

Ajay Shanker Ph. D., P.E., Associate Professor
School of Building Construction, University of Florida
Gainesville, FL 32611, (352) 359-4233

EDUCATION

Ph.D. in Civil Engineering (with specialization in Structural Engineering), Texas Tech University, Lubbock, Texas, 1984 to 1990.

Dissertation *Critical Evaluation of Metal Building Systems Subjected to Extreme Winds*

Master of Science (Structural Engineering and Constructional Techniques), Regional Engineering College, Kurukshetra, India, 1976 to 1980. Thesis *Effect of Pre-stress in Brick Beams*.

Bachelor of Engineering (Civil), Indian Institute of Technology, Roorkee, Roorkee, India 1971 to 1975.

PROFESSIONAL REGISTRATIONS

Registered Professional Engineer, Florida, Reg. No. 63575 (current)

PROFESSIONAL EMPLOYMENT

Associate Professor, University of Florida, August 1996 to present

Assistant Professor, University of Florida, August 1990 to August 1996

Teaching/Research Assistant, Texas Tech University, August 1984 to August 1990

Assistant Engineer, Public Works Department, Haryana, India, April 1977 to August 1984

CONSULTATIONS OUTSIDE THE UNIVERSITY

Structural Consultant, One Bal Harbour Plaza, 27th Floor Formwork Collapse, Fort Lauderdale, Attorney Howard Mavity, 2007

Structural Consultant, San Marco Plaza, 20th Floor Formwork Collapse, Jacksonville, Robert E. O'Quinn, Jr, Cole, Scott & Kissane, P.A, 1805 Copeland Street, Jacksonville, 2004

Brown Obringer Law Firm, Jacksonville, Florida, Collapse of Fin-Pan Building, 1999-2000.

Structural Consultant, Brown Obringer Law Firm, Jacksonville, Florida, Collapse of Fin-Pan Building, 1999-2000.

Structural Consultant, Brown Obringer Law Firm, Jacksonville, Florida, Collapse of Fin-Pan Building, 1998-1999.

Structural Consultant, Resolution Financial Corporation, Ft. Lauderdale, Florida, Design and Development of Pre-engineered Metal Frame Residential Buildings, 1994.

Structural Consultant, Posey Systems Inc., Spring Field, Florida, Storm of the Century Damage assessment on headquarters and residence and evaluation of reconstruction options, February 1994 to May 1994.

