	98,200	12
2015	PI "Preliminary Investigation Fit-for-Purpose Cement of Rock-Cement Interface Characteristics for SubTER Applications" Co-PI: John Stormont	Sandia National Laboratories	25,000	6
2015	PI "Stabilized earth blocks for Jemez Pueblo"	Jemez Development Corporation	130,000	24
2014	PI" Improving fatigue strength of polymer concrete using nanomaterials", Co-PI: Rafi Tarefder	Southern Plains Transportation Center (SPTC)	200,000	24

2014	PI, "DMA Equipment for Polymer and Polymer nanocomposite testing"	OVPR	$100,000	12
2013	PI, "Engineering Viscoelastic Behavior of Deployable FRP Composites Using Nanoparticles"	Air Force Office of Scientific Research (AFOSR)	$448,081	36
2013	PI, "Preliminary Experimental Investigation of Sludge-based Cement Material"	Los Alamos National Laboratory (LANL)	$30,000	6
2012	Co-PI, "Wellbore Seal Repair Using Nanocomposite Materials " (PI: J. Stormont)	Department of Energy (DOE)	$880,000	36
2011	PI, "A New Generation of Polymer Concrete with Improved Impact and Fatigue Strength Using Carbon Nanotubes"	STC.UNM	$25,000	12
2011	PI, "Nano-rubber Toughened Epoxy for Energy Absorbing Composites" (Co-PI: U. Kandil)	National Science Foundation (NSF)	$221,876	36
2011	PI, "Synthesis and Multi-scale characterization of Calcium Silicate Hydrate (CSH)"	National Science Foundation (NSF)	$196,315	36
2010	PI, "Assessment of Health and Integrity of Aerospace Joints via In-Situ Ultrasonic Signals"	CSA Engineering, A Moog Company	$30,000	12
2010	PI, "High Velocity Impact Testing Equipment for Blast Tolerant Composites", (Co-PI: M. Al-Haik)	Defense University Research Instrumentation Program (DURIP)	$129,000	12
2010	PI, "Topological Optimization of Photonic Crystals"	Sandia National Laboratories (SNL)	$43,000	12
2009	PI, "New High Toughness Composite Materials Using Functional Nano-rubber Particles", (Co-PI: U. Kandil, EPRI, Egypt)	International US-Egypt Funding Program	$15,000	6
2009	Co-PI, "Sputtering System for CNT Growth for Next Generation Structural Composites", (PI: M Al-Haik)	Defense University Research Instrumentation Program (DURIP)	$190,000	12
2009	PI, "Structural Health Monitoring for Aerospace Structures"	Sandia National Laboratories (SNL)	$30,582	12
2009	PI, "Smart Structural Health Monitoring of Aerospace Structures"	Air Force Research Laboratory (AFRL)	$50,000	24
2009	Co-PI, "Risk Analysis", (PI: F. Gilfeather)	Defense Threat Reduction Agency (DTRA)	$130,000	12
2008	PI, "Multi-scale Topological Optimization for Next Generation Impact-Tolerable Composites". (Co-PIs: M. Al-Haik, ,C. Luhrs, D.A. Tortorelli UIUC and T. Connolly: UTSA)	Army Research Office (ARO	$803,000	36
2008	Co-PI, "Novel Structural Composite Using Surface Grown Carbon Nanotubes", (PI: M. Al-Haik and Co-PI: C. Luhrs)	National Science Foundation (NSF)	$231,518	24
2008	PI, "Next Generation Composites Using Surface Grown Carbon Nanotubes", (Co-PIs: M. Al-	Defense Threat Reduction	$1,123,000	36

