

Houssam A. Toutanji, Ph.D., P.E., F.ASCE
Dean: Andrew J. Anagnost College of Engineering and Computer Science
California State University Northridge

CITIZENSHIP: U.S.A.
ACADEMIC RANK: Dean and Professor of Civil Engineering

PROFESSIONAL REGISTRATION: Commonwealth of Massachusetts: No. 45426 Civil
Alabama: No. 27938 E

Education

- **Ph.D., Civil Engineering**, Worcester Polytechnic Institute, Worcester, MA, 1992
Dissertation: *Development of a Cementitious Composite Axial Tensile Technique and Its Application to the Study of CFRC Tensile Properties*
- **M.S., Civil Engineering**, Northeastern University, Boston, MA, 1987
Thesis: *Effect of Foundation Flexibility on the Interaction Between Shear Walls and Frames*
- **B.S., Civil Engineering**, Northeastern University, Boston, MA, 1985
Senior Report: *Relationship Between the Strength of Concrete and Mortar at Identical Water–Cement Ratios*
- **Certificate, Communication for Impact**, Harvard University Graduate School of Education, 2022
- **Certificate, Management and Leadership Education**, Harvard University Graduate School of Education, 2018

Professional Experience

- **Dean and Professor**, Andrew J. Anagnost College of Engineering and Computer Science, *California State University, Northridge*, August 2019 – Present
- **Acting Dean**, College of Science and Mathematics, *California State University, Northridge*, June – August 2025
- **Dean and Professor**, College of Engineering and Applied Sciences, *Western Michigan University*, July 2015 – August 2019
- **Associate Dean for Graduate Education and Research**, *University of Alabama in Huntsville*, July 2013 – June 2015
- **Department Chair and Professor**, Civil and Environmental Engineering, *University of Alabama in Huntsville*, 2008 – June 2015
- **Professor**, Civil Engineering, *University of Alabama in Huntsville*, 2004 – 2015
- **Director**, University Transportation Center for Alabama, *University of Alabama in Huntsville*, 1999 – 2001; 2008 – 2012
- **Assistant and Associate Professor**, Civil Engineering, *University of Alabama in Huntsville*, 1993 – 2004
- **Postdoctoral Fellow**, Worcester Polytechnic Institute, Worcester, MA, 1992 – 1993
- **Structural Engineer**, Souza, True & Partners Inc., Watertown, MA, 1987 – 1989

Visiting and Fellowship Appointments

- **Invited Professor**, University of Cergy-Pontoise, France, Summers 2001, 2002, 2006–2008, 2011, 2013
- **Visiting Scientist**, Ghent University, Magnel Laboratory for Concrete Research, Belgium, May – December 2003
- **NASA Faculty Fellow**, Marshall Space Flight Center, Huntsville, AL, Summer 2000

Professional Development

- Harvard University Graduate School of Education
- Certificate in Communication for Impact, May 2022
- Management and Leadership in Education (MLE), July 2018
- Professional Fundraising for Deans and Academic Leaders, Jan. 2020, Long Beach, CA
- Fundraising for Deans, October 2017, Cambridge, MA
- Academic Impressions, *Four Leadership Practices for Current or Aspiring Deans*, Webinar, November 2016
- Factors of Healthy Leadership in Higher Education, Webinar, September 2016
- Advanced Leadership Development in Higher Education, June 2016, Beaver Creek, CO
- Accreditation Board for Engineering and Technology (ABET):
 - Proficiency Assessment Training Seminar, May 2012
 - Faculty Workshop on Assessing Program Outcomes, January 2008

Administrative Experience

Dean, College of Engineering and Computer Science

California State University, Northridge | August 2019 – Present

Chief academic and administrative officer for a five-department college with 75+ tenure-track faculty, 120+ lecturers, and 40+ staff, serving 4,800 undergraduates and 800 graduate students. Manage an annual operating budget exceeding \$25M and stewardship of a \$35M endowment. Provide leadership in strategic planning, academic innovation, fundraising, accreditation, personnel management, external partnerships, and university governance.

Selected Achievements

- **Transformational Philanthropy:** Secured a historic \$20M naming gift, the largest individual donation in CSUN history, resulting in the naming of the Andrew J. Anagnost College of Engineering and Computer Science (effective August 2025).
- **Major Capital & Research Initiative:** Led a \$60M multi-partner fundraising effort to establish the Autodesk Technology Engagement Center (ATEC), opened Fall 2025 as the college's primary research and innovation hub, including \$25M from Apple, \$25M from the State of California, and \$10M from Autodesk.
- **Endowments & Faculty Support:** Secured and stewarded \$12M+ in endowments, including an \$4.0M Autodesk Endowed Professorship, \$1.0M Formula One Endowed

Professorship, faculty development and laboratory endowments, and \$2.1M in student scholarship support.

- **Accreditation & Quality Assurance:** Successfully led ABET accreditation for 10 programs across engineering, computer science, engineering technology, and construction management.
- **Strategic Visioning:** Led development of a new college-wide strategic vision, mission, and goals aligned with CSUN Academic Affairs priorities.
- **Academic Program Growth:** Championed and secured approval for multiple new degree and certificate programs, including Engineering Management Technology (B.S.), Construction Management (M.S.), Data Science (M.S.), Biomedical Engineering (M.S.), Medical Devices Engineering (M.S.), and certificates in Advanced Manufacturing and Engineering Management.

Dean, College of Engineering and Applied Sciences

Western Michigan University | July 2015 – August 2019

Served as chief academic and administrative officer for a seven-department college, overseeing 95+ tenure-track faculty, 12+ academic professionals, and 30+ staff, supporting 2,400+ undergraduate and 650+ graduate students. Managed a \$20M annual operating budget and stewardship of a \$12M endowment.

Selected Achievements

- **Accreditation:** Led successful ABET accreditation for 13 engineering programs, ensuring continuous improvement and academic excellence.
- **Fundraising & Endowments:** Secured a \$500K graduate scholarship endowment and a perpetual \$120K annual gift funding six \$20K graduate scholarships.
- **Research & Industry Innovation:** Established the Bronco Construction Research Institute (BCRI) with \$5M in funding; partnered with Consumers Energy to develop a \$4M, 1-MW solar garden supporting grid-scale renewable energy.
- **Academic Program Expansion:** Achieved ASEM certification for the M.S. in Engineering Management (one of six globally, 2017). Launched new programs including a Ph.D. in Civil Engineering, M.S. in Information Security, graduate and undergraduate certificates in engineering and cybersecurity.
- **Strategic Leadership:** Recruited senior leadership (associate deans, department chairs, marketing and advising directors) and led development of a college-wide strategic plan aligned with university priorities.
- **Student Success & Advising:** Centralized academic advising and restructured the Student Success Center to strengthen retention and student outcomes.
- **Online Education & Growth:** Expanded distance learning offerings, supported by new faculty lines funded through the Extended University Program.

- Facilities & Capital Improvements: Oversaw major renovations including new classrooms, laboratories, an Auto Lab, and a centralized computer lab.
- External & Global Partnerships: Led development and implementation of domestic and international MOUs supporting articulation, exchange, and research collaboration.

Department Chair, Civil and Environmental Engineering

University of Alabama in Huntsville (UAH) | July 2008 – June 2015

Provided academic and administrative leadership for the department, overseeing programs, faculty, research growth, accreditation, and international partnerships.

Selected Achievements

- Enrollment & Research Growth: Increased undergraduate and graduate enrollment and quadrupled annual research expenditures to \$1.4M+; faculty averaged 3 refereed journal articles and 4 conference papers annually.
- ABET Accreditation: Led two successful ABET accreditation cycles (2009, 2015), resulting in full program accreditation.
- Faculty Recruitment & Mentorship: Recruited and mentored junior faculty, fostering an inclusive department culture and supporting long-term career advancement.
- International Partnerships: Established research collaborations with institutions in France, Belgium, and China.
- Global Programs: Launched dual-degree (2+2 and 3+1) undergraduate programs with the University of Shanghai for Science and Technology.

Associate Director, University Transportation Center for Alabama (UTCA)

1999–2012 (concurrent with Department Chair role, 2008–2012)

Served as Associate Director of a U.S. DOT-funded, multi-campus Tier III University Transportation Center (UA, UAB, UAH) with ~\$1M in annual research expenditures. Provided operational and strategic leadership across the consortium, including budget oversight, research and technology transfer strategy, advisory board leadership, program planning and evaluation, and federal funding compliance, ensuring full institutional cost-sharing and 1:1 federal match.

Research and Scholarly Expertise

Processing and mechanics of composites, smart materials and smart structures, concrete technology, high performance concrete, sustainable construction materials, bridge design, fiber reinforced polymer (FRP) composites, infrastructure renewal and multi-threat mitigation (including blast), impact/damage mechanics, fracture fatigue, nondestructive assessment of materials and structures, bridge design, and structural health monitoring.

Author/Co-author over 80 refereed archival papers in scientific journals, author and

contributor to monographs, over 120 papers in conference proceedings, in addition to other papers, chapters in books, technical reports, and holder of 1 patent.