CONTRACTS AND GRANTS COMPLETED AS PI OR CO-PI

No	Title	Role	Agency	Total Amount	Dates	
1	Design and Cost Estimates of One-to-Eight KM Tall Electromagnetic Assist Launch Towers for NASA	PI	NASA	14,000	5/03	8/03
2	Preliminary Design and Cost Estimate of One –to-Fifteen KM Tall Steel Launch Towers for NASA	PI	NASA	14,000	5/02	8/02
3	Construction Techniques for Masonry Wall in High Wind Areas	PI	Building Construction Industry Advisory Council	17,000	10/30/00	10/30/01
4	Developing On-Line WebCT Course for BCN 3431 Structural Steel Design	PI	Rinker Foundation	18,000	10/99	10/00
5	Developing Windstorm Testing Center Protocol	Co-PI	Idaho National Engineering Laboratory	\$40,000	7/16/97	6/30/98
6	Design and Development of Residential Construction Mitigation Program	Co-PI	Florida Department of Community Affairs	\$157,019	1/15/97	8/31/97
7	Development of a Guidance Manual for Selecting Buildings for Hurricane Evacuation Shelters	PI	Florida Division of Emergency Management	\$39,976	9/13/96	5/31/97
8	Design of a Portable Modular Cold Formed Steel Residential Building	Co-PI	Resolution Financial Corporation	\$25,000	6/30/95	12/31/95
9	Evaluation of Radon-Resistant Construction Features for Active Soil Depressurization of Large Buildings.	Co-P.I.	Florida Department of Community Affairs	\$269,000	3/20/95	12/15/95
10	Evaluation of Buildings Design, Construction & Performance for the Control of Radon In Florida	Co-P.I.	Florida Department of Community Affairs	\$320,589	01/04/94	12/31/94
11	A Research Study of Foundation Designs of Commercial Buildings for Radon Resistant Construction.	P.I.	Florida Department of Community Affairs	\$103,000	12/06/93	12/31/94
12	Research and Development of Emergency Shelter Design Criteria for Public Schools.	Co-P.I.	Florida Department of Education	\$50,000	06/28/93	06/01/94
13	Development of Interactive Multimedia Learning Systems for the Building Construction Curriculum	P.I.	UF DSR (ORTGE)	\$2,981	06/01/93	05/30/94
14	New House Evaluation and Radon-Resistant Construction.	Co-P.I.	Florida Department of Community Affairs	\$209,786	02/11/93	11/15/93
15	An Investigation of the Impact Resistance's of Various Types of Buildings for Wind Borne Missiles.	P.I.	UF DSR (ORTGE)	\$4,799	10/06/92	10/05/93
16	New House Evaluation of Potential Building Design and Construction for the Control of Radon	Co-P.I.	Florida Department of Community Affairs	\$200,000	03/10/92	04/30/93
17	Guidelines for the Radon-Resistant Construction for the Residential Buildings	P.I.	Florida DCA	\$17,970	06/09/93	09/30/93

GRADUATE COMMITTEE ACTIVITIES

I have served as chair or member for thirty-two graduate committees from January 1994 to December 1999. The following table provides list of former and current students.

Member of Masters Thesis/Report Committees

No.	Thesis		Non -Thesis	
	Chair/Co-Chair	Member	Chair/Co-Chair	Member
1	Ian Nidel current	Lucy Acquaye current	Charles Powers current	Chris Singeltary current
2	Ratabongkot Sunantiwat 8/97	Georgina Lores 5/97	Jayendra Jadeja current	Charles Pardue current
3	Mallika Wamanacharya 5/96	Michael Johns (Nucl. Engineering) 12/96	Li Li 12/99	Justin Reid 12/99
4	Sateesh Reddy 12/94	Roberta Marsteller 8/96	Frederick King 8/99	Domenico Scorpio 8/98
5		Andrew Mcallister 12/94	Jeremy Cox 12/98	Vincent Stone 12/97
6			Supavee Janlekha 12/98	Gabe Genau 12/95
			Zhigang Leng 5/98	Timothy Keen 8/95
7			Somsavan Janlekha 5/97	Brian Fallon 5/94
8			Kalika Wamanacharya 5/96	
9			Swapna Shinde 5/96	
10			Mark Engel 8/95	
11			Robert Hatker 8/95	
12			Kuang Hsu 5/94	
13			Richard Blackwell 5/94	

Member of Ph.D. Dissertation Committees

Seungsoo Lee, Development of a Dynamic Prediction Model for indoor Radon Concentrations in Florida Houses (Nuclear Engineering), November 1999.

PUBLICATIONS

Monographs : 'Evaluation of Building Design, Construction, and Performance for the Control of Radon in Florida Houses - Evaluation of Radon Resistant Construction Techniques,' by D.E. Hintenlang, A. Shanker, F. T. Najafi and E. C. Roessler, United States Environmental Protection Agency Research and Development Document, Research Triangle Park, North Carolina, EPA - 600/R - 95 - 114, July 1995, 154 pages.

'Guidelines for Construction of Radon Resistant Houses in Florida,' 20,000 copies of this document were distributed by Florida Department of Community Affairs to all building departments and building officials, Tallahassee, 1993, 2 pages.

