

CURRICULUM VITAE

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DATE OF BIRTH January 21, 1957

EDUCATION Ph.D. in Structural Engineering, August 1986, University of Maryland, College Park, Maryland.

Dissertation Topic: Analytical and Experimental Study of Prestressed Composite Steel-Concrete Beams.

M.S. in Civil Engineering, August 1983, California State University Sacramento, Sacramento, California.

Thesis Topic: Polymerization of Sulfur and Polybutene in Concrete.

B.S. in Civil Engineering. August 1980, University of California, Berkeley, California.

EMPLOYMENT

Aug. 1998
To Present

Professor. Department of Civil Engineering and Engineering Mechanics, University of Arizona, Tucson, Arizona.

Research Areas:

- Seismic Strengthening of Concrete and Masonry Structures With High-Strength Fiber Composite Wraps
- Fiber Composite Rebars and Tendons in Reinforced and Prestressed Concrete Construction
- Strengthening of Buildings and Bridges With Epoxy-Bonded Fiber Composite Fabrics and Plates
- Prestressed Steel Structures
- Nondestructive Evaluation of Construction Materials Using Nuclear Magnetic Resonance (NMR).

Courses Taught:

CE 214 – Engineering Mechanics Statics
CE 217 – Mechanics of Materials
CE 330 – Analysis of Structures I
CE 331 – Analysis of Structures II
CE 337 – Design of Concrete Structures
CE 400 – Civil Engineering Design Project
CE 434/534 – Design of Wood and Masonry Structures
CE 437/537 – Advanced Structural Design in Concrete
CE 433 – Matrix Analysis of Structures
CE 533 – Plastic Analysis and Design
CE 632 – Infrastructure Rehabilitation

Faculty Advisor: 1992 to 1997

Tau Beta Pi, National Engineering Honor Society; University of Arizona

Aug. 1993 to

Aug. 1998

Associate Professor. Department of Civil Engineering and Engineering Mechanics, University of Arizona, Tucson, Arizona.

Aug. 1987 to

Aug. 1993

Assistant Professor. Department of Civil Engineering and Engineering Mechanics, University of Arizona, Tucson, Arizona.

Aug. 1986 to

Aug. 1987

Visiting Assistant Professor. Department of Civil Engineering, University of Maryland, College Park, Maryland.

Research: Co-investigated two research projects:

- (1) “Static Strength of Prestressed Composite Steel-Concrete Girders”
- (2) “Fatigue Behavior of Prestressed Composite Steel-Concrete Beams with Coated Stands”

AWARDS

Best of Program Award, National Engineering Design Competition, Graduate Division, The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, 1986, Topic: Prestressed Steel Design.

NYI, National Science Foundation Young Investigator Award, August 1992.

1998, The year’s Best Application Paper, Journal of Composites for Construction, American Society of Civil Engineers, Co-authored with my graduate student A. M. Malek , “ Design Guidelines for Flexural Strengthening of RC Beams with FRP Plates,” Vol.2, No.4, November 1998, pp.158-164.

1999, The year’s Best Paper in Basic Research, Journal of Composites for Construction, American Society of Civil Engineers, Co-authored with my graduate student F. Tannous , “ Durability of AR Glass Fiber Reinforced Plastic Bars,” Vol.3, No.1, February 1999, pp. 12-19.

2001, The year's Best Paper in Basic Research, Journal of Composites for Construction, American Society of Civil Engineers, Co-authored with my graduate student M.R. Tavakolizadeh," Galvanic Corrosion of Carbon Composites and Steel In Seawater and Deicing Salt Solutions," Journal of Composites for Construction, American Society of Civil Engineers, Vol.5, No.3, August 2001, pp. 200-210.

HONOR SOCIETIES

Member: Tau Beta Pi, National Engineering Honor Society
Chi Epsilon, Civil Engineering Honor Society

PROFESSIONAL ACTIVITIES

Member: American Society of Civil Engineers
American Concrete Institute

Chairman: The First International Conference on Composites in Infrastructure, (ICCI '96), Tucson, Arizona, January 15-17,1996. Organized and chaired the conference which was sponsored by the National Science Foundation and 36 other major national and international institutions and corporations. The conference was attended by close to 300 people from nineteen different countries. The conference was preceded by a two-day short course on design and application of fiber composites in structural engineering. Sixty-seven people attended the short course.

Chairman: The Second International Conference on Composites in Infrastructure, (ICCI '98), Tucson, Arizona, January 5-7, 1998. Organized and chaired the conference which was sponsored by the National Science Foundation and 110 major national and international institutions and corporations, and was attended by delegates from 21 countries. This conference also included a two-day short course on design and application of fiber composites in civil infrastructure. The short course was attended by close to 60 people.

Chairman: The Third International Conference on Composites in Infrastructure, (ICCI'02), San Francisco, June 10-12, 2002. Organized and chaired the conference which was sponsored by the University of Arizona and attended by delegates from close to 20 countries. The conference proceedings were developed on a CD and widely distributed.

Chairman The Fourth International Conference on Composites in Infrastructure, (ICCI'04), to be held February 23-25,2007, Tucson, Arizona.

Co-Secretary: Third International Conference on "Constitutive Laws for Engineering Materials," Tucson, Arizona, January 1991.