PI or Co-PI on over \$10 million in research projects, in addition to other projects related to institutional and educational objectives. Recipient of several prestigious research awards such as the **National Science Foundation CAREER Award**, the **National Science Foundation-EPSCoR Scholarly Productivity Award**, and the **John J. Guarrera Engineering Educator of the Year Award**.

Patents

1. U.S. Patent Application No. 12/474,810, Lavin, T, Toutanji, H., Gilbert, J.A., “Cementitious composites,” filed May 29, 2009; based on U.S. provisional patent entitled, “Matrix design for strategically tuned absolutely resilient structures,” filed May, 30, 2008.

Honors and Awards

- Commissioner, ABET Engineering Accreditation Commission (EAC), 2021–2026
- Program Evaluator, American Council for Construction Education (ACCE), 2022
- Program Evaluator, American Society of Civil Engineers (ASCE) / ABET, since 2006
- Fellow, American Society of Civil Engineers (ASCE), since 2006
- John J. Guarrera Engineering Educator of the Year Award, 2020
- CAREER Award, National Science Foundation, 1996
- NSF-EPSCoR Scholarly Productivity Award, 1995 and 1996
- President’s Award for Outstanding Performance, Alabama State Section of ASCE, 2000
- Best ASCE Faculty Advisor Award, 2002
- UAH Research and Creative Achievement Award, 2005
- UAH Distinguished Teaching Award, 2004
- Outstanding Senior Faculty Member Award, UAH College of Engineering, 2004
- Distinguished Faculty Award, UAH Alumni Association, 2001
- Young Faculty Symposium Award, University of Alabama in Huntsville, 1998
- Elected Alumnus Engineer, Tau Beta Pi (WMU MI Kappa Chapter), 2016
- Member, Phi Kappa Phi Honor Society (MI-WMU), 2017
- NSF U.S. Delegation, invited participant in 13 international conferences and workshops
- Vice President, Chi Epsilon; Tau Beta Pi; Phi Kappa Phi, 1985, Boston

Additional Distinction

- Completed the **Boston Marathon** three times (1988, 1990, 1992)

Grants Awarded

- “CA Regional K16 Education Collaborative Grant,” UNITE-LA, 10/1/2025 -12/31/2027; \$420,000.

- “Climate Action-Community-Drive Electric Vehicle Charging Solution (CACLEAN),” Regents University of California, 8/1/2023-10/31/2025; \$800,000.
- “CSU-LSAMP STEM Pathways and Research Alliance,” NSF-State of California, 8/2019-8/2029; \$1.3 million.
- “Load and Resistance Factor Design (LRFD) for Deep Foundations with Reliability Analysis and Design Method Calibration,” ALDOT, 5/1/2012-12/31/2015; \$108,425.
- “Low Smoke Temperature Effect,” STTR Phase II, Polaris/US Army, 12/18/2012-10/31/2014; \$265,539.
- “Planning Grant: I/UCRC for Advanced Composites in Transportation Vehicles (ACTV),” National Science Foundation, 1/31/2014-12/31/2014; \$11,500.
- “Developing Sustainable Transportation Performance Measures for ADOT,” University Transportation Center for Alabama, 1/2012 – 1/2014; \$138,328.
- “Enabling Infrastructure for Enhanced Distance Learning Delivery Service,” University Transportation Center for Alabama, 1/2012 – 12/2013; \$158,241.
- “Systems Microwave Extraction of Water,” NASA/MSFC, 1/2011 – 8/2013; \$83,659.
- “Advanced Sensors and Damage Detection with Acousto-optic Fiber”, NASA/SSC, 7/2011 – 9/2013; \$72,000.
- “Creating Sustainable Structures with Polymer Coating,” National Oceanic and Atmospheric Administration (NOAA), 1/2011 – 12/2011; \$299,589.
- “Multimedia Resource Package for Load and Resistance Factor Rating of Bridges,” University Transportation Center for Alabama, 1/2010 – 7/2011; \$48,722.
- UTCA Operating Budget, University Transportation Center for Alabama, 1/2008 – 12/2012; \$120,000.
- “Improvement of the Multimedia Resource for LRFD Design,” Alabama Department of Transportation (ALDOT); Principal Investigator; 1/2009 – 12/2011; \$305,368.
- “Modeling Damage in Concrete Pavements and Bridges,” University Transportation Center for Alabama (UTCA); Principal Investigator; 1/2009 – 12/2009; \$66,590.
- “US-South America Workshop: Innovative Materials for Civil Infrastructure, Research & Education; Santiago, Chile,” National Science Foundation; Co-Principal Investigator; 11/07 – 12/08; \$39,380, Grant No. OISE-0757271.
- “Bridge Weight-in-Motion (B-WIM) System Testing and Evaluation,” Alabama Department of Transportation (ALDOT); Principal Investigator; 5/2007 – 12/2009; \$452,629.
- “Development of Multimedia Resource and Short Courses for LRFD Design,” Alabama Department of Transportation (ALDOT); Principal Investigator; 1/2007 – 12/2009; \$291,821.
- “Transportation Engineering Summer Institute Program: Part I – VII,” University Transportation Center for Alabama (UTCA); Co-Principal Investigator; 1/2000 – 12/2008; \$809,832.
- “Properties of Strategically Tuned Absolute Resilient Structures (STARS): Phase II,” Department of Defense; Co-Principal Investigator; 9/2006 – 10/2008; \$699,589.

- “Transportation Engineering Summer Institute Program: Part VI,” University Transportation Center for Alabama; Co-Principal Investigator; Grant No. 06304; 1/2006 – 12/2006; \$106,154.
- “Properties of Strategically Tuned Absolute Resilient Structures (STARS): Phase I,” Department of Defense; Co-Principal Investigator; 9/2006 – 10/2008; \$49,970.
- “Multimedia Resource for LRFD Concrete Bridge Design,” University Transportation Center for Alabama; PI; Grant No. 06031; 1/2006 – 7/2007; \$100,843.
- “Waterless Concrete Development,” NASA/MSFC; Principal Investigator; 10/1/2005 – 9/30/2008; \$220,000, Grant No. NCC8-200.
- “Multimedia Resource for LRFD Steel Bridge Design,” University Transportation Center for Alabama; PI; 7/2005 – 7/2007; \$100,367.
- “Structural Health Monitoring for Missile System,” Department of Defense (DOD); Principal Investigator; 4/2005 – 6/2006; \$150,000.
- “International Workshop on Geopolymers and Geopolymer Concrete,” National Science Foundation; Principal Investigator; 10/1/04 – 4/1/06; \$29,999, Grant No. CMS-0432905.
- “Multi-media Technology for Bridge Repair: Final Phase,” University Transportation Center of Alabama; Principal Investigator; 1/2004 – 12/31/2004; \$75,697; Grant No. 04312.
- “Research Experience for Undergraduates: REU Site in Smart Materials and Smart Structures,” National Science Foundation; Principal Investigator; 4/ 2004 – 9/ 2007; \$262,207; Grant No. EEC-0243801.
- “Evaluating Structural Damage of Timber Bridges Using Multi-media Technology,” University Transportation Center of Alabama; Principal Investigator; 1/2003 – 7/31/2004; \$100,000; Grant No. 03301.
- “Structural Damage Using Multimedia Technology,” University Transportation Center for Alabama; Principal Investigator; 1/2002 to 12/2002; \$93,912; Grant No. 02303.
- “Development of a New Experimental Approval for Bridge Deck Evaluation,” University Transportation Center for Alabama; Principal Investigator; 1/2001 to 8/2002; \$108,018; Grant No. 01327.
- “Equipment Grant for the Materials Testing Laboratory,” University of Alabama in Huntsville, Dean’s Office; Principal Investigator; 8/2000; \$42,000.
- “Operation of the UTCA Branch Office at the University of Alabama in Huntsville,” University Transportation Center for Alabama; Principal Investigator; 1/2000 to 12/2000; \$85,946; Grant No.00300.
- “Supplementary Cementitious Materials to Enhance Bridge Deck Durability,” University Transportation Center for Alabama; Principal Investigator; 1/1/2000 to 9/30/2001; \$98,423; Grant No. 00305.
- “Transfer of Transportation Materials Technology,” UTCA Subcontract from the University of Alabama at Birmingham; Principal Investigator; 1/2000 to 12/2000; \$15,000.