	Haik and C. Luhrs)	Agency (DTRA)		
2008	PI, "Examining Short and Long Term Properties of Self Consolidating Concrete"	New Mexico Department of Transportation (NMDOT)	$110,000	27
2008	Co-PI, "Nano-Technology Based Advanced Cementitious Geo-Materials for Blast Resistance Structures", (PI: A. Maji)	Defense Threat Reduction Agency (DTRA)	$250,000	24
2008	Co-PI, "Quantification of Inference Uncertainty in Scientific and Social Modeling/Forecasting Applications", (PIs: T. Ross)	Defense Threat Reduction Agency (DTRA)	$299,000	24
2008	Co-PI, "Pre-Incident Indicators Analysis", (PI: F. Gilfeather)	Department of Homeland Security (DHS)	$123,406	12
2007	PI, "Optimization of Photonics and Acoustic Bandgap Materials"	Sandia National Laboratories	$170,813	24
2007	Co-PI, "An Integrated Multidisciplinary Nanotechnology Undergraduate Education Program at UNM", (PI: M. Al-Haik and Co-PI: Z. Leseman)	National Science Foundation (NSF), Grant ID: 0741525	$199,900	24
2007	Co-PI, "Investigating Locking Pegs with Intermediary Nails", (PI: T. Decoster)	Orthofix, Inc.	$32,000	12
2007	PI, "Post-Construction Monitoring of FRP Strengthening System at Bridge 7937, Tucumcari, New Mexico"	Federal Highway Administration (FHWA)	$120,000	18
2007	Co-PI, "Nano-Technology Based Advanced Cementitious Geo-Materials for Blast Resistance Structures", (PI: A. Maji)	Defense Threat Reduction Agency (DTRA)	$393,829	24
2007	Co-PI, "Multi-variable Intelligent Decision Support Tool" "MIDST", (PI: F. Gilfeather)	Defense Threat Reduction Agency (DTRA)	$145,288	12
2006	PI, "Strengthening Reinforced Concrete Bridges in New Mexico Using FRP"	NM Department of Transportation (NMDOT)	$95,783	12
2006	Co-PI, "Investigating Pattern of Failure of Locking Plates Contrasted with Conventional Treatment of Distal Femur Fracture", (PI: T. Decoster)	Stryker Foundation	$41,000	12
2006	Co-PI, "Decision Support System for Chemical and Biological Attacks", (PI: F. Gilfeather)	Defense Threat Reduction Agency (DTRA)	$150,000	12
2005	PI, "Optimization of Nano Photonic Crystal Micro-Structure for Efficient Energy Transmission"	Sandia National Laboratories	$29,000	12
2005	Co-PI, "Strategic Partnership for Undergraduate Research Activities", (PI: F. Gilfeather)	Defense Threat Reduction Agency (DTRA)	$100,000	12
2005	PI, "Intelligent Damage Diagnosis Module"	Sandia National Laboratories (SNL)	$40,000	12
2005	PI, "Intelligent Modeling Modules for Predicting and Analyzing Time-Dependent Deformations o Critical Infrastructure"	U.S.-Egypt Science and Technology Joint Fund Program	$15,000	6
2005	PI, "Blast Load Simulation and Courseware" (Co-PI: Arup Maji)	Defense Threat Reduction Agency (DTRA)	$344,000	12

2005	PI, "Exploratory Investigations for Developing a Multi-Dimensional Fuzzy Damage Recognition Approach for Structural Health Monitoring"	Sandia National Laboratories (SNL)	$18,000	6
2005	PI, "Life Cycle Cost Analysis of Bridges for Maintenance Decision Making"	NM Department of Transportation (NMDOT)	$50,000	12
2004	PI, "Intelligent Damage Diagnostic Module for Structural Health Monitoring"	Sandia National Laboratories (SNL)	$40,000	12
2004	Co-PI, "Decision Support System for Chemical and Biological Attacks", (PI: F. Gilfeather)	Defense Threat Reduction Agency	$125,000	12
2004	PI, "Integrating Structural Modeling and Artificial Intelligence Techniques for Modeling Time Dependent Behavior of Knee Ligaments"	Oak Ridge Associated Universities	$10,000	12
2004	PI, "Exploratory Investigation of Wavelets for Structural Health Monitoring",	Sandia National Laboratories (SNL)	$15,000	3

