

CURRICULUM VITAE

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1. EDUCATION AND EXPERIENCE

1.1. EDUCATION

- Ph. D. (1983-1988) in Civil Engineering, Department of Civil and Environmental Engineering, University of Cincinnati, Cincinnati, Ohio.
- M.Sc. Eng. (1981-1983), with concentration in structural analysis and design, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh.
- B.Sc. Eng. (1973-1977), Bangladesh University of Engineering and Technology, Dhaka, Bangladesh.

1.2. FULL-TIME ACADEMIC AND ADMINISTRATIVE EXPERIENCE

- Founding Director (2017 -), Moss School of Construction, Infrastructure and Sustainability, College of Engineering and Computing, Florida International University, Miami.
- Founding Director (2012 - 2017), OHL School of Construction, College of Engineering and Computing, Florida International University, Miami.
- Chairperson (2004 -2012) and Professor (2005 -), Department of Construction Management, College of Engineering and Computing, Florida International University, Miami. With joint appointment in the Department of Civil and Environmental Engineering.
- Associate Professor (1998 - 2003) and Director of Graduate Program (2000-2003), Department of Civil and Environmental Engineering, Florida International University (FIU), Miami, Florida.
- Associate Professor - tenured (1995 - 1997), Assistant Professor - tenure track, (1990 - 1995), Department of Construction Management, Florida International University (FIU), Miami, Florida.
- Assistant Professor - tenure track, (1988 - 1990), Department of Construction Management and Engineering, North Dakota State University (NDSU), Fargo, North Dakota.

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- Assistant Professor (1981-1983), Lecturer (1978-1981), Department of Civil Engineering, Bangladesh University of Engineering and Technology, Dhaka.

1.3. PART-TIME ACADEMIC EXPERIENCE

- Affiliated Faculty (2004 -), Department of Civil and Environmental Engineering, Florida International University (FIU), Miami, Florida.
- Affiliated Faculty (2002 -), Masters of Science in Engineering Management, Florida International University (FIU), Miami, Florida.
- Instructor (Adjunct) (1984-1988), Department of Construction Science, University of Cincinnati (UC), Cincinnati, Ohio.
- Graduate Teaching Assistant (1984-1988), Department of Civil and Environmental Engineering, University of Cincinnati, Ohio.

1.4. PROFESSIONAL REGISTRATION/EXPERIENCE

- Registered Professional Engineer in the states of Florida (45060 - active) and North Dakota (3293 - inactive).
- Consultant with experience and knowledge of building codes, safety provisions, construction contracts, environmental regulations, and quality control in construction projects.

1.5. HONORS, AWARDS AND RECOGNITIONS

- Recipient of 2016 W.A. Klinger Educator Award, American Institute of Constructors.
- Elected Fellow (2009), American Society of Civil Engineers.
- Executive Member, Global Leadership Forum (2011-), Construction Engineering and Management Programs.
- Editor-in-Chief (2002 - 2008), *Journal of Management in Engineering*, American Society of Civil Engineers.
- Executive Member, Editorial Board (2008 -), *Journal of Management in Engineering*, American Society of Civil Engineers.

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- Member, Editorial Board (2007 - 2013), *Leadership and Management in Engineering*, American Society of Civil Engineers.
 - Presiding Chair, Florida Infrastructure Sustainability Forum, College of Engineering and Computing, Florida International University, Held February 18, 2010, Miami, Florida.
 - Member (2005 -), Advisory Board, International Hurricane Center, Florida International University, Miami.
 - Recipient of the university-wide *Excellence in Research Award* in 2001 at Florida International University.
 - Recipient of the university-wide *Excellence in Teaching Award* in 1999 at Florida International University.
 - Member (2000 - 2007), Asian-American Advisory Board, Miami-Dade County, Florida. (Appointed by the local County Commissioner.)
 - Instructional Enhancement and Development Program Mini Grant by Florida International University Academy of the Art of Teaching, Summer 1991.
 - Research Fellowship by the University of Cincinnati to conduct a research project entitled "Development of an Expert System for Making Bid Decisions." Summer 1988.
 - Research Fellowship by the University Research Council of the University of Cincinnati to conduct a research entitled "Development of an Additive Utility Model for Selecting Optimum Bid Price." Summer 1986.
 - Research Fellowship by the University Research Council of the University of Cincinnati to conduct a research entitled "Development of Engineered Time Standards for Common Construction Operations Using MOST Work Measurement Technique." Summer 1985.
 - University Graduate Scholarship at the University of Cincinnati during graduate studies. Sept. 1983 - May 1988.