- “Evaluation of an Inorganic Resin for Strengthening of Reinforced Concrete and Steel Beams,” National Science Foundation; Principal Investigator; 9/1999 to 8/2003; \$146,299 Grant Number: CMS-9900431.
- “Operation of the UTCA Branch Office at the University of Alabama in Huntsville,” University Transportation Center of Alabama; Principal Investigator; 1/1999 to 12/1999; \$81,842; Grant No. 00999.
- “Assessment of Long-Term Damage of Composite Materials for Civil Engineering Application,” UAH Research Office, University of Alabama in Huntsville; Principal Investigator; 1/1999 to 5/2000; \$6,000.
- “Assessment of Long-Term Damage of Composite Materials for Civil Engineering Application,” UAH Research Office, University of Alabama in Huntsville; Principal Investigator; 1/1998 to 12/1998; \$2,990.
- “The Use of FRP Tow Sheets for Repair and Rehabilitation of Puerto Rico’s Bridge Slabs,” Puerto Rico Department of Transportation and Public Works; Principal Investigator; 4/1997 to 3/1998; \$29,985.
- “Evaluation of Direct Tensile Strength of High Strength Cementitious Composites,” Army Corps of Engineers, Waterways Experimental Station; Principal Investigator; 7/1996 to 8/1997; \$40,870; Award Number: W81EWF61373919.
- “**NSF CAREER Faculty Development Award**,” National Science Foundation; Principal Investigator; 6/1995 to 5/2001; \$495,000 (NSF: \$375,000; Industry Cost-Share: \$100,000; UAH Cost-Share: \$20,000); Award Numbers: CMS-5-34957 & CMS-9501541.
- "Research-to-Practice Symposium on Bridge and Pavement Repair and Rehabilitation," National Science Foundation; Co-Principal Investigator; 3/1996 to 2/1997; \$49,995; H. Toutanji: \$23,065; Award Number: CMS-9622212.
- "Conference/Workshop - International Research on Advanced Composites in Construction," National Science Foundation; Co-Principal Investigator; 9/1995 to 8/1996; \$45,706; H. Toutanji: \$13,941; Award Number: CMS-9521653.
- “Nondestructive Evaluation of Highway Bridges,” EPSCoR National Science Foundation; Principal Investigator; 1/1995 to 7/1997; \$99,514.
- “Conference-Workshop on the Repair and Rehabilitation of the Infrastructure of the Americas,” National Science Foundation; Principal Investigator; 5/1994 to 5/1995; \$49,553; Award Number: MSS-9403226.
- “Summer Research Grant,” University of Puerto Rico at Mayaguez, Dean's Office; Principal Investigator; 7/1994 to 8/1994, \$3,500.
- “Equipment Grant,” National Science Foundation; Principal Investigator; 11/1993; \$26,300.

Refereed Journal Articles

1. Boyajian, D., Zirakian, T., **Toutanji, H.**, Mosallam, A. and Karbhari, V., “Special Issue on Innovations in Manufacturing, Analysis Design, and Applications of Fiber-Reinforced Polymer *FRP) Composites”. Special Issue: *Journal of Structures*, ISSN: 2352-0124, 2022,

(<https://www.journals.elsevier.com/structures/call-for-papers/innovations-in-manufacturing-analysis-design>).

2. Al-Qaralleh, M., **Toutanji, H.**, and Eljufout, T., “Overloading impact on the Flexural Behavior of RC beams Strengthened with FRP Composites under Fatigue: Experimental Study” *Journal of Engineering Structures*, 2020, Vol. 221, P.111045.
3. Eljufout, T., **Toutanji, H.**, and Al-Qaralleh, M., “Effect of CFRP Strengthening Systems on the Fatigue Limit of Reinforced Concrete Beams,” *Structure and Infrastructure Engineering*, 2020: <https://doi.org/10.1080/15732479.2020.1751665>.
4. Eljufout, T., **Toutanji, H.**, “Prediction of Deflection Progression of RC Beams Strengthened with NSM FRP Composites”, *Global Journal of Engineering Science*, 2019: <http://doi.org/10.33552/GJES.2019.03.000561>.
5. Eljufout, T., **Toutanji, H.**, “Fatigue Behavior of Pre-fatigued RC Beams Rehabilitated with NSM CFRP Reinforcement,” *Structural Concrete Journal of the fib*, 2019: <https://onlinelibrary.wiley.com/doi/10.1002/suco.201900131>.
6. Eljufout, T., **Toutanji, H.** and Al-Qaralleh, M., “Fatigue Stress-Life Model of RC Beams Based on an Accelerated Fatigue Method,” *Infrastructures Journal*, Volume 4, No. 2, 2019: <https://doi.org/10.3390/infrastructures4020016>.
7. Coskun, S., Kim, J., **Toutanji, H.**, “Bending, Free Vibration, and Buckling Analysis of Functionally Graded Porous Micro-Plates Using a General Third-Order Plate Theory,” *Journal of Composite Science*, Volume 3, No 1, 2019, <https://doi.org/10.3390/jcs3010015>.
8. Al-Qaralleh, M., **Toutanji, H.**, “Analytical Life-Prediction Model for RC Beams Strengthened with Externally Bonded FRP Laminates under Flexural Fatigue Loading,” *ASCE Composites for Construction Journal*, Volume 22, No. 6, 2018: 06018002.
9. Wardeh, M., **Toutanji, H.**, “Parameter Estimation of an Anisotropic Damage Model for Concrete Using Genetic Algorithms,” *International Journal of Damaged Mechanics*, Volume 26, No. 6, 2017, pp. 801-825.
10. Parniani, S., **Toutanji, H.**, “Monotonic and Fatigue Performance of RC Beams Strengthened with a Polyurea Coating System,” *Construction and Building Materials Journal*, Volume 101, 2015, pp 22-29.
11. **Toutanji, H.**, Goff, C., Pierce, K. and Fares, H., “Using Aggregate Flowability Testing to Predict Lightweight Self-consolidating Concrete Plastic Properties,” *Journal of Cement and Concrete Composites*, Volume 62, No. 5, 2015, pp. 59-66.
12. Fares, H., **Toutanji, H.**, Pierce K. and Noumowe, A., “Lightweight Self-consolidating Concrete Exposed to Elevated Temperatures,” *ASCE Materials in Civil Engineering Journal*, Volume 27, No. 12, 2015: 04015039.
13. Ueno, S., **Toutanji, H.**, Vuddandam, R., “Introduction of Critical Stress State Criterion to Predict Bond Strength between FRP and Concrete Substrate” *ASCE Composites for Construction Journal*, Volume 19, Issue 1, 2015: 04014024 (1-11).
14. Biszick, K., Gilbert, J., **Toutanji, H.**, and Britz, M., “Doubly Reinforcing Cementitious Beams with Instrumented Hollow Carbon Fiber Tendons,” *Journal of Experimental Mechanics*, Volume 53, No. 4, 2013, pp. 579-592.
15. Choi, H., **Toutanji, H.**, Gilbert, J and Alldredge, D., “Impact Resistance of Polyurea-coated High-performance Organic Cementitious Materials”, *ASCE Materials Journal*, Volume 25, No. 12, 2013, pp. 1984-1989, December 2013.

16. Vuddandam, R., **Toutanji, H.** and Rodgers, R., “Approximate Solutions to Couples Shear Walls on Fixed and Flexible Foundations,” *Journal of Modern Applied Science*, Volume 7, No. 4, 2013, pp. 1-16.
17. **Toutanji, H.**, Choi, and Wang, D., “Applying a Polyurea on High-Performance Organic Aggregate Cementitious Materials,” *Construction & Building Materials Journal*, Volume 38, No. 1, 2013, pp. 1170-1179.
18. **Toutanji, H.**, Ueno, S. and Vuddandam, R., “Prediction of the Interfacial Shear Stress of Externally Bonded FRP to Concrete Substrate Using Critical Stress State Criterion,” *Composite Structures Journal*, Volume 95, No. 1, 2013, pp. 375-380.
19. Alldredge, D., Gilbert, J., **Toutanji, H.**, Lavin, T., and Balasubramanyam, M., “Uplift Capacity of Polyurea-Coated Light-Frame Rafter to Top Plate Connections,” *ASCE Materials Journal*, Volume 24, Issue 9, 2012, pp. 1201-1210.
20. **Toutanji, H.**, Goff, C., Ethridge, E., and Stokes, E., “Gas Permeability and Flow Characterization of Simulated Lunar Regolith,” *Advances in Space Research Journal*, Volume 49, No. 8, 2012, pp. 1271-1276.
21. **Toutanji, H.** and Han, M., “Interfacial Bond Strength Characteristics of FRP and RC Substrate”, *ASCE Composites for Construction Journal*, Volume 16, Issue 1, 2012.
22. King, L and **Toutanji, H.**, “Load and Resistance Factor Design for Fiber Reinforced Polymer Composite bridge Deck,” *Composites B Journal*, Volume 43, Issue 2, 2012, pp. 673-680.
23. **Toutanji, H.**, Evans, Steve, and Grugel, R., “Performance of “Waterless Concrete.”” *Construction & Building Materials Journal*, Volume 29, Issue 1, 2012, pp. 444-448.
24. Haidar, M., Ghorbel, E., and **Toutanji, H.**, “Optimization of the Formulation of Micro-polymer Concrete,” *Construction & Building Materials*, Volume 25, Issue 4, 2011, pp. 1632-1644.
25. Xu, B., **Toutanji, H.**, Lavin, T., and Gilbert, J., “Characterization of Poly(vinyl alcohol) Fiber Reinforced Organic Aggregate Cementitious Materials,” *Polymer of Concrete: Key Engineering Materials*, Vol. 466, 2010, pp. 73-83.
26. **Toutanji, H.**, Han, M., Gilbert, J. and Matthys, S., “Behavior of Large-Scale Rectangular Columns Confined with FRP Composites,” *ASCE Composites for Construction Journal*, Volume 14, No. 1, 2010, pp. 62-71.
27. Xu, B., **Toutanji, H.**, and Gilbert, J., “Impact resistance of Poly(vinyl alcohol) fiber reinforced high-performance organic aggregate cementitious material,” *Cement and Concrete Research Journal*, Volume 40, No. 2, 2010, pp. 347-350.
28. **Toutanji, H.**, Xu, B., Gilbert, J. and Lavin, T., “Properties of Poly(vinyl alcohol) Fiber Reinforced High-performance Organic Aggregate Cementitious Material: Converting Brittle to Plastic,” *Construction & Building Materials Journal*, Volume 24, No. 1, 2010, pp. 1-10.
29. **Toutanji, H.** and Grugel R., “Mechanical Properties and Durability Performance of “Waterless Concrete”, *ASCE Civil Engineering Magazine*, Volume 79, Number 10, October 2008.
30. Grugel, R. and **Toutanji, H.**, “Sulfur “Concrete” for Lunar Applications – Sublimation Concerns”, *Journal of Advances in Space Research*, Vol. 41, 2008, pp. 103-112.
31. Saxena, P., **Toutanji, H.** and Noumowe, A., “Failure Analysis of FRP-Strengthened RC Beams,” *ASCE Composites for Construction Journal*, Vol. 12, No. 1, 2008, pp. 2-14.