Member of Intl. (CICE Advisory Board: International Conference on FRP Composites in Civil Engineering 2001) 12-14 December 2001, Hong Kong, China.

Member of Advisory Board: International Conference on Advanced Composites in Construction, Sponsored by the Center on Advanced Composites in Construction, University of Southampton, UK, April 2002.

Member of International Scientific Committee: The Second International Conference On, "Advanced Composites in Construction," ACIC 2004, to be held at the University of Surrey, UK, April 21-23, 2004.

Member of Advisory Board: "The Eighth International Conference on Structural Faults and Repair-99", London England, July 13-15, 1999.

Member of Advisory Board: "The Tenth International Conference on Structural Faults and Repair-03", London England, July 1-3, 2003.

Member of International Scientific Committee "The Sixth International Conference on Civil Engineering," Isfahan, Iran, May 5-7,2003.

Session Chairman: Session on Column Retrofit with Fiber Composites in a workshop organized by the National Institute of Standards and Technology, Tucson, Arizona, January 7-8, 1998.

Session Co-chairman: Nonmetallic (FRP) Reinforcement for Concrete Structures, Second International RILEM Symposium, Ghent, Belgium, August 1995.

Member of The Editorial Board: "International Journal of Computers Applications in Concrete", Techno Press.

Member of Intl. Advisory Board: The 2nd International Conference on FRP Composites in Civil Engineering (CICE 2001) 8-10 December 2004, Adelaide, Australia.

Member of Intl. Working Group: "Application of FRP to Metallic Structures,".

REGISTRATION

Professional Registration: Registered Professional Engineer in the State of California; Registration No.: C 051811.

PATENTS

U.S. Patent No. 5,640,825, "Method of Strengthening Masonry and Concrete Walls with Composites and High-Strength Random Fibers."

"Blast Proofing Concrete and Masonry Structures Using Energy Dissipating Composite Fabrics", Status: Pending.

"Composite Dowel System for Strengthening of Tubular Structural Systems,".

"High Strength Geo-FRP Membrane for Soil Reinforcement," Status: Pending.

TECHNICAL COMMITTEES

Member: ACI Committee 440 on "Fiber Reinforced Plastic (FRP) Tendon and Reinforcement", member 1991-2000.

ACI Committee 440 on "Fiber Reinforced Plastic (FRP) Tendon and Reinforcement", Associate Member, since 2000.

ACI Committee 440 on "Fiber Reinforced Plastic (FRP) Tendon and Reinforcement", Secretary: 1992-1997.

ASCE Materials Division Committee on "Structural Composites and Plastics," member since 1989.

Transportation Research Board Committee A3C14 on "Adhesives, Bonding Agents and Their Uses," Member: 1988-1994.

ACI Committee 503 on " Adhesives," Member: 1988-1993.

ACI Committee 503 on " Adhesives," Consulting Member: 1993-present.

INVITED LECTURES AND KEYNOTES

June 1992: Invited by The University of Sinaloa, Mexico for presenting a lecture series on rehabilitation of structures and nondestructive testing and evaluation of structural materials.

- July 1992: Invited by the Southwest Jiatong University, People's Republic of China, for presenting a lecture series on applications of advanced fiber composite materials in civil engineering and strengthening of existing structures with high strength fiber composites.
- Oct. 1992: Invited by the Suppliers of Advanced Composite Materials Association (SACMA) as a panelist in a four-member panel on "Infrastructure Applications of Advanced Composite Materials," Fall 1992 Convention, Phoenix, Arizona.
- March 1993: Invited by the U.S. Army Corps of Engineers, Waterways Experiment Station, for presenting a lecture on fiber composites in civil engineering structures and to participate in a workshop in Huntsville, Alabama.
- Oct. 1994: Invited by the National Institute of Standards and Technology (NIST) for presenting a lecture on the application of fiber composites in structural engineering, Gaithersburg, Maryland.
- April 1995: Invited by the National Science Foundation as a panelist for the discussion of "Future of Fiber Composites in Construction" Workshop, Washington, DC.
- July 1995: Invited as a member of the U.S. delegation to the U.S.-European Bridge Workshop and the Structural Faults and Repair, 95 Conference, London, England.
- August 1995: Invited as a member of the U.S. delegation to the Second International RILEM Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structures, Ghent, Belgium.
- April 1997: Invited by the Center for Hemispherical Cooperation in Research and Education in Engineering and Applied Sciences and the Center for Corrosion Studies of the University of Zulia, Maracaibo, Venezuela for presenting a lecture on the Durability of Nonmetallic Reinforcements in Aggressive Environments.
- July 1997: Invited as a member of the Steering Committee for a U.S. delegation to the U.S.-European Bridge Workshop and the Structural Faults and Repair Conference '97, Edinburgh, Scotland.
- Oct. 1997: Member of the U.S. NSF delegation to the Third International Symposium on Non-Metallic (FRP) Reinforcement for Concrete Structure, Sapporo, Japan.
- Jan. 1998: Invited by the National Institute of Standards and Technology as a member of a small panel of experts to discuss priorities and approaches for timely integration of advanced composite materials in repair and retrofit of infrastructure and development of Standards for the use of advanced composites in structural engineering, Tucson, Arizona.