Refereed Publications

The following publications have been published/accepted by the NASA/United States Environmental Protection Agency as important technical documents for publication after thorough peer reviews and technical reviews

Shanker A, Preliminary Design. Evaluation and Cost Estimates of 1-15 KM Tall Steel Launch Towers for NASA, *Proc. Of NASA Summer Faculty Fellowship Research Projects (CD)*, Marshall Space Flight Center, NASA, Huntsville, Alabama, Jan. 2003

Shanker A, Design and Cost Estimates of 1-8 KM Tall Steel Launch Towers for Electromagnetic Launch Assist Systems for NASA., *Proc. of NASA Summer Faculty Fellowship Research Projects (CD)*

underpreparation), Marshall Space Flight Center, NASA, Huntsville, Alabama

Shanker, A., Hintenlang, D. E., 'A Research Study of Foundations Designs of Commercial Buildings for Radon Resistant Construction, 135 pages.

Hintenlang D. E., Shanker, A., et. al., 'Evaluation of Building Design, Construction and Performance for the Control of Radon in Florida Houses (1) Long Term Monitoring, (2) Crack Study, (3) Soil Analysis(1993), and (4) Radon Entry Study,' 131 pages.

Shanker, A., 'Developing Radon-Resistant Techniques for Residential Buildings,' Journal of Industrial Technology, National Association of Industrial Technology, Ann Arbor, MI.

Refereed Proceedings:

Shanker, A., 'Improving Durability of Buildings and Building Components in Hurricane or Cyclone Prone Regions using Improved Design Techniques and Impact Resistant Materials,' Proceedings 7th International Conference on the Durability of Building Materials and Components, Stockholm, Sweden, May 19-23, 1996,

Shanker, A., 'Improving Radon Resistance of Residential Buildings by Using Concrete Admixtures, Sealants and Improved Construction Techniques,' Proceedings International Symposium Indoor Air Quality in Practice, Oslo, Norway, June 19-22, 1995, pp. 529-539.

Shanker, A., and Reddy S.* 'Construction of Radon Resistant Houses,' Proceedings CIB W89 International Symposium Construction/Building Education and Research Beyond 2000, Orlando, Florida, April 5-7, 1995, pp. 833-837.

Shanker, A., 'Constructing Sustainable Houses in Hurricane Prone Florida,' Supplemental Proceedings First International Conference of CIB TG 16 on Sustainable Construction, Tampa, Florida, November 6-9, 1994, pp. 49 - 53.

Shanker, A., Wamanacharya M. *, and Wamanacharya K. *, 'Cost Implications for Public Schools as Emergency Shelters,' Proceedings Fifth Annual Rinker International Conference on Construction Safety and Loss Control, Gainesville, Florida, October 12-14, 1994, pp. 515-519.

Hintenlang, D. E., Shanker, A., and Al-Ahmady K. K. *, 'Evaluation of Radon Resistant Residential Construction,' Health Physics The Radiation Protection Journal, Vol. 66, Supplement 1, June 1994, Health Physics Society Annual Meeting, San Francisco, California, June 26-30, 1994.

Shanker, A., Drummond, R. W., Issa, R. R. A., and Wamanacharya, K.*, 'Hurricane Shelter Design Criteria for Public Schools,' Proceedings Fifth National Conference on Hurricanes of 1992, American Society of Civil Engineers, Miami, Florida, Dec. 1-3, 1993, pp. 233-247.

Issa, R. R. A., Shanker, A., Issa, C., and Gencorelli, P.*, 'Effectiveness of Hurricane Shutters in Damage Prevention,' Proceedings Fifth National Conference on Hurricanes of 1992, American Society of Civil Engineers, Miami, Florida, December 1-3, 1993, pp. 486-495.