32. **Toutanji, H.** and Deng, Y., “Comparison between Organic and Inorganic Matrices for RC Beams Strengthened with Carbon Fiber Sheets,” *ASCE Composites for Construction Journal*, Vol. 11, No. 5, 2007, pp. 507-513.
33. Meyers, C. and **Toutanji, H.**, “Analysis of a Lunar Habitat Structures using Waterless Concrete and Tension Fibers”, *ASCE Aerospace Engineering Journal*, Vol. 20, No. 4, 2007, pp. 220-226.
34. **Toutanji, H.**, Saxena, P., Zhao, L., and Ooi, T. “Prediction of Interfacial Failure of FRP-Concrete Surface,” *ASCE Composites for Construction Journal*, Vol. 11, No. 4, 2007, pp. 427-436.
35. **Toutanji, H.**, Zhao, L and Isaacs, G., “Durability Studies on Concrete Columns Confined with Advanced Fibre Composites,” *International Journal of Materials and Product Technology*, Vol. 28, No. 1/2, 2007, pp. 8-28.
36. Noumowe, A., Carre. H., Daoud, A., and **Toutanji, H.**, “High-Strength Self-compacting Concrete Exposed to Fire Test,” *ASCE Materials Journal*, Vol. 18, No. 6, 2006, pp. 754-758.
37. **Toutanji, H.**, Fiske, M, and Bodiford, M., “Moon Dust and More,” *Civil Engineering Magazine*, Volume 76, No. 4, 2006, pp. 64-69.
38. **Toutanji, H.**, Zhao, L., and Anselm, E., “Verifications of Design Equations of Beams Externally Strengthened with FRP Composites,” *ASCE Composites for Construction Journal*, Vol. 10, No. 3, 2006, pp. 254-264.
39. **Toutanji, H.**, Zhao, L., Deng, Y., Zhang, and Y., Balaguru, P. “Cyclic Behavior of RC Beams Strengthened with Carbon-Fiber Sheets Bonded with an Inorganic Matrix,” *ASCE Materials Journal*, Vol. 18, No. 1, 2006, pp. 28-35.
40. Matthys, S., **Toutanji, H.** and Taerwe, L., “Stress-Strain of Large-Scale Circular Columns Confined with RP Composites,” *ASCE Structural Journal*, Vol. 132, No. 1, 2006, pp. 123-133.
41. **Toutanji, H.**, Zhao, L and Zhang, Y., “Flexural Behavior of Reinforced Concrete Beams Externally Strengthened with CFRP Sheets Bonded Using an Inorganic Matrix,” *Engineering Structures Journal*, Vol. 28, No. 4, 2005, pp. 557-566.
42. Matthys, S., **Toutanji, H.** and Taerwe, L., “Axial Load Behavior of Large-Scale Columns Confined with FRP Composites,” *ACI Structural Journal*, Vol. 102, No. 2, 2005, pp. 258-267.
43. **Toutanji, H.**, Delatte, N., Aggoun, S. Duval, R. and Danson, A. “Effect of Supplementary Cementitious Materials on the Compressive Strength and Durability of Short-term Cured Concrete,” *Cement and Concrete Research Journal*, Vol. 34, 2004, pp. 311-319.
44. **Toutanji, H.**, Matthewson, P., Effinger, M., and Noumowe, A., “Zero Eccentricity-Direct-Tension Testing of Thermally Damaged Cement-Based Materials,” *Cement and Concrete Research Journal*, Vol. 33, 2003, pp. 1507-1513.
45. **Toutanji, H.** and Deng, Y., “Deflection and Crack-Width Prediction of Concrete Beams Reinforced With Glass FRP Rods” *Construction and Building Materials Journal*, Vol. 17, No. 1, 2003, pp. 69-74.
46. **Toutanji, H.** and Deng, Y., “Strength and Durability Performance of Concrete Columns Confined with AFRP Composite Sheets,” *Journal of Composite B*, Vol. [33, No. \(4\)](#), 2002, pp. 255-261.

47. **Toutanji, H.** and Saafi, M., “Stress-Strain Behavior of Concrete Columns Encased in Hybrid Composite Tubes,” *Materials and Structures Journal*, Vol. [35, No. \(250\)](#), 2002, pp. 338 - 347.
48. **Toutanji, H.**, and Deng, Y., “Performance of Concrete Columns Strengthened with Fiber Reinforced Polymer Composite Sheets,” *Advanced Composite Materials Journal*, Vol. 10, No. 2-3, 2001, pp. 159-168.
49. **Toutanji, H.**, “Design Equations for Concrete Columns Confined with Hybrid Composites,” *Advanced Composite Materials Journal*, Vol. 10, No. 2-3, 2001, pp. 127-138.
50. **Toutanji, H.** and Saafi, M., “Durability Studies on Concrete Columns Encased in PVC-FRP Composite Tubes,” *Journal of Composite Structures*, Vol. 54, No. 1, 2001, pp. 27-35.
51. **Toutanji, H.** and Ortiz, G., “The Effect of Surface Preparation on the Bond Interface between FRP Sheets and Concrete Members,” *Journal of Composite Structures*, Vol. 53, No. 4, 2001, pp. 457-462.
52. **Toutanji, H.** and Dempsey, S., “Stress Modeling of Pipelines Strengthened with Advanced Composites Materials,” *Journal of Thin-Walled Structures*, Vol. 39, No. 2, 2001, pp. 153-165.
53. **Toutanji, H.** and Saafi, M., “Flexural Behavior of Concrete Beams Reinforced with Glass Fiber-Reinforced Polymer Bars,” *ACI Structural Journal*, Vol. 97, No.5, Sept.-Oct., 2000, pp. 712-719.
54. **Toutanji, H.**, “Ultrasonic Wave Velocity Signal Interpretation of Simulated Concrete Bridge Decks,” *Structural and Materials Journal*, Vol. 33, No. 227, 2000.
55. Narotam, C. L., Streeter, D., McNeal F. and **Toutanji, H.**, “Concrete Materials and Placement,” Transportation Research Board, Circular, January 2000.
56. **Toutanji, H.**, "Evaluation of the Tensile Strength of Cement-Based Advanced Composite Wrapped Specimens," *Composite Science and Technology Journal*, Vol. 59, No. 15, 1999, pp. 2264-2268.
57. **Toutanji, H.** and Balaguru, P., “Effects of Freeze-Thaw Exposure on the Performance of Concrete Columns Strengthened with Advanced Composites,” *ACI Materials Journal*, Vol. 96, No. 5, Sept.-Oct. 1999, pp. 605-610.
58. **Toutanji, H.**, “Properties of Polypropylene Fiber Reinforced Silica Fume Expansive-Cement Concrete,” *Construction and Building Materials Journal*, Vol. 13, No. 4, 1999, pp. 171-177.
59. Saafi, M., **Toutanji, H.** and Li, Z., “Behavior of Concrete Columns Confined with Fiber-Reinforced Polymer Tubes,” *ACI Materials Journal*, Vol. 96, No. 4, July-August 1999, pp. 500-509.
60. **Toutanji, H.** and Bayasi, Z., “Effect of Curing Procedures on the Properties of Silica Fume Concrete,” *Cement and Concrete Research Journal*, Vol. 29, No 3, 1999, pp. 497-501.
61. **Toutanji, H.**, “Stress-Strain Characteristics of Concrete Columns Externally Confined with Advanced Fiber Composite Sheets,” *ACI Materials Journal*, Vol. 96, No. 3, May-June, 1999, pp. 397-404.
62. **Toutanji, H.** and Saafi, M., “Performance of Concrete Beams Prestressed with Aramid Fiber Reinforced Polymer Tendons,” *Journal of Composites Structures*, Vol. 44, No. 1, February 1999, pp. 63-70.