Participated in following funded international research projects

Year	*Details - Title*	*Agency*	*Award*	*Period (month)*
2010	*Consultant*, "*Nano-materials with Development of Nano-Based Oil Well Cement Slurry for High Temperature and Pressure Oil Well Cementing* " (PI: M. K. Rahman, KFUPM, Saudi Arabia)	KACST, Saudi Arabia	2.0M SR (US$ 533k)	36
2012	*Consultant*, Polymer Nanocomposite Center (PNC) of Excellence (PI: U.F. Kandil, EPRI, Egypt)	Science and Technology Department Funding (STDF), US/Egypt	2.5 M EP. (US$ 400k)	12
2014	*Co-PI* "*Environmental Friendly "Green" Composites Using Nano-Modified Agricultural Solid Waste*" (PI: U.F. Kandil, EPRI, Egypt)	Science and Technology Department Funding (STDF), US/Egypt	10 M EP. (US$ 1.67M)	36
2014	*Co-PI* "*Nano-modified Glass fibers using carbon nanotubes*" (PI: A. Awadallah, EPRI, Egypt)	Science and Technology Department Funding (STDF), US/Egypt	2.1 M EP. (US$ 300 k)	24
2014	*Co-PI* "*New pavement characterization using nanoindentation*" (PI: Aminah, EPRI, Egypt)	Science and Technology Department Funding (STDF), US/Egypt	2.1 M EP. (US$ 300 k)	24

INTERNATIONAL, NATIONAL, UNIVERSITY SERVICES

Scientific Collaborations with the Following Institutes (alphabetic order)

- American University of Sharjah, Sharjah, United Arab Emirates
- Egyptian Petroleum Research Institute (EPRI), Egypt
- King Fahd University of Petroleum & Minerals, Saudi Arabia
- University of New Castle, Australia
- Kyungnam University, South Korea
- Qatar University, Qatar
- Royal Military College of Canada, Canada
- University of Manitoba, Canada
- Sejong University, South Korea
- Soongsil University, South Korea
- University of Aachen, Germany
- George Mason University, USA
- Missouri Science and Technology University, USA
- Texas A & M University, USA
- University of California- Berkley, USA
- University of Illinois at Urbana- Champaign, USA
- University of Idaho, USA
- University of Louisiana, USA
- University of Nevada, Reno
- University of Texas – San Antonio, USA
- University of Utah, USA
- United Arab Emirates (UAE) University, United Arab Emirates

International assignments

- Visiting professor of the following institutions during sabbatical leave (2012-2013)
    - *Sejong University, Seoul, South Korea*
    - *American University of Sharjah, Sharjah, United Arab Emirates*.
- Reviewer for International Funding Agency including
    - National Science and Engineering Research Council of Canada (NSERC), (2004, 2009, 2017).
    - National Center for State Scientific and Technology Expertise, Republic of Kazakhstan (2017).
    - The Swiss National Science Foundation (SWNF), Switzerland (2013, 2017).
    - National Research Foundation of South Africa (NRF), South Africa (2014, 2017)
    - The Dutch Technology Foundation STW, The Netherlands (2009, 2010)
    - National Council for Research and Development, Romania (2011).
    - The Portuguese Foundation for Science and Technology (FCT), Portugal (2012)

Reviewer for National Research Funding Agencies:

- National Science Foundation (NSF), USA (2008, 2009, 2011, 2013, 2015, 2016).
- US Army Corps of Engineers - Engineer Research & Development Center (ERDC), USA (2011, 2014).
- Department of Energy (SBIR Program), USA (2015).
- Army Research Office (ARO), USA, (2008, 2009).
- Nuclear Energy University Program (NEUP), USA, (2012, 2014, 2016).
- U.S. Department of Energy, EPOSCOR Program (2009, 2010)
- Idaho National Laboratory (2014)
- Oak Ridge National Laboratory (2010)
- State of Nevada, EPSCOR Research Chair Review, USA (2010).
- State of Nevada, EPSCOR Program, USA (2009)
- State of Louisiana, EPSCOR Program, USA (2009, 2015).