1.6. INTERNATIONAL RECOGNITION

- Invited lecture at Universidad Peruana de Ciencias Aplicadas, IX Encuentro de Ingenieria Civil – UPC, "Innovacion en la Construcccion," Lima, Peru, November 15, 2013.

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- Invited keynote speaker on Globalization in Construction, at the Third International Conference on Construction in the Developing Countries, held in Bangkok, Thailand, July 4, 2012.
 - Invited keynote speaker on Globalization in Construction, at the Second International Conference on Construction in the Developing Countries, held in Cairo, Egypt, August 3-5, 2010.
 - Chair of the Advisory Council, Fifth International Conference on Construction in the Twenty First Century, held in Istanbul, Turkey, May 19-22, 2009.
 - Invited keynote speaker on Construction Education and Research in USA, at the International Conference on Construction in the Developing Countries, held in Karachi, Pakistan, August 3-5, 2008.
 - Invited panel speaker on Information and Communication Technology (ICT) in Construction at the *Journal of Construction Management and Economics* Twenty-fifth anniversary conference held in Reading, UK, July 15-17, 2007.
 - Invited keynote speaker on Construction Organizations in the Twenty-first Century at the Fourth International Conference on Construction in the Twenty-first Century (CITC IV) held in Gold Coast, Australia, July 12-13, 2007.
 - Invited to serve as the External Examiner for a dissertation of a doctoral research by the College of Engineering, University of Waterloo, Canada, February 2007.
 - Invited to deliver a keynote speech on the design of slender columns as an expert in reinforced concrete design - ASCE Miami Chapter, May 2003.
 - Invited to review tenure application of a new faculty member in College of Engineering at the University of Wisconsin, Milwaukee, June 2004.
 - Invited to review tenure and promotion application of a faculty member in the King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, August 2002.
 - Invited keynote speaker in the Annual Conference of the Korean Institute of Construction Engineering and Management, Seoul, November 2001.
 - Invited to conduct a three-day workshop in Hong Kong for the local construction industry professionals on Project Management Information Systems, Organized by Hong Kong Polytechnic Institute, January 2003 and August 2001.

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- Invited to conduct a two-day workshop in Dhaka, Bangladesh for the local construction industry professionals and civil engineers on Cost Engineering, Organized by Bangladesh University of Engineering and Technology, March 2001.

2. ADMINISTRATIVE EXPERIENCE AND ACCOMPLISHMENTS

2.1. MAJOR ACCOMPLISHMENTS AND INITIATIVES AS CHAIR/DIRECTOR OF THE SCHOOL (SINCE JANUARY 2004)

Director (2017 -), Moss School of Construction, Infrastructure and Sustainability, Director (2012-2017), OHL School of Construction, Chair (2004 - 2012), Department of Construction Management, College of Engineering and Computing, Florida International University, Miami. FIU.

- The Department became a named school with a multi-million dollar endowment support in March 2012 as a result of the rigorous campaign launched by the Department and the College of Engineering Office of Development. The school will be renamed in April 2017 as a result of another endowment.
- Established Moss and Associates Built Environment Informatics Laboratory (BEIL), an immersive CAVE facility with support from Moss and Associates in 2014.
- Established Construction Process Laboratory for hands-on learning of construction materials and methods in 2013.
- Significant increase in enrollment at both undergraduate and graduate levels. During the last six years, undergraduate enrollment experienced significant increase (from 240 to 400 now) and graduate enrollment has doubled (from 100 to close to 200 currently). The graduate masters' program has the largest number of students among all the construction management programs in the country.
- Led the application for re-accreditation effort in 2007. The undergraduate program has gone through the re-accreditation process successfully. (The program is accredited by the American Council for Construction Education - ACCE). The site visit was concluded in September 2007. The visiting team cited the department leadership as one of its strengths.
- Recruited eight faculty members at the tenure-earning assistant professor rank (with degrees and training from Wisconsin-Madison, Purdue, University of Florida, Maryland, Illinois at Urbana-Champaign and Texas-Austin). Currently

the total number of full-time faculty is eleven.