- Nov. 1998: Invited by the Idaho Structural Engineering Association for presenting a lecture on strengthening and rehabilitation of structures with fiber composites.
- July 2001: Invited as a member of the U.S. delegation to the U.S.-European Bridge Workshop and the Structural Faults and Repair Conference '01, London, England.
- Oct. 2001: Invited by the Boston Society of Civil Engineers to present a special lecture on reinforcement of concrete structures with fiber composites in their 2001 bi-annual meeting.
- Oct. 2002: Invited by the Korean Society of Civil Engineers to present a special lecture on application of FRP composites in structural engineering, Pusan, Korea.
- Jan. 2003: Invited to present a keynote Lecture in CONMAT 2003, International Workshop and Conference on, "Construction Management and Materials", January 9 - 11 2003, Kharagpur , INDIA.
- May 2003: Invited to present a Keynote Lecture in the Sixth International Conference on Civil Engineering," Isfahan, Iran, May 5-7,2003.
- July 2003: Invited by the Japan Concrete Institute (JCI) to present a Keynote Lecture in a Symposium on the "Latest Achievement of Technology and Research on Retrofitting Concrete Structures - Interface Mechanics and Structural Performance," 14-15 July 2003, Kyoto, Japan.
- April 2004: Invited by the organizers of the "Advanced Composites in Construction" , ACIC 2004 Conference to present a keynote lecture at the conference, University of Surrey, Surrey, England, 20-22 April 2003.
- Oct. 2004 Invited to give a keynote lecture at the National Chinese Conference on FRP In Construction, Nanjing , China, October 17-18, 2004
- Nov. 2004: Invited to give a keynote lecture at the 7th International Symposium on Appraisal and Reinforcement of Buildings, Chongqing ,China, November 8-11, 2004.

REFEREED JOURNAL PUBLICATIONS

1. Saadatmanesh, H., "Analytical and Experimental Study of Prestressed Composite Steel-Concrete Beams," The Welding Innovation Quarterly, Cleveland, Ohio, Fall 1986.
2. Saadatmanesh, H., Albrecht, P. and Ayyub, B. M., "Experimental Study of Prestressed Composite Beams," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 115, No. 9, September 1989, pp. 2349-2364.

3. Saadatmanesh, H., Albrecht, P. and Ayyub, B. M., "Analytical Study of Prestressed Composite Beams," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 115, No. 9, September 1989, pp. 2365-2382.
4. Saadatmanesh, H., Albrecht, P. and Ayyub, B. M., "Design Guidelines for Prestressed Composite Beams," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 115, No. 11, November 1989, pp. 2944-2961.
5. Saadatmanesh, H. and Ehsani, M.R., "Fiber Composite Plates Can Strengthen Beams," American Concrete Institute, Concrete International, Design & Construction, Vol. 12, No. 3, March 1990, pp. 65-71.
6. Ehsani, M.R. and Saadatmanesh, H., "Fiber Composite Plates for Strengthening Bridge Girders," International Journal of Composite Structures, Vol. 15, No. 4, 1990, pp. 343-355.
7. Ayyub, B.M., Sohn, Y.G., and Saadatmanesh, H., "Prestressed Composite Girders Under Positive Moment," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 116, No. 11, November 1990, pp. 2931-2951.
8. Saadatmanesh, H. and Ehsani, M.R., "Fiber Composite Bar for Reinforced Concrete Construction," Journal of Composite Materials, Vol. 25, No. 2, February 1991, pp. 188-203.
9. Saadatmanesh, H., and Ehsani, M.R., "R/C Beams Strengthened with GFRP Plates I: Experimental Study," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 117, No. 11, November 1991, pp. 3417-3433.
10. An, W., Saadatmanesh, H., and Ehsani, M.R., "R/C Beams Strengthened with FRP Plates: Analysis and Parametric Study," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 117, No. 11, November 1991, pp. 3434-3455.
11. Tong, W. and Saadatmanesh, H., "Analysis and Parametric Study of Continuous Prestressed Composite Girders" Journal of Structural Engineering, American Society of Civil Engineers, Vol. 118, No. 1, January 1992, pp. 186-206.
12. Desai, C.S., Saadatmanesh, H., and Allen, T., "Stress-Strain Behavior of Lunar Simulant Using New Triaxial Device," Journal of Aerospace Engineering, American Society of Civil Engineers, Vol. 5, No. 4, October 1992, pp. 425-441.
13. Ayyub, B.M., Sohn, Y.G., and Saadatmanesh, H., "Prestressed Composite Girders. I: Experimental Study for Negative Moment," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 118, No. 10, October 1992, pp. 2743-2762.
14. Ayyub, B.M., Sohn, Y.G., and Saadatmanesh, H., "Prestressed Composite Girders. II: Analytical Study for Negative Moment," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 118, No. 10, October 1992, pp. 2763-2783.