Tenure and Promotion Reviewer

- Indiana-Purdue Univ. Fort Wayne Engineering Department, (2011).
- University of Nevada Las Vegas, UNLV (2012).
- New Jersey Institute of Technology (NJIT) (2013).
- University of Wisconsin, Milwaukee, (2015).
- University of South Florida (2015).
- Missouri University of Science & Technology (MS&T) (2016).
- University of Manitoba, Canada (2017).
- Missouri University of Science & Technology (MS&T) (2017).
- University of Texas El-Paso (UTEP, 2017).
- Villanova University (2017).

Reviewer for more than 20 Scholarly Journals, Recent Reviews Including:

- Reviewer, *ACI Structural and Materials Journals*
- Reviewer, *ASCE Journals* (Materials, Structural Engineering, Composites for Construction)
- Reviewer*, Materials & Structures*, Springer, RILEM, France
- Reviewer, *Engineering Structures*, El-Sevier Publications
- Reviewer, *Cement & Concrete Composites*, El-Sevier Publications
- Reviewer, *Construction & Building Materials*, El-Sevier Publications
- Reviewer, *Composite Structures*, El-Sevier Publications
- Reviewer, *International Journal of Impact Engineering*, El-Sevier Publications
- Reviewer, *Journal of Composites B: Engineering*, El-Sevier Publications
- Reviewer, *Canadian Journal of Civil Engineering (CJCE),* Canada
- Reviewer, *J. of Smart Structures and Systems*, Techno Press, Korea
- Reviewer, *J. of Smart Materials and Structures*, IOP
- Reviewer, *J. of Structural Health Monitoring*
- Reviewer, *Materials*, MDPI, Switzerland
- Reviewer, *Sensors*, MDPI, Switzerland
- Reviewer, *Polymers*, MDPI, Switzerland

Member of International Technical Committee of the Following Conferences:

1- International Scientific Committee Integrated Life Cycle Design of Structures (ILCDES) Symposium, Dec. 2003, Kuopio, Finland, 2003.
2- International Technical Committee, Third International Conference on Construction Materials Performance, Vancouver, Canada, August 2005.
3- International Technical Committee, 10th Canadian Masonry Conference, Calgary, Canada, June 2005.
4- International Technical Committee, World Automated Congress, Budapest, Hungry, June 2005.
5- 12th Int. Colloquium on Structural and Geotechnical Engineering, Cairo, Egypt, December 2007.
6- International Scientific Committee, 5th ASCE International Engineering and Construction Conference (IECC'5), Irvine, California, August 2008.
7- International Technical Committee, 11th Canadian Masonry Conference, Toronto, Canada, June 2009.
8- Session Chairman, Nanotechnology for Concrete: The Next Big Thing is Small, American Concrete Institute (ACI) Fall Convention, New Orleans, November 2009.
9- Int. Technical Committee, 8th International Masonry Conference, Dresden, Germany, July 2010.
10- Session Chairman for FraMCoS-7 International Conference, Jeju, Korea, May 2010.
11- Session Chairman, ACI Spring Convention, March 2010, Chicago, Frontiers of Polymers in Concrete.
12- Session Chairman for ASME Conference, SMASIS 2010 Session on Space Structures, September 2010.
13- International Technical Committee, First Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2011, Dubai, UAE, February 2011.
14- International Technical Committee, Second Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2013, Istanbul, Turkey, September 2013.
15- Int. Scientific Committee, Congress on Materials and Structural Stability, Rabat, Morocco, 2013.