- Launched the online Masters' degree program. With the help of the faculty and the direction from the college administration a complete program including, logistics, systems requirements, human resources, compensation plan and administration for the online delivery of the Masters of Science in Construction Management degree program was developed and implemented. Several students have already earned their degrees through this online delivery system. It proved to be extremely beneficial to the students seeking the degree from distant locations as well as to the busy professionals enrolled in the program. Revenue of close to \$450,000 is generated from this program on an annual basis.
- Developed the Masters of Science degree program in Construction Engineering with collaboration of the Department of Civil and Environmental Engineering. A very forward-looking, modern and interdisciplinary curriculum was developed and proposed. MS in Construction Engineering, when implemented will be the first independent degree program in the state of Florida. It has already been approved by the University Faculty Senate and is awaiting approval by the FIU Board of Trustees.
- Increased department's external research funding seven-fold within five years. Increased significantly the number of Graduate Assistants supported by external and college fund.
- Developed collaborative arrangements with the Department of Civil and Environmental Engineering for recruiting doctoral students by the Department of Construction Management to enable the construction management faculty for advising doctoral students. Five students are currently working on their doctoral degrees under this arrangement.
- Sponsored and led the effort for organization of an international series of conferences (Construction in the Twenty-First Century - CITC).
- Launched the department newsletter *Constructioneer* in fall 2006.
- Spearheaded the formation of the Department's first alumni chapter. The first event took place in February 2007 with a gala dinner. More than 100 former graduates of the department attended the event.
- A special job fair program (Career Expo) was initiated beginning in 2005. Almost all major construction companies eagerly participate in these fairs. These events bring much-needed revenue to the department, but most importantly, provide an excellent

way to develop and foster strong ties with the industry. The job fair program was cited by the re-accreditation visiting team as one of the strengths of the program.

- Initiatives were taken to revitalize the department's relationship with the construction industry. The Industry Advisory Council of the department has been expanded; currently the Council is composed of twenty five members and has representations from almost all major construction companies active in south Florida as well as from several companies of national and international reputation. The

Board includes CEOs, Presidents, and Vice Presidents of many of these companies. It meets two to three times a year and provides strong support to the department in fundraising and capital campaign activities. Many of them made generous financial contribution for different projects and needs of the department. A subcommittee of the Council reviews the curricula and provides feedback to the department. The re-accreditation visiting team cited the department's relationship with the industry as one of its strengths.

- Encouraged students to take part in student chapters of professional organizations, to participate in national competitions, and to organize community service projects. As a result of these efforts, the FIU construction management student team won the 2006 National Grand Championship in a competition for construction management students sponsored by the Associated Builders and Contractors in Las Vegas. The FIU team was ranked within the top five schools in 2007 in Nashville. In 2005, FIU was one of only eighteen solar decathlon teams invited to showcase an 800 sq ft self-sustaining solar house on the National Mall in Washington DC. FIU's Solar House was ranked number one in regards to conservation of energy.
- FIU has been invited by the Government of the Peoples Republic of China as sole representative from the United States to build a sustainable, energy-efficient house at the site of the 2008 Beijing Olympics - one of only ten demo houses, representing eight different countries. FIU has partnered with two US sponsors to build the "Future House USA" in Beijing. The groundbreaking ceremony of this house (over 2000 sq ft) was held in March 2007.

2.2. FUNDRAISING

- In addition to securing a \$10 million endowment for naming the school, raised \$272,500, exceeding its goal of \$250,000, in summer 2009 through a successful Industry Support Campaign. This campaign was launched to mitigate adverse effects of budget cut measures proposed by the university. The campaign continued in the summer of 2010 and raised \$170,000. Subsequently, several endowment funds were received from OHL (\$1.2 million), Moss (\$250,000), MCM

(\$100,000).

- More than \$200,000 was raised from the local construction industry during 2005-2006. Total raised in last five years is close to \$1 million.
- Three endowed scholarships totaling \$150,000 were received for the construction management students during the last three years. Scholarship endowment – Balfour Beatty (formerly Centex Rooney) (\$26,500), CASF (\$25,000 towards a \$50,000 endowment), Kelly Foundation (\$50,000), American Society of Professional Estimators (\$25,000). Other one-time scholarships – Turner (\$10,000).
- Revenue received from five Career Expos (2005-2015)- \$300,000.
- Revenue from online Masters program, close to \$450,000 a year.