Non-Refereed Publications:

Research Reports

Issa, R., Stroh, R., Shanker, A., Developing Windstorm Testing Center Protocol' Final Report, Idaho National Environmental and Engineering Laboratory, May 1998, 159 pages

Shanker, A. Development of a Guidance Manual for Selecting Buildings for Hurricane Evacuation Shelters, Final' Final Report, Florida Division of Emergency Management, August 1997, 189 pages

Nye, D., Shanker, A., Design and Development of Residential Construction Mitigation Program' Final Report, Florida Department of Community Affairs, December 1997, 235 pages

Shanker, A., Hintenlang, D. E., 'A Research Study of Foundations Designs of Commercial Buildings for Radon Resistant Construction,' Final Report, Florida Department of Community Affairs, December 1994, 135 pages

Hintenlang D. E., Shanker, A., et. al., 'Evaluation of Building Design, Construction and Performance for the Control of Radon in Florida Houses Long Term Monitoring, Crack Study, Soil Analysis, and Radon Entry Study for the Control of Radon in Florida Houses,' Final Report, Florida Department of Community Affairs, February 1994, 131 pages.

Shanker, A., Drummond, R. W., Wamanacharya M. *, and Wamanacharya K. *, 'Emergency Shelter Design Criteria for Educational Facilities,' Final Report, Florida Department of Education, November 1993, 173 pages.

Shanker, A., Drummond, R. W., Wamanacharya M. *, and Wamanacharya K. *, 'Conceptual Cost Estimates for Emergency Shelters,' Final Report, Florida Department of Education, November 1993, 62 pages.

Hintenlang, D. E., Shanker, A., et. al., 'Evaluation of Building Design, Construction and Performance for the Control of Radon in Florida Houses - Evaluation of Radon Resistant Construction Techniques In Eight New Houses,' Final Report, Florida Department of Community Affairs, August 1993, 165 pages.

Shanker, A., 'Guidelines for Radon Resistant Residential Construction in the State of Florida,' Final Report, Florida Department of Community Affairs, August 1993, 24 pages.

Shanker, A., Najafi, F. T., et. al., 'New House Evaluation of Potential Building Design and Construction for the Control of Radon in Marion and Alachua Counties,' Final Report, Florida Department of Community Affairs, June 1993, 261 pages

LECTURES, SPEECHES OR POSTERS PRESENTED AT PROFESSIONAL
CONFERENCES/MEETINGS

Lectures, speeches or posters presented at international, national, state, and local professional conferences/meetings

International:

Shanker, A., 'Improving Durability of Buildings and Building Components in Hurricane or Cyclone Prone Regions using Improved Design Techniques and Impact Resistant Materials,' 7th International Conference on the Durability of Building Materials and Components, Stockholm, Sweden, May 19-23, 1996.

Shanker, A., 'Improving Radon Resistance of Residential Buildings by Using Concrete Admixtures, Sealants and Improved Construction Techniques,' International Symposium Indoor Air Quality in Practice, Oslo, Norway, June 19-22, 1995.

Shanker A., 'Design And Construction of Large Metal Buildings for Industrial and Agricultural Uses,' Presentation to a business delegation from Uecker Region of Northeastern Germany, organized by North Central Florida Regional Planning Council and the University of Florida, (invited speech), June 12, 1995.

Shanker, A., and Reddy S., 'Construction of Radon Resistant Houses,' CIB W89 International Symposium Construction/Building Education And Research Beyond 2000, Orlando, Florida, April 5-7, 1995.

Shanker, A., and Wamanacharya M. *, 'An Overview of Research Needs, New Products and Changes in Construction Standards for Hurricane Resistant Construction,' CIB W82 meeting 'Future Studies in Construction,' Tampa, Florida, November 10, 1994.

Shanker, A., 'Constructing Sustainable Houses in Hurricane Prone Florida,' First International Conference of CIB TG 16 on Sustainable Construction, Tampa, Florida, November 6-9, 1994.

Shanker, A., Wamanacharya M. *, and Wamanacharya K. *, 'Cost Implications for Public Schools as Emergency Shelters,' Fifth Annual Rinker International Conference on Construction Safety and Loss Control, October 12-14, 1994, Gainesville, Florida.