15. Saadatmanesh, H., "Fiber Composites for New and Existing Structures," American Concrete Institute Structural Journal, Vol. 91, No. 3, May-June 1994, pp. 346-354.
16. Char, M.S., Saadatmanesh, H., and Ehsani, M.R., "Concrete Girders Externally Prestressed With Composite Plates," Journal of Precast/Prestressed Concrete Institute, Vol.39, No.3, May-June 1994, pp. 40-51.
17. Saadatmanesh, H., Ehsani, M.R. and Li, M.W., "Strength and Ductility of Concrete Columns Externally Reinforced with Fiber Composite Straps," American Concrete Institute Structural Journal, Vol.91, No.4, July-August 1994, pp. 434-447.
18. Ehsani, M.R., Saadatmanesh, H., and Tao, S., "Bond of Hooked Glass Fiber Reinforced Plastic (GFRP) Rebars to Concrete," American Concrete Institute Materials Journal, Vol. 92, No. 4, July-August 1995, pp. 391-400.
19. Li, W., Albrecht, P., and Saadatmanesh, H., "Strengthening of Composite Steel-Concrete Bridges," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 121, No. 12, December 1995, pp. 1842-1849.
20. Li, W., Albrecht, P., and Saadatmanesh, H., "Fatigue Strength of Prestressed Composite Steel-Concrete Beams," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 121, No. 12, December 1995, pp. 1850-1856.
21. Saadatmanesh, H., Ehsani, M.R., and Yanez, J.C., "Hydration and Early-Age Strength Measurement of Concrete using Nuclear Magnetic Resonance (NMR)," International Journal of Nondestructive Testing and Evaluation, Vol. 12, 1995, pp. 133-153.
22. Ehsani, M.R., Saadatmanesh, H., and Tao, S., "Design Recommendations for Bond of GFRP Rebars to Concrete," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 122, No. 3, March 1996, pp. 247-254.
23. Saadatmanesh, H., Ehsani, M.R., and Jin, L., "Seismic Strengthening of Circular Bridge Pier Models with Fiber Composites," American Concrete Institute Structural Journal, Vol. 93, No. 6, November-December 1996, pp. 639-647.
24. Ehsani, M.R., Saadatmanesh, H., and Al-Saidy, A., "Shear Behavior of URM Retrofitted with FRP Overlays," Journal of Composites for Construction, American Society of Civil Engineers, Vol. 1, No. 1, January 1997, pp. 17-25.
25. Ehsani, M.R., Saadatmanesh, H., and Thompson, C.E., "Transfer and Flexural Bond Performance of Aramid and Carbon (FRP) Tendons," Journal of Precast/Prestressed Concrete Institute, Vol. 42, No. 1, January-February 1997, pp. 76-86.
26. Saadatmanesh, H., and Ehsani, M.R., "Nondestructive Evaluation of Concrete and Wood Properties Using NMR," Journal of the British Institute of Nondestructive Testing, INSIGHT, Vol. 39, No. 2, February 1997, pp. 75-82.

27. Ehsani, M.R., and Saadatmanesh, H., "Seismic Retrofitting of URM Walls with Fiber Composites," Journal of The Masonry Society, Vol. 14, No. 2, December 1996, pp. 63-72.
28. Saadatmanesh, H., Ehsani, M.R., and Jin, L., "Repair of Earthquake-Damaged R/C Columns with Prefabricated FRP Wraps," American Concrete Institute Structural Journal, March-April 1997, pp. 206-215.
29. Saadatmanesh, H., Ehsani, M.R., and Jin, L., "Seismic Retrofitting of Rectangular Bridge Columns with Composite Straps," Earthquake Spectra, Journal of the Earthquake Engineering Research Institute, (EERI), May 1997, pp. 281-304.
30. Ehsani, M.R., and Saadatmanesh, H., "Fiber Composites: An Economical Alternative for Retrofitting Earthquake-Damaged precast-Concrete Walls," Earthquake Spectra, Journal of the Earthquake Engineering Research Institute, (EERI), May 1997, pp. 225-241.
31. Norris, T., Saadatmanesh, H., and Ehsani, M.R., "Shear and Flexural Strengthening of R/C Beams with Carbon Fiber Sheets," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 123, No. 7, July 1997, pp. 903-911.
32. Ehsani, M.R., Saadatmanesh, H., and Tao, S., "Bond Behavior of Deformed GFRP Rebars," Journal of Composite Materials, Vol. 31, No. 14, 1997, pp. 1413-1430.
33. Saadatmanesh, H., "Extending Service Life of Concrete and Masonry Structures with Fiber Composites," International Journal of Construction and Building Materials, Elsevier Science Ltd., Vol. 11, No. 5-6, 1997, pp. 327-335.
34. Malek, A.M., Saadatmanesh, H., and Ehsani, M.R., "Prediction of Failure Load of R/C Beams Strengthened with FRP Plate Due to Stress Concentration at the Plate End," American Concrete Institute Structural Journal, Vol.95, No.2, March-April 1998, pp. 142-152.
35. Tannous F.E., and Saadatmanesh, H., "Environmental Effects on the Mechanical Properties of E-Glass FRP Rebars," American Concrete Institute Materials Journal, Vol.95, No.2, March-April 1998, pp. 87-100.
36. Malek, A.M., and Saadatmanesh, H., "Analytical Study of Reinforced Concrete Beams Strengthened with Web-Bonded Fiber Reinforced Plastic Plates or Fabrics," American Concrete Institute Structural Journal, Vol.95, No.3, May-June 1998, pp. 343-352.
37. Malek, A.M., and Saadatmanesh, H., "Ultimate Shear Capacity of Reinforced Concrete Beams Strengthened with Web-Bonded Fiber Reinforced Plastic Plates," American Concrete Institute Structural Journal, Vol.95, No.4, July-August 1998, pp. 391-399.
38. Larsen, M.H., Saadatmanesh, H., and Ehsani, M.R., "Non-Destructive Evaluation of Wood Using Nuclear Magnetic Resonance (NMR) Spectroscopy," The Journal of The British Institute of Non-Destructive Testing INSIGHT, Vol.40, No.7, July 1998, pp. 505-512.