63. **Toutanji, H.** and El-Korchi, T., "Tensile Durability of Cement-Based FRP Composite Wrapped Specimens," *ASCE Journal of Composites for Construction*, Vol. 3, No. 1, 1999, pp. 38-45.
64. **Toutanji, H.**, "Durability Characteristics of Concrete Columns Confined with Advanced Composite Materials," *Journal of Composite Structures*, Vol. 44, No. 2-3, February-March, 1999, pp. 155-161.
65. **Toutanji, H.**, Liu, L. and El-Korchi, T., "The Role of Silica Fume In The Direct Tensile Strength of Cement-Based Materials," *Journal of Materials and Structures*, Vol. 32, No. 217, April 1999.
66. **Toutanji, H.**, McNeil, S. and Bayasi, Z., "Chloride Permeability and Impact Resistance of Polypropylene-Fiber-Reinforced Silica Fume Concrete," *Cement and Concrete Research Journal*, Vol. 28, No. 7, 1998, pp. 961-968.
67. Saafi, M. and **Toutanji, H.**, "Design of High Performance Concrete Corbels," *Journal of Materials and Structures*, Vol. 31, No. 201, 1998.
68. **Toutanji, H.**, "The Influence of Air Entrainment on the Properties of Silica Fume Concrete," *Journal of Advances of Cement Research*, Vol. 10, No. 3, 1998.
69. **Toutanji, H.** and Balaguru, P., "Durability Characteristics of Concrete Columns Wrapped with FRP Tow Sheets," *ASCE Materials Journal*, Vol. 10, No. 1, 1998, pp. 52-57.
70. Saafi, M. and **Toutanji, H.**, "Flexural Capacity of Prestressed Concrete Beams Reinforced with Aramid Fiber Reinforced Polymer (AFRP) Rectangular Tendons," *Construction and Building Materials Journal*, Vol. 12, No. 5, 1998, pp. 245-249.
71. **Toutanji, H.**, and Bayasi, Z., "Effect of Manufacturing Techniques on the Flexural Behavior of Steel Fiber-Reinforced Concrete," *Cement and Concrete Research Journal*, Vol. 28, No. 1, 1998.
72. **Toutanji, H.** and Gomez, W., "Durability of Concrete Beams Externally Bonded with FRP Sheets in Aggressive Environments," *Cement and Concrete Composites Journal*, Vol. 19, No. 4, August 1997, pp. 351-358.
73. **Toutanji, H.**, "The Effect of the Foundation Flexibility on the Interaction of Shear Walls with Frames," *Engineering Structures*, Vol. 19, No. 12, 1997.
74. **Toutanji, H.**, "The Use of Rubber Tire Particles in Concrete to Replace Mineral Aggregates," *Journal of Cement and Concrete Composites*, Vol. 18, No. 2, 1996.
75. **Toutanji, H.** and El-Korchi, T., "Tensile and Compressive Strength of Silica Fume-Cement Pastes and Mortars," *ASTM Journal of Cement, Concrete, and Aggregates*, Vol. 18, No. 2, 1996.
76. **Toutanji, H.** and El-Korchi, T., "Influence of Silica Fume on the Compressive Strength of Cement and Mortar," *Journal of Cement and Concrete Research*, Vol. 25, No. 1, 1995.
77. **Toutanji, H.**, Friel, D., El-Korchi, T., Katz, R.N., Wechsler, G. and Rafaniello, W., "Room Temperature Tensile and Flexural Strength of Ceramics in the AlN-SiC System," *Journal of European Ceramic Society*, Vol. 15, No. 5, 1995, 425-434.
78. Katz, R.N., Lucas, H. and **Toutanji, H.**, "Novel Tensile Testing Technique for Structural Ceramics," *ASME, Mechanical Testing of Ceramics and Ceramic Composites*, AMD-Vol. 197, 1994.
79. **Toutanji, H.** and El-Korchi, T., "Uniaxial Tensile Strength of Cementitious Composites," *ASTM Journal of Testing and Evaluation*, Vol. 22, No. 3, 1994, pp. 226-232.
80. **Toutanji, H.**, El-Korchi, T. and Katz, R.N., "Strength and Reliability of Carbon Fiber

Reinforced Cement Composites," *Journal of Cement and Concrete Composites*, Vol. 16, No. 1, 1994, pp. 15-21.

81. **Toutanji, H.**, El-Korchi, T., Katz, R.N. and Leatherman, G.L., "Behavior of Carbon Fiber Reinforced Cement Composites in Direct Tension," *Journal of Cement and Concrete Research*, Vol. 23, No. 3, 1993, pp. 618-626.

Conference Proceedings Papers

1. **Toutanji, H.** and Eljufout, T., "Validation of the Locati Method in Evaluating the Fatigue Limit of RC Beams," fib Symposium 2023: Building for the Future Durability, Sustainable and Resilient, Istanbul, Turkey, June 5-7, 2023.
2. Eljufout, T. and **Toutanji, H.**, "Prediction of Deflection Progression of RC Beams Strengthened with NSM FRP Composites," 10th International Conference on FRP Composites in Civil Engineering (2020 CICE), http://dx.doi.org/10.1007/978-3-030-88166-5_131, Istanbul, Turkey, December 8-10, 2021.
3. **Toutanji, H.** and Eljufout, T., "Effect of Under-stressing on the Fatigue Strength of RC Beams Rehabilitated with NSM CFRP Reinforcement," 10th International Conference on FRP Composites in Civil Engineering (2020 CICE), http://dx.doi.org/10.1007/978-3-030-88166-5_29, Istanbul, Turkey, December 8-10 2021.
4. Eljufout, T. and **Toutanji, H.** "Fatigue Stress-Life Model of RC Beams Based on An Accelerated Fatigue Method" 14th International Conference on Engineering, Technology and Applied Science (ETAS-14), Singapore, December 28-29, 2018.
5. Eljufout, T. and **Toutanji, H.** "Fatigue Life Model of RC Beams Strengthened with NSM CFRP", 4th International Conference on Engineering and Natural Science (ICENS 2018), Kiev, Ukraine, May 2-6, 2018.
6. Al-Qaralleh M. and **Toutanji, H.**, "Effect of Overloading on Fatigue Life of RC Beams Strengthened with FRP Sheets" 6th Annual International Conference on Architecture and Civil Engineering (ACW 2018), Singapore, May 14-15, 2018.
7. **Toutanji, H.** and Ethridge, E., "Radiation Shielding Effectiveness of Sulfur/Regolith Concrete: Extraterrestrial Application," 8th International Conference on Mechanical and Aerospace Engineering (ICMAE) 2017, Prague, Czech Republic, July 22-25, 2017.
8. **Toutanji, H.**, Al-Qaralleh, M., "Fatigue Behavior of RC Beams Strengthened by CFRP", International Conference on Engineering and Natural Sciences (ICENS 2017), Budapest, Hungary, May 3-5, 2017.
9. **Toutanji, H.**, Vuddandam, R., and Hussak, M., "Fatigue Behavior of Flexurally Strengthened FRP Concrete Structures," 5th International Conference on Fracture Fatigue and Wear FFW 2016, Kitakyushu, Japan, August 24-26, 2016.
10. **Toutanji, H.** Wang, D. and Vuddandam, R., "Fatigue Behavior of Strengthened Concrete Beams Using FRP sheets," 13th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials, São Paulo, Brazil, October 19-22, 2014.
11. Adhami, R. and **Toutanji, H.**, "Autonomous Structural Monitoring Using Fiber Bragg Grating," 13th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials, São Paulo, Brazil, October 19-22, 2014.
12. **Toutanji, H.** and Vuddandam, R., "Application of Critical Stress State Criterion Approach to flexural Strengthened Concrete Beams Using FRP Sheets." 16th European Conference on Composite Materials (ECCM16), Seville, Spain, June 22-26, 2014.