2.3. MENTORING

As the school director, I am responsible for providing resources, guidance and advice to the younger faculty members as their mentor. I take this responsibility very seriously as it is not only important for the department and its programs but for their careers and professional developments as well. I have helped faculty members in identifying sponsoring and funding agencies, in writing grant proposals and in making contacts with key persons in the funding agencies. One faculty member was promoted to the associate professor rank with tenure in 2006, he has accepted the position of chair with the rank of professor in another university in 2010. Another faculty member received tenure and promotion in 2010, he was hired under my chairmanship in 2004. One of the doctoral students I supervised is now employed at Auburn University as a tenured associate professor.

2.4. DEPARTMENTAL RESEARCH LEADERSHIP

Construction engineering and management is traditionally not a strong field for attracting a significant amount of external research funding. Yet, with only half of the faculty members active in research the department maintains about \$500k-\$600k of external research on an annual basis, which is about seven times higher than the department average five years ago. The departmental faculty received funding from the National Science Foundation for the first time in the history of the department in 2009. In addition, faculty members are engaged in university-funded research with graduate assistants pursuing doctoral and masters degrees.

2.5. WORKING WITH OTHER DEPARTMENTS/UNITS

Initiated collaborative research projects and course sharing between the Construction Management and other departments/units of the College and the University:

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- Real Estate – course sharing;
 - Architecture – course sharing, solar house project;
 - Civil Engineering – joint research projects, doctoral student supervision, joint program in construction engineering, “Wall of Wind” project;
 - Industrial Engineering – doctoral student supervision;
 - Mechanical Engineering – solar house project, “Future House” project in Beijing;
 - Applied Research Center – joint research projects, adjunct faculty appointments;
 - E. Pino and Family Entrepreneurship Center – co-sponsor of events; and
-
- International Hurricane Center – serving as a member of the Internal Advisory Council.

Graduate Program Director, Department of Civil and Environmental Engineering, Florida International University, Miami (1999-2003).

- During this period of four years the number of doctoral students in the Civil and Environmental Engineering Department increased from 4 to 31.
- Developed admission and graduation requirements for the masters and the doctoral students as the Chair of the Graduate Program Advisory Committee.

**2.6. ADMINISTRATIVE AND LEADERSHIP EXPERIENCE
(Exposure at the College Level)**

During the last 12 years I have worked closely with three deans in the college and the Dean’s office as a key member of the college leadership team. During the last four to five years, the College of Engineering and Computing at FIU earned a number of outstanding achievements. Some noteworthy accomplishments of the College are:

- Enrollment - Total enrollment now stands at over 6,000 students, awarded 757 BS, 345 MS, and 45 PhD degrees in 2014-15. FIU Construction Management Masters program is the largest in terms of enrollment in the US.
- Diversity – FIU produces the largest number of Hispanic engineers with bachelors, masters, and doctoral degrees – in each category among the fifty states. FIU engineering is one of the leading producers of African-American engineers in the country. Female students at all levels constitute higher percentages than the national average.
- International programs - The School of Construction Management is involved in designing and building an energy-efficient, sustainable demo house – “Future House USA,” at the site of Beijing Olympics 2008, as part of the ten demo houses being built by

eight different countries to showcase their architectural and construction technologies.

- External programs – The College’s Division of External Programs (DEP), created in 2002 (renamed as the Division of External Programs in 2010), to negotiate, manage and offer degree and non-degree programs at off-campus sites as well as in the foreign countries with current focus on Latin America, the Caribbean and China. Masters in Engineering Management degree programs are offered in Mexico with Tec de Monterrey, and in Jamaica, with University of Technology. A construction management masters degree program will begin in Summer 2012 in the Dominican Republic. Another program in Panama will begin in 2013.
- Research – FIU is ranked by the Carnegie Foundation as a Research University in the high research activity category. The college grew exponentially in externally funded research programs; research expenditure for engineering programs was at \$15.76 million in 2013-14.
- Industry and community relations - FIU College of Engineering and Computing has established close ties with the local industry and the community. The Construction Management Department Industry Advisory Council has representation of all major construction associations, such as AGC (Associated General Contractors), ABC (Associated Builders and Contractors), and Construction Association of South Florida in addition to all major national and regional construction companies.

3. ACADEMICS AND RESEARCH

3.1. PROGRAM/CURRICULUM/COURSE DEVELOPMENT

- Developed and launched the online masters’ degree program in construction management in 2004.
- Developed an 18-credit hour certificate program on Information Technology in Civil Engineering (ITCE) for industry professionals in 2002.