39. Saadatmanesh, H., and Malek, A.M., " Design Guidelines for Flexural Strengthening of RC Beams with FRP Plates," Journal of Composites for Construction, American Society of Civil Engineers, Vol.2, No.4, November 1998, pp.158-164 (1998 Best Application Paper of the Journal).
40. Malek, A.M., and Saadatmanesh, H., "On the Analysis and Design of Reinforced Concrete Beams Strengthened with FRP Laminates," The Arabian Journal for Science and Engineering, THEME ISSUE ON CONCRETE REPAIR REHABILITATION, AND PROTECTION, Vol. 23, No.2C, December 1998, pp. 167-182, (Invited).
41. Tannous, F.E., and Saadatmanesh, H., "Durability of AR Glass Fiber Reinforced Plastic Bars," Journal of Composites for Construction, American Society of Civil Engineers, Vol. 3, No.1, February 1999, pp. 12-19.
42. Saadatmanesh, H., and Tannous, F.E., "Relaxation, Creep, and Fatigue Behavior of Carbon Fiber Reinforced Plastic Tendons," American Concrete Institute Materials Journal, Vol 96, No.2, March-April 1999, pp.143-153.
43. Saadatmanesh, H., and Tannous, F.E., "Behavior of Aramid Fiber Reinforced Tendons (AFRP) for Prestressed Concrete Applications," American Concrete Institute Materials Journal, Vol. 96, No.3, May-June 1999, pp. 297-305.
44. Ehsani, M.R., Saadatmanesh. H. and Velazquez-Dimas, J.I.," Behavior of Retrofitted URM Walls Under Simulated Earthquake Loading", Journal of Composites for Construction, American Society of Civil Engineers, Vol. 3, No. 3, August 1999, pp. 134-142.
45. Velazquez-Dimas, J.I., Ehsani, M.R. and Saadatmanesh, H., " Out-of-Plane Behavior of Brick Masonry Walls Strengthened with Fiber Composites," American Concrete Institute Structural Journal , Vol.97, No.3, May-June 2000, pp. 377-387.
46. Tavakolizadeh, M., and Saadatmanesh, H.," Galvanic Corrosion of Carbon Composites and Steel in Seawater and Deicing Salt Solution," Journal of Composites for Construction, American Society of Civil Engineers, Vol.5, No.3, August 2001, pp. 200-210.
47. Mei, H., Kioussis, P., Ehsani,M.R., and Saadatmanesh, H.," Confinement Effect on High Strength Concrete," American Concrete Institute Structural Journal, Vol.98, No.4, July-August 2001, pp. 548-553.
48. Tavakolizadeh, M., and Saadatmanesh, H.," Strengthening of Steel-Concrete Composite Girders Using CFRP Sheets," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 129, No. 1, January 2003, pp. 30-40.
49. Tavakolizadeh, M. and Saadatmanesh, H.," Fatigue Strength of Steel Girders Strengthened with Carbon Fiber Reinforced Polymer Patch," Journal of Structural Engineering, American Society of Civil Engineers, Vol. 129, No. 2, February 2003, pp.186-196.

50. Tang, T., and Saadatmanesh, H. ,” Impact Resistance of Concrete and Masonry Beams Strengthened With Fiber Composites,” submitted to the Journal of Composites in Construction, American Society of Civil Engineers, Vol.7, No.3, August 2003, pp 209-218.
51. Tavakollizadeh, M. and Saadatmanesh, H.,” Repair of Damaged Steel-Concrete Composite Girders Using CFRP Sheets, Journal of Composites for Construction, American Society of Civil Engineers, Vol.7, No.4, November 2003, pp 311-322.
52. Tang, T. and Saadatmanesh, H., “Analytical and Experimental Studies of Fiber-Reinforced Polymer-Strengthened Concrete Beams Under Impact Loading,” ACI Structural Journal, Vol.102, No.102, January-February 2005, pp 139-149.
53. Buell, T.W., and Saadatmanesh, H. ,” Strengthening Timber Bridge Beams Using Carbon Fiber,” Journal of Structural Engineering, American Society of Civil Engineers, Vol. 131, No.1, January 2005, pp.173-187.
54. Keller, M., Kioussis, P., Saadatmanesh., H. and Ehsani, M.R. “Effects of Spiral Reinforcement on Ductility of High Strength Concrete,” submitted to the ACI Structural Journal ,under review
55. Keller, M., Kioussis, P., Saadatmanesh, H. and Ehsani, M.R., “Comparison of High Strength Concrete Columns: ACI 1.5% and 3% Lateral Reinforcement” submitted to the ACI Structural Journal , under review