13. **Toutanji, H.** and Han, M., “Bonding Characteristics between FRP and Concrete Substrate”, International Conference on Composite Materials (ICCM 2013), World Academic of Science, Engineering and Technology, Dubai, UAE, October 23-23, 2013.
14. **Toutanji, H.** and Ueno, S., “Prediction of FRP/Concrete Interface Debonding Using Elastic Theory,” 11th International Symposium on Fiber Reinforced Polymers for Reinforced Concrete Structures (FRPRCS11), Minho, Portugal, June 26-28, 2013.
15. **Toutanji, H.** and Vuddandam, R., “Review of Design Code Provisions on Externally Strengthened Concrete Structures with FRP Laminates,” 11th International Symposium on Fiber Reinforced Polymers for Reinforced Concrete Structures (FRPRCS11), Minho, Portugal, June 26-28, 2013.
16. **Toutanji, H.,** Wang, D., and Vuddandam, R., “Detailed Comparison between ASR/LFR and LFR for Reinforced Concrete Highway Bridges,” 6th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2012), Lake Como, Italy, July 8-12, 2012.
17. **Toutanji, H.,** Ueno, S., and Vuddandam, R., “Prediction of the Interfacial Shear Stress with Critical Stress State Criteria for FRP Externally bonded Concrete Substrate,” 6th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2012), Lake Como, Italy, July 8-12, 2012.
18. **H. Toutanji,** S. Ueno, and R. Vuddandam, “Verification of Interfacial Shear Stress of Externally Bonded FRP to Concrete Substrate Using Critical Stress State Criterion”, Proceedings: Structural Faults and Repair 2010, Edinburgh, Scotland, July 3-5, 2012.
19. **H. Toutanji,** C. M. Goff, E. Ethridge, and E. Stokes, “Water Extraction from Planetary Surfaces”, Proceedings: Structural Faults and Repair 2010, Edinburgh, Scotland, July 3-5, 2012.
20. **Toutanji, H.,** and Ueno, S., “Optimal Design of Composite Structures,” 16th International Conference on Composite Structures, Porto, Portugal, June 28-30, 2011.
21. Biszick, K., Gilbert, J., Toutanji, H., Lavin, T and Britz, M., “Characterization of Adoptive Reinforced Concrete Structures,” Proceedings of the 2011 Annual Conference on Experimental and Applied Mechanics, Springer, Editor Tom Proulx, pp. 631-638.
22. Han, M. and **Toutanji, H.,** “Bonding Characteristics between FRP and Concrete Substrates,” 1st Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, Dubai, UAE, Feb 8-10, 2011.
23. **Toutanji, H.** and Britton, H., “Comparison between an ANSYS FE model and Empirical Models for FRP Strengthened RC Beams,” 1st Middle East Conference on Smart Monitoring, Assessment and Rehabilitation of Civil Structures, Dubai, UAE, Feb 8-10, 2011.
24. **Toutanji, H.,** Evans, S, and Grugel, R., “Performance of Waterless Concrete,” Proceedings: 13th international Conference on Structural Faults and Repair 2010, Edinburgh, Scotland, June 2010.
25. **Toutanji, H.,** Meng, Han, “Bonding Characteristics between FRP and Concrete Substrate”, Proceedings: 16th Mechanics of Composite Materials, Riga, Latvia, May 24-28, 2010 (invited paper).
26. **Toutanji, H.,** Evans, S., and Grugel, R., “Performance of Waterless Concrete,” Proceedings: Structural Faults and Repair 2010, Edinburgh, Scotland, June 15-17, 2010.
27. **Toutanji, H.,** Xu, B., Gilbert, J, and Lavin, T., “Properties of Poly(vinyl alcohol) Fiber Reinforced High-performance Organic Aggregate Cementitious Material,” Proceedings:

- 13th International Congress on Polymers in Concrete (ICPIC 2010), Madeira, Portugal, Feb. 10-12, 2010.
28. **Toutanji, H.**, Han, M., and Gilbert, J., “Bonding Characteristics between FRP and Concrete Substrates,” Proceedings: 3rd International Conference on Concrete Solutions, Padua, Italy, June 29-July 2, 2009.
 29. **Toutanji, H.** and Grugel, R., “Performance of Waterless Concrete,” Proceedings: 3rd International Conference on Concrete Solutions, Padua, Italy, June 29-July 2, 2009.
 30. Fares, H., Noumowe, A., **Toutanji, H.**, Pierce, K., “ Mechanical and Physicochemical Properties of Lightweight Self-consolidating Concrete Subjected to Elevated Temperatures,” Proceedings: 3rd International Conference on Concrete Solutions, Venice, Italy, June 29-July 2, 2009.
 31. Han, M., **Toutanji, H.**, and Gilbert, J., “Interfacial bond Behavior between FRP and Reinforced Concrete Beams,” Proceedings of the Society of the Advancement of Material and Process Engineering (SAMPE), Baltimore, MD, May 18-21, 2009.
 32. Fares, H., **Toutanji, H.**, Noumowe, A., Pierce, K. and Gilbert, J., “Lightweight Self-Consolidating concrete Subjected to Fire,” Proceedings: 8th International Symposium on Utilization of High-Strength and High-Performance Concrete, Tokyo, Japan, October 27-29, 2008.
 33. **Toutanji, H.**, Gilbert, J., Xu, B. and Lavin, T. “Properties of Poly(vinyl alcohol) Fiber Reinforced High-performance Cementitious Material,” Proceedings: 8th International Symposium on Utilization of High-Strength and High-Performance Concrete, Tokyo, Japan, October 27-29, 2008.
 34. **Toutanji, H.**, Han, M. and Gilbert, J., “Interfacial Bond Strength Characteristics of FRP and Substrate”, Proceedings of the U.S.–South America Workshop: Innovative Materials for Civil Infrastructure, Research and Education, Santiago, Chile, October 13-15, 2008.
 35. **Toutanji, H.** and Han, M. “Debonding Behavior of FRP Strengthened RC Beams based on Fracture Mechanics,” Proceedings: 4th International Conference on FRP Composites in Civil Engineering (CICE2008), Zurich, Switzerland, July 22-24, 2008.
 36. Lavin, T. **Toutanji, H.**, Xu, B., Ooi, T., Biszick, K., and Gilbert, J. “Matrix Design for Strategically Tuned Absolutely Resilient Structures (STARS),” Proceedings: SEM XI International Congress on Experimental and Applied Mechanics, Orlando, FL, June 2-5, 2008, Paper No. 71.
 37. **Toutanji, H.** Grugel, R., “Mechanical Properties and Durability Performance of “Waterless Concrete”, Proceedings: 11th ASCE International Conference on Engineering, Science, Construction & Operation in Challenging Environments, March 3-5 2008, Long Beach, CA.
 38. **Toutanji, H.** Han, M., and Gilbert, J., “Stress Modeling of defected Pipelines Strengthened with FRP Composites,” Proceedings of the 1st International Conference and Exhibition on Reinforced Plastics (ICERP 2008), Mumbai, India, February 7-9, 2008.
 39. **Toutanji, H.**, Britton, H. and Han, M., “Advanced Composite Materials and Steel for Seismic Strengthening of Low-Rise Structures: Review,” Proceedings of the International Workshop on Measures for the Prevention of Total Collapse of Existing Low-Rise Structures, Istanbul, Turkey, November 19-21, 2007.
 40. **Toutanji, H.** and Han, M., “The Use of Inorganic Matrix for Bonding Carbon Fiber Sheets to RC Structures,” Proceeding of the 12th International Congress on Polymers in Concrete, Chuncheon, Korea, September 26-28, 2007.

41. Bo, X, Gilbert, J, **Toutanji, H.** and Biszick, K., “Different Techniques and Methods of Self-Healing of Structures,” Proceedings: 6th International Workshop on Structural Health Monitoring 2005, Stanford, CA, September 11-13, 2007.
42. **Toutanji, H.**, Pierce, K. and Noumowe, A., “Mix Design and Strength Performance of Lightweight Self-Consolidating Concrete,” Proceeding of the 5th International RILEM Symposium on Self-Compacting Concrete, Ghent, Belgium, September 3-5, 2007.
43. **Toutanji, H.**, Saxena, P. and Gilbert, J., “Premature Bond Failure in FRP Strengthened RC Beams,” Proceedings of 8th International Symposium of Fiber Reinforced Reinforcement for Concrete Structures, Patras, Greece, July 16-18, 2007.
44. Han, M. and **Toutanji, H.**, “Stress-Strain Behavior of Large-Scale Rectangular Columns Confined with FRP Composites,” Proceedings of 8th International Symposium of Fiber Reinforced Reinforcement for Concrete Structures, Patras, Greece, July 16-18, 2007.
45. Fiske, M., McGregor, W., Pope, R., McLemore, C., Kaul, R., Smithers, G., Ethridge, E. and **Toutanji, H.**, “Lunar In-Situ Materials-Based Surface Structure Technology Development Efforts at NASA/MSFC,” Proceedings of the Space Technology and Applications International Forum 2007, Albuquerque, New Mexico, February 11-15, 2007.
46. **Toutanji, H.** and Saxena, P., “Prediction of Bond Failure of RC Beams Externally Strengthened with FRP Composites,” Proceedings: 3rd International Conference on FRP Composites in Civil Engineering (CICE 2006), Miami, FL, December 13-15, 2006.
47. **Toutanji, H.** and Taerwe L., “Advanced Composites for Strengthening Concrete Structures,” Proceedings of the 1st International Conference on Risk Assessment and Building Structures Repair, Voronezh, Russia, November 5-10, 2006.
48. **Toutanji, H.** and Zhao, L., “Experimental and Analytical Studies on Ultimate Strength of Bond between FRP and Concrete”, Proceedings: 2nd International Conference on Concrete Repair, St-Malo, Brittany, France, June 27-29, 2006.
49. Biszick, K.R., **Toutanji, H.**, Gilbert, J., Marotta, S.A. and Ooi, T.K., “Evolution of Strategically Tuned Absolutely Resilient Structures (STARS), Proceedings: SEM Annual Conference & Exposition on Experimental and Applied Mechanics, St. Louis, Missouri, June 4-7, 2006, paper No. 32.
50. **Toutanji, H.** and Schrayshuen, B., “New Glass Fiber Reinforced Concrete for Extraterrestrial Structures,” Proceedings: 10th ASCE Aerospace Division International Conference on Engineering, Construction and Operation in Challenging Environments: Earth & Space 2006, Houston, TX, March 5-8, 2006.
51. **Toutanji, H.**, Fiske, M.R. and Bodiford, M.P., “Development of Lunar Concrete for Habitat Structures,” Proceedings: 10th ASCE Aerospace Division International Conference on Engineering, Construction and Operation in Challenging Environments: Earth & Space 2006, Houston, TX, March 5-8, 2006.
52. **Toutanji, H.** and Meyers, C., “Analysis of a Lunar Habitat Structure Using Waterless Concrete and Tension Fibers,” Proceedings: ASCE Habitation 2006: Conference on Habitation Research and Technology Development, Orlando, FL, Feb. 5-8, 2006.
53. **Toutanji, H.** and Grugel, R.N., “Mechanical Properties of Extraterrestrial “Concrete,” Proceedings: ASCE Habitation 2006: Conference on Habitation Research and Technology Development, Orlando, FL, Feb. 5-8, 2006.
54. **Toutanji, H.**, Tucker D. and Ethridge, E., “Glass Fiber Reinforced Sulfur “Concrete” for Habitat Structures,” Proceedings: ASCE Habitation 2006: Conference on Habitation Research and Technology Development, Orlando, FL, Feb. 5-8, 2006.