National:

Shanker, A., 'Foundation Designs of Large Buildings for Radon Resistant Construction,' Quarterly meeting of the Florida Radon Research Program Florida Department of Community Affairs, Tampa, (invited presentation) November 7-8, 1994.

Shanker, A., 'Foundation Designs and Radon Resistant Construction of Large Buildings,' Quarterly meeting of the Florida Radon Research Program Florida Department of Community Affairs, Tampa, (invited presentation) August 4-5, 1994.

Shanker, A., Drummond, R. W., Issa, R. R. A., and Wamanacharya, K.*, 'Hurricane Shelter Design Criteria for Public Schools,' Fifth National Conference on Hurricanes of 1992, American Society of Civil Engineers, Miami, Florida, December 1-3, 1993.

Issa, R. R. A., Shanker, A., Issa, C., and Gencorelli, P.*, 'Effectiveness of Hurricane Shutters in Damage Prevention,' Fifth National Conference on Hurricanes of 1992, American Society of Civil Engineers, Miami, Florida, December 1-3, 1993.

Shanker A., 'Hurricane Andrew and Residential Construction,' Annual National Convention of Roof Consultants Institute (keynote speaker), Orlando, March 1993

State:

Shanker, A., 'Standard for Radon Resistant Construction for Large Buildings,' Florida Department of Community Affairs Public Workshop for Rule Making, Tampa, Florida, July 21, 1994.

Shanker, A., 'Development of Construction Standards for Enhanced Hurricane Protection Areas in Public Schools,' Florida Department of Education Task Force (invited speaker), Tallahassee, February 14, 1995.

Shanker, A., and Issa, R. R. A., 'South Florida in the Aftermath of Hurricane Andrew,' Ormond Beach Roofing and Sheet Metal Association, Ormond Beach, Florida, January, 1993.

Shanker, A., Issa, R. R. A., and Whiteman, D.*, 'South Florida in the Aftermath of Hurricane Andrew,' City of Jacksonville, Committee on Hurricane Code Changes (invited speaker), Jacksonville, Florida, February, 1993.

Shanker A., 'Effectiveness of Storm Shutters in Hurricane Damage Prevention,' Testimony to Department of Insurance Rule Development Workshop (invited speaker), Tallahassee, Florida, August 10, 1994.

Local:

Shanker A., 'OSHA Requirements for Excavation and Trenching,' OSHA 8 hour Safety Course, organized by Associated Builders and Contractors, Gainesville, February 7, 1995.

Shanker A., 'Radon Control in New Homes,' College of Architecture Faculty Retreat, UF TREEO Center, Gainesville, Florida, February 1993.

Shanker A., and Issa, R. R. A., 'South Florida in the Aftermath of Hurricane Andrew,' North Central Florida Roofing and Sheet Metal Association, Gainesville, Florida, (invited speaker) January 1993.

Shanker A., Issa, R. R. A., and Whiteman, D.*, 'South Florida in the Aftermath of Hurricane Andrew,' Tampa A.B.C. Chapter, Tampa, Florida, October 1992.

Shanker A., Issa, R.R.A., and Whiteman, D.*, 'South Florida in the Aftermath of Hurricane Andrew,' College of Architecture Special Assembly, Gainesville, Florida, September, 1992.

Shanker, A., and Reddy S., 'Construction of Radon Resistant Houses,' CIB W89 International Symposium Construction/Building Education And Research Beyond 2000, Orlando, Florida, April 5-7, 1995.

Invited Panelist, Organizer or Moderator

Shanker, A., 'Development of Construction Standards for Enhanced Hurricane Protection Areas in Public Schools,' Florida Department of Education Workshop, (invited panelist), Orlando, November 28, 1994.

Shanker, A., 'Development of Construction Standards for Enhanced Hurricane Protection Areas in Public Schools,' Florida Department of Education Advisory Panel, (session moderator), Boca Raton, July 5, 1994.