16- Session Chairman for International Conference of Composite Science and Technology, Naples, Italy, April 2013.
17- International Scientific Committee, International Conference on Sustainable Structures and Smart Materials, German University in Cairo, Egypt, May 2014.
18- International Scientific Committee, 5th International Symposium on Nanotechnology in Construction, NICOM-5, Chicago, Illinois, May 2015.
19- International Scientific Committee, Third Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2015, Antalya, Turkey, September 2015.
20- Session Chairman, Fifth International Symposium on Nanotechnology in Construction (NICOM5), 2015, Chicago, USA.
21- Session Chairman, International Congress on Polymers in Concrete (ICPIC 2015), October 2015, Singapore.
22- Chairman and Organizer, NSF Funded Workshop, US-EGYPT Workshop: Toward Resilient and Sustainable Infrastructure Development at the new Suez Canal region in Egypt; Dusit Thani Hotel, Cairo, Egypt, Dec. 2015.
23- Chairman of Organizing Committee, International Congress on Polymers in Concrete (ICPIC 16), May 2018, Washington DC.
24- International Technical Committee, Fourth Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, SMAR2016, Switzerland, September 2016.
25- International Technical Committee, The 6th International Symposium on Nanotechnology in Construction, (NICOM6), Hong Kong, June 2017.
26- International Advisory Board Member, 14th International Conference on Concrete Engineering and Technology, Kuala Lumpur, Malaysia, August 2018.

National and International Services

Member of the Transportation Research Board (TRB)
- Standing Committee on Polymer Concretes, Adhesives, and Sealers - AHD40 (2017-present)

Fellow of American Concrete Institute (ACI, USA)
- Fellow of American Concrete Institute (2017-present)
- Chair of ACI committee 548 (Polymers & Adhesives in Concrete) (2015-present)
- Secretary of ACI committee 241 (Nanotechnology of Concrete) (2015-present)
- Secretary of ACI committee 548 (Polymers & Adhesives in Concrete) (2009-2014)
- Chairman: Subcommittee 548-C Structural Applications of Polymer Concrete (2010-Present)
- Chairman: ACI Task force on polymer modified concrete (2001-2008)
- Voting Member, ACI Committee 236 (Materials Science)
- Voting Member, ACI Committee 435, (Deflection of RC structures)
- Associate Member, ACI Committee 440, (Fiber Reinforced Polymers - FRP)
- Associate Member of ACI committee 209 (Creep and Shrinkage)

Member of Association for Building Materials and Structures (RILEM, France)
- Member of RILEM committee strengthening of Masonry Structures (2008-present)
- Associate Member of RILEM committee Life time performance of structures (2004-2006)

Member, International Institute for FRP in Construction, Canada (2015-present)
Member of American Society of Civil Engineers (ASCE, USA)
Member of Society of Scientific Research (Sigma-Xi).

Organized the following International Conferences/Special Sessions

Chairman and Organizer, *International Congress on Polymers in Concrete (ICPIC-16)*, Washington DC, USA, May 2018, Ongoing.
Chairman and Organizer, *Second UNM Resilience Colloquium : Urban Resilience – Challenges and Research Needs*, University of New Mexico Campus, August 6-7, 2017, Albuquerque, New Mexico, 2017.
Co-Organizer and Co-Lead (w/Dr. Usama Kandil), Two-day Workshop on Polymer Nanocomposite for Sustainable Development in Egypt, Cairo, Egypt, December 2016.
Organizer, Two Special Sessions on *Nanotechnology for Improved Concrete Performance*, ACI Convention, Philadelphia, Fall 2016.
Organizer, First UNM Resilience Colloquium, University of New Mexico Campus, May 10, 2016.
Organizer, Two Special Sessions on *Advances in the Use of Polymers in Concrete*, ACI Spring Convention, Milwaukee, Wisconsin, April 2016.