55. **Toutanji, H.** and Britton, H., “FRP Composites for Strengthening Structures in Hurricanes Regions,” Proceedings: Rebuilding the South in the Aftermath of Hurricanes Ivan Through Katrina: Technology, Energy Efficiency and Affordability, Tuskegee, AL, Jan. 11-13, 2006.
56. Tucker, D., Ethridge, E. and **Toutanji, H.**, “Production of Glass Fibers for Reinforcement of Lunar Concrete,” Proceedings: 43rd American Institute of Aeronautics and Astronautics (AIAA), Reno, NV, Jan. 9-12, 2006.
57. Grugel, R.N. and **Toutanji, H.**, “Viability of Sulfur “Concrete” on the Moon: Environmental Consideration,” Proceedings: 43rd American Institute of Aeronautics and Astronautics (AIAA), Reno, NV, Jan. 9-12, 2006.
58. **Toutanji, H.** and Zhao, L., “Review of Design Equations of Beams Externally Strengthened with FRP Composites,” Proceedings: International Workshop on Innovation in Materials and Design of Civil Infrastructure, Cairo, Egypt, December 28-29, 2005.
59. Marotta, S.A., Kudiya, A.J., Ooi, T.K., Gilbert, J.A. and **Toutanji, H.A.**, "Predicting Reliability of Tactical Missiles Using Health Monitoring Data and Probabilistic Analyses," Proceedings: SEM Annual Conference & Exposition on Experimental and Applied Mechanics, Portland, Oregon, June 7-9, 2005.
60. Gilbert, J., Biszick, K., **Toutanji, H.**, Ooi, T. and Marotta, S., “Sensor Development for Strategically Tuned Absolutely Resilient Structures (STARS),” Proceedings: 5th International Workshop on Structural Health Monitoring 2005, Stanford, CA, September 12-14, 2005.
61. **Toutanji, H.** and Deng, Y., “Comparison between Organic and Inorganic Matrices for Strengthening RC Beams with Carbon Fiber Sheets,” Proceedings: 12th International Conference on Composites/Nano Engineering, Tenerife, Spain, August 1-5, 2005.
62. Khoshnevis, B., Bodiford, M.P., Burks, K.H., Ethridge, E., Tucker, D., Kim, W. and **Toutanji, H.**, Fiske, M.R., “Lunar Contour Crafting – A Novel technique for ISRU-Based Habitat Development,” Proceedings: 43rd American Institute of Aeronautics and Astronautics (AIAA), Reno, NV, Jan. 10-13, 2005.
63. **Toutanji, H.**, Glen-Loper, B. and Schrayshuen B., “Strength and Durability Performance of Waterless Lunar Concrete,” Proceedings: 43rd American Institute of Aeronautics and Astronautics (AIAA), Reno, NV, Jan. 10-13, 2005.
64. Zhao, L. and **Toutanji, H.**, “Verification of some Design equations of Beams Externally Strengthened with FRP Composites,” Proceedings: FRP Composites in Civil Engineering, Adelaide, Australia, December 8-10, 2004, pp. 499-504.
65. **Toutanji, H.**, Matthys, S., Taerwe, L. and Audenaert, K., “Behavior of Large-Scale Columns Confined with FRP Composites in Compression,” Proceedings: FRP Composites in Civil Engineering, Adelaide, Australia, December 8-10, 2004, pp. 321- 326.
66. **Toutanji, H.**, “Durability Studies on Concrete Columns Encased in PVC-FRP Composite Tubes,” Proceedings: NSF Workshop on Performance and Design of FRP Composites at Very Cold Temperature, Fairbanks, AK, August 13-14, 2004 (CD ROM).
67. **Toutanji, H.**, Matthys, S. and Taerwe, L., “Verification of Models for Concrete Columns Confined with FRP,” Proceedings: Advanced Composite Materials in Bridge and Structures, Calgary, Alberta, Canada, July 20-23, 2004.

68. **Toutanji, H.**, Zhang, Y. and Zhao, L., “Moment Failure of RC Beams Externally Bonded with CFRP Sheets Bonded with Organic and Inorganic Matrices,” Proceedings: the 1st International Conference on Innovative Materials and Technologies for Construction and Restoration, Lecce, Italy, June 6-9, 2004.
69. Deng, Y. and **Toutanji, H.**, “Flexural Fatigue Analysis of RC Beams Strengthened With Inorganic Carbon Fiber Composites,” Proceedings: Society of Advancement of Materials and Processes Engineering (SAMPE), Long Beach, CA, May 2004.
70. Deng, Y. and **Toutanji, H.**, “Flexural Behavior of RR Beams Strengthened with High-Strength Fibers and Inorganic Matrix,” Proceedings: Society of Advancement of Materials and Processes Engineering (SAMPE), Long Beach, CA, May 2004.
71. **Toutanji, H.** and Zhang, Y., “Moment-Strain Relationships of RC Beams Externally Bonded with CFRP Sheets,” Proceedings: The Second International Workshop on Structural Composites for Infrastructure Applications, Cairo, Egypt, Dec. 17-18, 2003, CD ROM.
72. **Toutanji, H.**, Balaguru P. and Deng, Y., “Performance of RC Beams Strengthened with Carbon Fiber Organic/Inorganic Composites,” Proceedings: International Conference on Concrete Solution, St-Malo, Brittany, France, July 2003.
73. **Toutanji, H.**, Balaguru P., Deng, Y and Jia, M., “Fatigue Performance of RC Beams Strengthened with Carbon Fiber Sheets Bonded by Inorganic Matrix,” Proceedings: International Conference on Concrete Solutions, St-Malo, Brittany, France, July 2003.
74. Balaguru P. and **Toutanji, H.**, “Recent Advances in Inorganic Polymer Composites for Repair and Rehabilitation”, Proceedings: International Conference on Concrete Solutions, St-Malo, Brittany, France, July 2003.
75. **Toutanji, H.** and Zhang Y., “Flexural Behavior of Beams Strengthened with FRP Sheets Bonded with Inorganic Matrix”, Proceedings: 10th International Conference on Structural Faults and Repair–2003, London, England, July 2003, CD ROM.
76. Zhang, Y and **Toutanji, H.**, “Crack Widths in RC Beams Externally Bonded With CFRP Sheets,” Proceedings: Sixth International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS-6), Singapore, July 2003.
77. **Toutanji, H.**, Deng, Y. and Jia, M., “Fatigue Performances of RC Beams Strengthened with Carbon Fiber Sheets,” Proceedings: 6th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS-6), Singapore, July 2003.
78. **Toutanji, H.**, Deng, Y., Zhang, Y. and Jia, M., “Cyclic Behavior of RC Beams Strengthened with Carbon-Fiber Sheets Bonded with an Inorganic Matrix,” Proceedings: 12th International Conference on Mechanics of Composites Materials, Riga, Latvia, June 2002, CD ROM.
79. **Toutanji, H.** and Danson, A., “Supplementary Cementitious Materials to Enhance the Durability of Concrete: Short-term Cured Concrete,” Proceedings: Non-Traditional cement & Concrete, Brno, Czech Republic, June 2002.
80. **Toutanji, H.**, Deng, Y., Zhang, Y., Jia, M. and Balaguru, P., “Static Fatigue Performances of RC Beams Strengthened with Carbon Fiber Sheets Bonded by Inorganic Matrix,” Proceedings: Society of Advancement of Materials and Processes Engineering (SAMPE), Long Beach, CA, May 2002.