WORK IN PROGRESS

1. Woods, J., and Saadatmanesh, H.,” Analytical and Experimental Studies of Bond Strength Of Carbon Composites to Steel and Concrete Under Severe Exposure to Various Simulated Environments,” to be submitted to the ACI Structural Journal. In preparation.
2. Woods, J., and Saadatmanesh, H.,” Designing with FRPs for a Reliable Service Life,” to be Submitted to the ASCE Journal of Structural Engineering. In preparation.
3. Woods, J., and Saadatmanesh, H.,” Temperature and Humidity Effects on Bond Strength Characteristics of FRP Bonded to Steel and Concrete Substrates,” to be Submitted to the ASCE Journal of Structural Engineering, in preparation.
4. Tavakolizadeh, M., and Saadatmanesh, H., “Fatigue Strength of Steel/Concrete Composite Bridge Girders Strengthened with Epoxy Bonded Carbon Laminates, “to be Submitted to the ASCE Journal of Structural Engineering, in preparation.
5. Woods, J., and Saadatmanesh, H.,” Effects of Chloride and Hydroxyl Ion Diffusion in the Bond-line Epoxy Strength at the Interface of Concrete/FRP and Steel/FRP,” to be submitted to the ACI Structural Journal, in preparation.

6. Woods, J., and Saadatmanesh, H. ,” Retrofitting Steel and Concrete Structures with Epoxy Bonded Composite Laminates: Beyond the Basics,” to be Submitted to the ASCE Journal of Structural Engineering, in preparation.
7. Ortega, A. and Saadatmanesh, H., “ Design of Multi Story Buildings Using Light Weight Polymer Composites,” to be Submitted to the ASCE Journal of Structural Engineering, in preparation.
8. Tavakolizadeh, M., and Saadatmanesh, H., “Long Term Behavior of FRP Laminates in Aggressive Environments,” submitted to the Journal of Composites for Construction, ASCE, in preparation.
9. Tang, T. and Saadatmanesh, H., “Design Considerations for Concrete Beams Strengthened with FRP Under Impact Loading,” Submitted to the Journal of Structural Engineering, ASCE, in preparation.
10. Tavakolizadeh, M., and Saadatmanesh, H., “Guidelines for Flexural Design of Steel-Concrete Composite Girders Strengthened with CFRP Laminates,” Submitted to the Journal of Structural Engineering, ASCE, in preparation.

BOOKS AND CHAPTERS

1. Desai, C.S., Krempfle, E., Frantziskonis, G., and Saadatmanesh, H., "Constitutive Laws for Engineering Materials: Recent Advances and Industrial and Infrastructure Applications," Proceedings of the Third International Conference on Constitutive Laws for Engineering Materials: Theory and Applications, ASME Press, January 1991, 957 pages (Editors).
2. Saadatmanesh, H., and Ehsani, M.R., “Fiber Composites in Infrastructure,” Proceedings of the First International Conference on Composites in Infrastructure, ICCI '96, Tucson, Arizona, January 1996, 1, 231 pages (Editors).
3. Saadatmanesh, H., and Ehsani, M.R, “Fiber Composites in Infrastructure,” Proceedings of the Second International Conference on Composites in Infrastructure, ICCI'98, Vol. I, Tucson, Arizona, January 1998, 723 pages, (Editors).
4. Saadatmanesh, H. and Ehsani M.R., “ Fiber Composites in Infrastructure,” Proceedings of the Second International Conference on Composites in Infrastructure, ICCI'98, Vol. II, Tucson, Arizona, January 1998, 783 pages, (Editors).
5. Desai, C.S., Saadatmanesh, H., and Girdner, K., "Development and Mechanical Properties of Construction Materials from Lunar Simulants," chapter in Resources of Near-Earth Space published by NASA/SERC, 1993, pp. 297-324.
6. Saadatmanesh, H., “Seismic Retrofitting of Concrete Columns with Fiber Composite Wrap: An Analytical and Experimental Study,” chapter in Structural Dynamic Systems, Computational Techniques and Optimization, Gordon and Breach Science Publishers, 1999, pp.137-200. (Invited)

7. Saadatmanesh, H., "Computational Aspects of FRP Plated Concrete Beams," chapter in Structural Dynamic Systems, Computational Techniques and Optimization, Gordon and Breach Science Publishers, 1999, pp. 201-237. (Invited)
8. Saadatmanesh, H. and Ehsani M.R., " Fiber Composites in Infrastructure," Proceedings of the Third International Conference on Composites in Infrastructure, ICCI'02, San Francisco, California, June 7-12, 2002, 986 pages. (Editors)

REFEREED CONFERENCE PROCEEDINGS

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1. Saadatmanesh, H., Albrecht, P. and Ayyub, B.M., "Analytical and Experimental Study of Prestressed Composite Beams," presented at the Fifth Structures Congress, New Orleans, Louisiana, September 1986.
2. Saadatmanesh, H. and Albrecht, P., "Prestressed Composite Beams," presented at the American Concrete Institute Fall Convention, Baltimore, Maryland, November 1986.

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RESEARCH GRANTS

1. Principal Investigator: "National Science Foundation Young Investigator Award" funded by the National Science Foundation, \$500,000.