Organizer, One Day Workshop on *Resilient and Sustainable Infrastructure Development of the New Suez Canal in Egypt*, NSF funded workshop in collaboration with Suez Canal University. Cairo, Egypt, December 2015.
Organizer, Two Special Sessions on *Field Applications of Structural Health Monitoring*, First Middle East Conference on SHM. SMAR 2011, Dubai, February 2011.
Organizer and Moderator, *One day workshop on Topological Optimization*, Albuquerque, NM, April 2010.
Organizer, Two Special Sessions on Frontiers of Polymers in Concrete, American Concrete Institute (ACI) Spring Convention, Chicago, March 2010.
Organizer, with K. Sobolev (University of Wisconsin Milwaukee) *Two Special Sessions on Nanotechnology for Concrete*, American Concrete Institute (ACI) Fall Convention, New Orleans, November 2009.
Organizer, with J. Grande-Allen (Rice University), *Three Special Sessions on Biomechanics and Biomaterials*, Annual Meeting of Society of Experimental Mechanics, Albuquerque, NM, June 2009.
Organizer, Two Special Sessions on *Structural Health Monitoring (SHM)*, IEEE Conference on Systems of Systems, Big Island, Hawaii, October 2005.
Co-organizer: *ASEE Gulf-Southwest Annual Conference*, Albuquerque, NM, USA, 2008.
Convener and Main Organizer: *International Conference on Performance of Construction Materials in the New Millennium (ICPCM)*, Cairo, Egypt, Feb. 2003.

Local Professional Activities

PE Review Course for Structural Engineering I & II; 2004-present. This is a voluntary activity I provide every semester for engineers in New Mexico (NMSPE)
Member of ACI New Mexico Chapter
Judge for New Mexico Society of Professional Engineers, *Best Building Competition*, Summer 2010

University of New Mexico Services

Member, School of Engineering Search Committee for CE Chairman, 2004-2005
Member: Department of Civil Engineering, Equipment Committee, 2007 – 2008
Member: UNM VP-Task force for Proposal Development Software, Summer 2008
Member: Department of Civil Engineering, Graduate Committee, 2005 – 2010
UNM Faculty Senator (Member of the Faculty Senate) 2008 – 2010.
Member, School of Engineering Dean Search Committee, 2010 – 2011
Director of Graduate Program, Department of Civil Engineering, 2010 – 2012
Member, UNM Limited Competition Review Committee, 2010 – 2012
Member, Faculty Advisory Committee to School of Engineering Dean, 2013
Chair, Service and Outreach Committee, Department of Civil Engineering, 2013
Member, Advisory Committee to Vice President for Research (VPR) on AFRL, 2010 – Present
Member, Advisory Committee to VPR on University Strategic Partnership with DTRA, 2010 – Present
Member, Research Policy Committee, UNM Senates, 2013 – 2014
Member, UNM Provost Advisory Committee on Tenure and Promotion, 2014 – Present
Member, UNM President Committee on Tuition Sharing, Summer 2015
Chairman, Electrical and Computer Engineering Chairman Search Committee 2015-2016

Short Courses Attended

Academic leadership workshop, University of New Mexico, 2014-2015
Introducing Sustainability to the Curriculum, Syracuse University, NY, June 2011
Workshop on Research Fund Management, UNM, April 2004
ASEE Effective Teaching Workshop, Salt Lake City, Utah, June 2004

CONSULTING SERVICES

Complete professional resume is available upon request. Dr. Taha worked as an international consultant in many civil engineering and economic development projects worldwide. Example projects are listed below. Dr. Taha involvement as a consultant including work in the United States, Canada, Bolivia, South Korea, Singapore, Philippines, United Arab Emirates, Kuwait, Saudi Arabia, Bahrain, Qatar, Egypt, Libya, Sudan, Ethiopia, South Africa and Bosnia.