81. **Toutanji, H.**, Deng, Y., Zhang, Y. and Balaguru, P., "The Use of Inorganic Matrix for Strengthening of RC Beams with Carbon Sheets" Proceedings: CICE 2001-International Conference on FRP Composites in Civil Engineering, Hong Kong, December 2001.
82. **Toutanji, H.** and Saafi, M., "Crack width and Deflection Predictions of Concrete Structural Elements Reinforced with Glass FRP Rods," Proceedings: 9th International Conference on Structural Faults and Repair –2001, London, England, July 2001, CD ROM.
83. **Toutanji, H.** and Saafi, M., "Durability Performance of Concrete Columns Encased in PVC-FRP Composite Tubes," Proceedings: Fifth International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures, Cambridge, England, July 2001.
84. Garon, R., Balaguru, P. and **Toutanji, H.**, "Performance of Inorganic Polymer-fiber Composites for Repair and Rehabilitation of Concrete Beams," Proceedings: Fifth International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures, Cambridge, England, July 2001.
85. Gilbert, J.A., Vaughan, R.E., Ooi, T.K. **Toutanji, H.**, "Creating "STAR" for Advanced Propulsion with Cementitious Composites," Proceedings of the HATS/TABES Exposition, Huntsville, AL May 15-16, 2001.
86. **Toutanji, H.**, "Performance and Durability Characteristics of Concrete Columns Confined with FRP Composites," Proceedings: Structural Integrity of Composite Materials and Structures, Capri, Italy May 2001, CD ROM.
87. **Toutanji, H.**, "Tensile Strength and Durability Performance of Cement-Based FRP Composite Wrapped Specimens," ACI Fourth International Conference on Repair, Rehabilitation and Maintenance of Concrete Structures, and Innovations in Design and Construction, Seoul, Korea, American Concrete Institute (ACI), September 2000.
88. **Toutanji, H.** and Saafi, M., "Experimental and Theoretical Analysis of Axially Loaded Concrete Confined by Hybrid Composite Tubes," Proceedings: Second International Symposium of Cement and Concrete Technology in the 2000s," Volume 2, Istanbul, Turkey, Sept. 6-10, 2000.
89. **Toutanji, H.** and Saafi, M., "Behavior of Concrete Columns Encased in PVC-FRP Composite Tubes," Proceedings: Third International Conference on Advanced Composite Materials in Bridges and Structures, Ottawa, Canada, August 15-18, 2000.
90. **Toutanji, H.** and Saafi, M., "Behavior of Concrete Columns Confined with Hybrid Composite Materials," Proceedings: Ninth United States-Japan Conference on Composite Materials, Mishima, Shizuoka, Japan, July 2000.
91. **Toutanji, H.** and Deng, H., "Stress-Strain Behavior of Concrete Columns Confined with Advanced Fiber Composite Sheets," Proceedings: Ninth United States-Japan Conference on Composite Materials, Mishima, Shizuoka, Japan, July 2000.
92. **Toutanji, H.**, "Behavior of Concrete Columns Confined by Fiber Composites," Proceedings: Young Faculty Research Symposium, University of Alabama in Huntsville, Huntsville, AL, October 1999.
93. **Toutanji, H.** and Saafi, M., "Deflections and Crack Predictions of Concrete Beams Reinforced with Fiber Reinforced Polymer (FRP) Bars," Proceedings: Fourth International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures, Baltimore, MD, American Concrete Institute (ACI), October 1999.
94. **Toutanji, H.**, "Effect of High Temperature on the Tensile Behavior of CFRP and

- Cementitious Composites,” Proceedings: NASA/ASEE Summer Faculty Fellowship Program, Huntsville, AL, August 1999.
95. **Toutanji, H.** and Saafi, M., “Use and Durability of Advanced Composites for Repair of Concrete Pipelines and Other Concrete Structures,” Proceedings: International Conference on Infrastructure Regeneration and Rehabilitation, Sheffield, UK, June 1999.
 96. **Toutanji, H.**, “Durability of Composites and the Interface of Composite to Parent Materials,” Proceedings: Integration of Research and Engineering Education, Sponsored by NSF Division of Civil and Mechanical Systems, Arlington VA, Nov. 8-10, 1998.
 97. **Toutanji, H.**, “Assessment of Long-Term Performance of Concrete Columns Strengthened with Fiber Advanced Fiber Composites,” Proceedings: Young Faculty Research Symposium, University of Alabama in Huntsville, Huntsville, AL, October 1998.
 98. El-Korchi, T., Tsubota, S. and **Toutanji, H.**, “A New Tensile Tester for Cementitious Materials,” Proceedings: Materials Science and Concrete: The Sidney Diamond Symposium, Editors: M. Cohen, S. Mindess and J. Skalny, Honolulu, Hawaii, September 1998.
 99. **Toutanji, H.** and Rey, F., “Performance of Concrete Columns Strengthened with Advanced Composites Subjected to Freeze-Thaw Conditions,” Proceedings: First International Conference on Durability of Fibre Reinforced Polymer (FRP) Composites for Construction (CDCC ‘98), Sherbrooke, Canada, August 1998.
 100. **Toutanji, H.** and El-Korchi, T., “Tensile Durability of Cementitious Composites Externally Wrapped with FRP Sheets,” Proceedings: Second International Conference on Composites in Infrastructure, Vol. II, Tucson, Arizona, January 1998.
 101. El-Korchi, T., **Toutanji, H.** and Tsubota, S., “New Approach to Tensile Strength Testing of Cement-Based FRP Composite Wrapped Specimens,” Proceedings: Second International Conference on Composites in Infrastructure, Vol. I, Tucson, Arizona, January 1998.
 102. **Toutanji, H.** and Rey, F., “Durability Characteristics of Concrete Columns Wrapped with FRP Tow Sheets,” Proceedings: Third International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures, Vol. II, Sapporo, Japan, Japan Concrete Institute (JCI) October 1997.
 103. **Toutanji, H.** and Zea, L., “Interpretation of Ultrasonic Wave Velocity Signals of Simulated Concrete Bridge Decks,” Proceedings: Recent Advances in Bridge Engineering, Zurich, Switzerland, July 1997.
 104. **Toutanji, H.** and Ortiz, G., “Durability of Concrete Beams Strengthened with FRP Plates,” Proceedings: International Conference on Rehabilitation and Development of Civil Engineering Infrastructure Systems, Vol. II, Beirut, Lebanon, June 1997.
 105. **Toutanji, H.**, “New Approach for Tensile Testing of FRP Composites,” Proceedings: International Conference on the State-of-the-Art of the Repair and Rehabilitation of RC Structures, Maracaibo, Venezuela, ASCE Special Publication, May 1997.
 106. El-Korchi, T., **Toutanji, H.** and Tsubota, S., “Tensile Strength and Durability of Cement-Based FRP Composite Wrapped Specimens,” Proceeding: FHWA Conference, Washington, D.C., May 1997.
 107. Krustulovic, N. and **Toutanji, H.**, “Infrastructure Repair and Retrofit with High Performance Fiber Reinforced Cement Composites,” Proceedings: 2nd International

RILEM Workshop on High Performance Fiber Reinforced Cement Composites-Volume 2 (HPFRCC-95), Chapter 11, A.E. Naaman and Has Wolf Reinhardt, Editors, Chapman & Hall, June 1995.

108. **Toutanji, H.** and El-Korchi, T., "Microstructural Characteristics of Carbon Fiber Reinforced Cement Composites," Proceedings: Fifteenth International Conference of Cement Microscopy, Dallas, Texas, 1993.
109. Katz, R.N., Wechsler, G., **Toutanji, H.**, Friel, D., Leatherman, G.L., El-Korchi, T. and Rafaniello, W., "Room Temperature Tensile Strength of AlN," Proceeding: Ceramic Engineering and Science, American Ceramics Society, Vol. 14, No. 718, Cocoa Beach, FL, January 1993.
110. **Toutanji, H.**, El-Korchi, T., Leatherman, G.L. and Katz, R.N., "Tensile Strength of Carbon Fiber Reinforced Cement Composites," Proceedings: Fiber-Reinforced Cementitious Materials, Materials Research Society, Vol. 245, Boston, MA, 1992.
111. El-Korchi, T., **Toutanji, H.**, Katz, R., Leatherman, G., Lucas, H. and Demers, C., "Tensile Testing of Fiber Reinforced Cementitious Composites," Proceedings: Fiber-Reinforced Cementitious Materials, Materials Research Society, Vol. 211, Boston, MA, 1991.

Invited Talks and Scholarly Leadership

- **Invited Talks and Keynote Lectures:** Delivered 37 invited keynote addresses at national and international conferences.
- **Conference Organization and Proceedings:** Organized 7 international conferences and served as editor of published proceedings.
- **Conference and Workshop Leadership:** Organized 26 workshops as chair or co-chair.
- **Technical Reports:** Authored or co-authored 34 technical reports.
- **Graduate Advising and Mentorship:**
 - Chaired 18 completed doctoral dissertations
 - Chaired 38 completed master's theses

Teaching Activities

Undergraduate Courses:

Statics, Dynamics, Strength of Materials, Construction Materials for Civil Engineering, Structural Analysis I & II, Concrete Design I & II, Bridge Design, Steel Design, Geotechnical Engineering, Engineering Composite Materials, Advanced Composites Seminar.

Graduate Courses:

Advanced Concrete Design, Advanced Steel Design, Bridge Engineering, Advanced Cementitious and Composite Materials, Wind and Seismic Load, Design of Composite Structures, Advanced Structural Analysis, Mechanics of Composite Materials, LRFD Design for Steel and Concrete Structures, Concrete for Lunar Habitat (special topic).

Personal Consulting Activities

- NASA Marshal Space Flight Center

- The City of Huntsville, AL
- University of Alabama in Huntsville, AL
- Green Mountain Glass, AL
- U.S. Department of Commerce
- Optechnology, Inc., AL
- University of Cergy, Pontoise, France
- Jade Engineering, Decatur, AL
- WW Supplies, Huntsville, AL
- South East Refractories, Anniston, AL
- Bendall Apartments, Huntsville, AL
- Cartron & Jacobs, LLC, Huntsville, AL
- D. Drake Law Firm, Birmingham, AL