2. Principal Investigator: "Strengthening of Concrete Columns With Fiber Composites," funded by the National Science Foundation, \$189,769.
3. Principal Investigator: "Strengthening of Steel Girder Bridges with Carbon Composite laminates," funded by the National Science Foundation, \$230,377.
4. Principal Investigator: "Engineering Research Equipment: Materials Test System," funded by the National Science Foundation, \$266,000.
5. Principal Investigator: "Static and Impact Behavior of CRE Reinforced Concrete," funded by the Composite Technologies Corporation, \$24,251.
6. Principal Investigator: "Blast Resistance of Concrete and Masonry Structures Retrofitted with Composites," Funded by the National Science Foundation under the Small Grants Exploratory Research Program \$48,500.
7. Principal Investigator: "Use of Bonded Fiber Reinforced Polymer (FRP) Plates for Strengthening Beams," funded by the Federal Highway Administration, \$30,936.
8. Principal Investigator: "Durability of Concrete Reinforced with Fiber-Reinforced-Polymer (FRP) Grating," funded by the Federal Highway Administration, \$45,900.
9. Principal Investigator: "Peace Fellowship Program," funded by the Embassy of Arab Republic of Egypt, \$6,340.
10. Principal Investigator: "International Conference on Applications of Advanced Composite Materials in Infrastructure and Public Works," funded by the National Science Foundation, \$48,524.
11. Principal Investigator: "Durability of Concrete Reinforced with FRP Reinforcing," funded by the Federal Highway Administration, \$37,000.
12. Principal Investigator: "Research Experience for Undergraduates," funded by the National Science Foundation, \$10,000.
13. Principal Investigator: "Manufacture of Construction Materials Like Concrete From Lunar Soils Without Water," funded by the NASA Center for the Utilization of Local Planetary Resources and the University of Arizona, \$9,800.
14. Principal Investigator: "Second International Conference on Composites in Infrastructure," funded by the National Science Foundation, \$44,111.
15. Principal Investigator: "Research Experience for Undergraduates", funded by the National Science Foundation, \$10,000.
16. Principal Investigator: "Durability Study of Fiber Composite/Concrete Interface", funded by the National Science Foundation, \$190,250.
17. Co-Principal Investigator: "Ductility of High-Strength Concrete: A Theoretical and Experimental Investigation," funded by the National Science Foundation, \$230,000.

18. Co-Principal Investigator, "Seismic Strengthening of Unreinforced Masonry Structures With Fiber Composite Fabrics," funded by the National Science Foundation, \$35,000.
19. Co-Principal Investigator: "Development and Mechanical Properties of Construction Materials From Lunar Simulants," funded by the NASA Center for the Utilization of Local Planetary Resources, 1990, \$53,691.
20. Co-Principal Investigator: "Liquefaction of Extraterrestrial Soils such as Lunar Simulants," funded by the NASA Center for the Utilization of Local Planetary Resources, \$29,959.
21. Co-Principal Investigator: "Liquefaction of Extraterrestrial Soils such as Lunar Simulants," funded by the NASA Center for the Utilization of Local Planetary Resources, \$15,000.
22. Co-Principal Investigator: "Retrofitting of URM Walls for Out-of-Plane Bending," funded by the National Science Foundation, \$75,133.
23. Co-Principal Investigator: "Research Experience for Undergraduates," funded by the National Science Foundation, \$10,000.
24. Co-Investigator: "Static Strength of Prestressed Composite Beams," funded by the National Science Foundation, \$145,688.
25. Co-Investigator: "Fatigue Behavior of Prestressed Composite Beams with Coated Strands," funded by the Florida Wire and Cable Company, \$9,244.

PENDING RESEARCH GRANTS

1. "Testing and Evaluation of 10 Foot Diameter PCCP Retrofitted with Carbon Fiber Laminate Under Compressive Loading," submitted to the California Department of Water Resources, Division of Engineering, Sacramento, California, \$442,700. (INVITED)
2. "Design of FRP Systems for Strengthening Concrete Girders in Shear," submitted to the National Cooperative Highway Research Program (NCHRP), Transportation Research Board, Washington, D.C., \$398,375.
3. "Effects of Mechanical Stress on Solid Tumors," submitted to the National Institute of Health, Bethesda, Maryland, \$729,350.

GRADUATE STUDENTS

M.S. Students

Thomas L. Allen – Thesis Title: “Effects of Low Vacuum on Density and Stress-Strain-Strength Behavior of Lunar Soil Simulant.”

Peter A. Erath – Thesis Title: “Analytical Study of Sleeved Columns.”

Wenexia Tong – Thesis Title: “Finite Element Analysis of Continuous Prestressed Composite Girders.”

Mark Larsen – Thesis Title: “Nondestructive Evaluation of Wood Using Nuclear Magnetic Resonance (NMR).”

Wei An – Thesis Title: “Strengthening of Concrete Beams with Composite Plastic Plates.”

Mu-Wen Li – Thesis Title: “Parametric Study of Concrete Columns Strengthened with Composite Straps.”

Juan Carlos Yanez – Thesis Title: “Nondestructive Evaluation of Early-Age Strength of Concrete Using Nuclear Magnetic Resonance (NMR).”

Kyriacos Panayiotou – Thesis Title: “Seismic Strengthening of Unreinforced Masonry Structures with Epoxy Bonded Composite Fabrics.”

Thomas Norris – Thesis Title: “Bond Behavior of Fiber Reinforced Composite Plates to Concrete Beams.”