Professional Registration

Professional Engineer, Alberta, Canada, License # M68041 (active since 2002)
Professional Engineer, Saskatchewan, License # 12198 (inactive)

International Structural Consultant. Example projects include

- Structural repair and strengthening design, Water desalination tank, Khafji Desalination Facility, Kingdom of Saudi Arabia, work with Sogreah/Artelia Dubai, (2017).
- Bridge closure design and evaluation using polymer concrete, work with Transpo Industries, New York, USA, (2017).
- Structural Independent Review, Sherwood Park Freeway East-North Ramp 2 Bridge, Edmonton, Alberta, Canada for ISL Engineering (2016).
- Structural inspection of historical Brooks Reinforced Concrete Aqueduct, Brooks, Alberta, Canada (2015-2016).
- 3D laser scanning inspection, structural modeling and design of repair strategy of reinforced concrete service tunnel in, Dhahran, Saudi Arabia, 2015.
- Structural design of FRP Strengthening of 53rd Av. – White mud Drive RC Bridge with ISL Engineering, Edmonton, Canada (2014).
- Construction design and structural design check of Saint Patrick pedestrian overpass with ISL/Graham Construction, Canada (2013).
- Structural design and construction drawings review of reinforced concrete bridge for water transport to Hamriyah Pump station, Sharjah, UAE (2012)
- Structural design of Hamriyah pump station and pipeline bridge, with SOGREAH GULF, Sharjah, United Arab Emirates (UAE), (2012).
- Forensic Analysis of Glass Skylight, Zuhair Fayez Partnership (ZFP) HQ, Jeddah, Saudi Arabia, (2012).
- Design of ELNG Trestle Road Prestressed Concrete Bridge (work with Sogreah, Dubai), UAE, (2012).
- Structural design of Pultruded FRP pedestrian overpass and protection system for power plant, Saudi Electrical Organization, Saudi Arabia (2011).
- Structural assessment and structural design of strengthening method of Water Intake Structure, Qurayyah Water Treatment Plant, Saudi Aramco, Saudi Arabia (2010).
- Repair and strengthening of 60th Street–Gaetz Interchange, reinforced concrete bridge girders using CFRP (with ISL Engineering), Red Deer, Canada, (2010).
- Structural assessment, structural monitoring of Reinforced Concrete Bridge and FRP strengthening, New Mexico Department of Transportation (2009).
- Structural design of FRP and latex modified concrete strengthening system, Ahmadi, Kuwait (2007).
- Structural Design of FRP Strengthening Calgary Saddledome –Stantec Consulting, Calgary, Canada (2004).
- Structural design and construction inspection, Macleod–Shawnessy Highway Interchange: Two span, prestressed, post-tensioned, trapezoidal box bridge girders, with Stantec Consulting Ltd. (2003).
- Structural Assessment, Vermilion River Bridge, Load rating and strengthening using CFRP sheets, Alberta, Canada, with Stantec Consulting Ltd., 2004.
- Structural design of Alberta Children's Hospital. Steel Structure Design. Design performed in partnership with Stantec Consulting Ltd., Calgary, Canada, 2003
- Structural Assessment, Load Rating and Strengthening, Trans-Canada Hwy bridge over the CPR, Regina, Saskatchewan, Canada, with Stantec Consulting Ltd. 2003.
- Structural design, Anthony Henday–Whitemud Highway Interchange: two span, prestressed, post-tensioned, NU bridge girders, with Stantec Consulting Ltd., Edmonton, Canada, 2002.
- Structural design, Little Smokey River Highway Bridge: Multi span, prestressed, post-tensioned, NU bridge girders, with Stantec Consulting Ltd., Alberta, Canada, 2001.
- Structural design and construction inspection Canyon Meadows LRT Station and Pedestrian Bridge: Structural design of LRT platform, LRT station building and the pedestrian bridge, with Stantec Consulting Ltd., Calgary, Canada, 2001.
- Structural design of Milk River Highway Bridge: Structural design of substructure including bridge piers and design check of trapezoidal segmental prestressed concrete bridge, Alberta, Canada, 2001. Work done in partnership with Stantec Consulting Ltd., Canada 2001.