Mohammad Reza Tavakolizadeh – Thesis Title: “Behavior of Concrete Reinforced with CRE Elements.”

Paul Nzomo – Thesis Title: “Durability of Glass Fiber Reinforced Plastic (GFRP) Rebars in Simulated Field Conditions.”

Hong Mei – Thesis Title: “Behavior of High Strength Concrete Confined with Steel Sleeve.”

Richard Kaiser – Thesis Title: “Behavior of Concrete Beams Strengthened with CFRP Laminates.”

Alison Caewood – Thesis Title: “Performance of Fiber Composites During Fire.”

Ted Bule – Thesis Title: “Rehabilitation of Wood Bridge Girders with Epoxy Bonded Carbon Fiber Fabrics.

Luis F. Duarte Rodriguez – Thesis Title: “Analytical Study of Bridge Deck with No Steel Reinforcement Using the Arch Construction Concept.”

Rene Martinez-Flores – Thesis Title: “Experimental Study of Bridge Deck with No Steel Reinforcement Using the Arch Construction Concept.”

Allan Ortega – Thesis Title: “Fiber Reinforced Polymer Rods for Vertebrae Support.”

Mansouri Parisa – Thesis Title: “Sandwich Composite Panels Applications in Construction.”

Ph.D. Students

Fares Tannous – Dissertation Title: “Behavior of Fiber-Reinforced-Plastic (FRP) Rebars and Tendons Under Aggressive Environmental Conditions.”

Limin Jin – Dissertation Title: “Seismic Strengthening of Concrete Columns with Fiber Composites.”

Amir M. Malek – Dissertation Title: “Analytical Study of the Interface Behavior of Concrete Beams Strengthened with Epoxy-bonded Fiber Composite Plates.”

Mohammad Reza Tavakolizadeh – Dissertation Title: “Strength and Fatigue Behavior of Steel-Concrete Composite Girders Strengthened with Carbon Fiber Composite Laminates.”

Taiping Tang – Dissertation Title: “Analytical and Experimental Study of Blast Resistance of Concrete and Masonry Structures Strengthened with Fiber Composites.”

Jon Woods – Dissertation Title: “Long-term and Interface Behavior of Epoxy Bonded Fiber Composite Laminates and Sheets.”

STATEMENT OF QUALIFICATIONS AND INTERESTS

By

**Hamid Saadatmanesh
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My fundamental philosophy on research is to always search for pioneering and unconventional approaches rather than only trying for incremental gain. The risk of success in this type of research is high, but so is the reward. I also believe in interdisciplinary research. Significant advances can be made in any field by cleverly identifying and benefiting from the results in other fields, often achieved after years of research and expenditure. With the phenomenal advances made in various high technology areas in recent years, major opportunities exist to change the shape and future of civil engineering.

I have been able to effectively combine the above two principals in my research, particularly in the areas of advanced composite materials. I pioneered many applications of fiber composites for seismic strengthening of structures and have published extensively in this field. I initiated this field of research at the University of Arizona in 1987. Today, UA is internationally recognized as one of the centers of excellence in this field. Presently, I am working on a second generation of advanced composite materials for use in new construction. I am using these materials to develop a very economical structural system that is “virtually indestructible” in an earthquake. I believe that this technology will revolutionize the future of structural engineering. Furthermore, I have just completed successful testing of a new type of composite system under live blast loading in specially designed field facilities in New Mexico. This type of composite system incorporates an innovative energy dissipating system within its structure to effectively dissipate the blast energy and to protect the underlying structure. In addition, I have recently developed an ultra high-strength, flexible, composite structural membrane for soil reinforcement (Geo-FRP). To the best of my knowledge, no one has attempted this type of application of composites yet. This would be an ideal material to prevent levee failures such as those recently occurred in Louisiana. I have more than twenty years of experience in large-scale structural testing (static, dynamic and blast), as well as analytical modeling of various types of structures. I am planning to continue my work both on large-scale testing of structures, as well as on computational work related to modeling of structures in the future. I have also been involved in numerous field applications of composites for strengthening of bridges, buildings, tunnels and pipes, as a consultant

With regard to teaching, I believe that staying abreast of the latest developments in one’s field of expertise, and bringing that knowledge to classroom is very important. This includes adapting to the changing needs in the industry that our students are being trained for. For example, at the present, there is a significant demand in construction for expertise in the area of retrofitting and rehabilitation of structures. Considering this need,

I developed a graduate level course entitled, "Infrastructure Rehabilitation". In this course, I use the latest techniques and materials including advanced composites for seismic and non-seismic upgrading of structures. This course has been received very well by our graduate students, ever since I offered it. Furthermore, I have always helped my students to excel at a national level. I have had a number of students who won the Federal Highway Administration's Eisenhower Graduate Fellowship Awards, as well as several students who won the year's best paper awards by major technical journals.

As a responsibility to the profession, it is also important to assure that the state-of-the-art knowledge is available to the members of one's profession. In this regard, I have taken the leadership in organizing and chairing a series of international conferences and short courses on Advanced Composites in Infrastructure, since 1996. These conferences that have been very successful with over 110 major national and international organizations and corporations as co-sponsors, are the largest gathering of scientists and engineers in the country working in the area of advanced composites. Each conference was attended by delegates from more than twenty countries.

LIST OF REFERENCES

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