Graduate courses developed in Construction Management and Civil Engineering

- Advanced Project Planning for Civil Engineers
- Advanced Heavy Construction Techniques
- Civil Engineering Systems
- Construction Cost Analysis and Control
- Topics in International Construction
- Decision and Risk Analysis in Construction

3.2. COURSES TAUGHT

<u>Course</u>	<u>Level</u>	<u>Location (No. of Terms)</u>
Civil Engineering Systems (also developed)	Graduate	FIU (3)
Advanced Reinforced Concrete Design	Graduate	FIU (3)
Reinforced Concrete Design	Senior	FIU (7)
Heavy Construction	Senior	FIU (4)
Construction Engineering and Management	Graduate	FIU (2)
Computer Integrated Construction	Graduate	FIU (3)
Construction Information Systems	Graduate	FIU (5)
Decision and Risk Analysis (<i>also developed</i>)	Graduate	FIU (6)
Cost Analysis and Control (<i>also developed</i>)	Graduate	FIU (5)
Advanced Cost Estimating and Bidding Strategy	Graduate	FIU (4)
Construction Productivity	Graduate	FIU (3)
Developments in Construction Technologies	Graduate	FIU (3)
Topics in International Construction (<i>also developed</i>)	Graduate	FIU (4)
Construction Management Seminar	Graduate	FIU (3)
Management of Construction Organizations	Graduate	FIU (2)
Construction Finance	Senior	NDSU (1)
Cost Engineering	Senior	NDSU (2)
Concrete Formwork Design	Senior	NDSU (2)
Construction Methods and Equipment	Senior	UC (3)
Project Costing	Senior	UC (2)
Structural Analysis and Design	Junior	FIU (1)
Project Planning and Scheduling (CPM)	Junior	NDSU (2)
Computer Applications in Construction	Junior	NDSU (2)
Construction Estimating	Junior	NDSU (2)

Note: FIU-Florida International University; NDSU-North Dakota State University; UC-University of Cincinnati.

3.3. RESEARCH GRANTS/CONTRACTS

Obtained **twenty** research grants from state and private sources during the past fourteen years. These grants were awarded on a competitive basis. Sixteen of these projects have been completed within the scheduled time frame and two are in progress. The awards have totaled over **\$1.3 million**. Three doctoral students and several masters' students have been, or are being, supported from these grants.

The funding agencies have included:

- Florida Department of Transportation,
- Building Construction Industry Advisory Committee of the State of Florida Department of Education,
- North American Insulation Manufacturer's Association, and
- Florida Air-conditioning Contractor's Association.

Impact of Research

Research findings generated far-reaching results in their significance and are highly relevant to various segments of the construction industry as well as to regulatory agencies and the public at large. Research has been the focus of media attention and has been featured in the *Miami Herald* and the *Construction Today* television show. Research results have been used by the

- Florida Department of Transportation in its materials manual and the specifications,
- Florida Construction industry Licensing Board,
- Florida Department of Business and Professional Regulation,
- Florida Legislature,
- Associated General Contractors of America,
- North American Insulation Manufacturers Association,
- Construction Industry Licensing Board, and
- Florida Department of Business and Professional Regulation.

List of Funded Research Projects

1. "Collaborative Research: Foster Complex Systems Thinking in Construction Engineering Education Using a Case-Based Multidimensional Virtual Environment (CMVE), National Science Foundation, 1/1/2014 - 12/31/2014. PI: Irtishad Ahmad, Co-PI: Yimin Zhu, Amount: \$100,000.

2. "Develop Epoxy Grout Pourback Guidance and Test Methods to Eliminate Thermal/Shrinkage Cracking at Post-tensioning Anchorages"

Principal Investigator - Dr. Irtishad Ahmad

Co-Principal Investigator - Dr. Nakin Suksawang

Amount: **\$148,698**

Awarded by The Florida Department of Transportation (FDOT)

Time Period - 24 months (7/12 - 7/14)

3. "Development of a Realistic Prototyping Road User Cost Tool for FDOT,"

Principal Investigator - Dr. Yimin Zhu

Co-Principal Investigator - Dr. Irtishad Ahmad

Amount: **\$129,000**

Awarded by The Florida Department of Transportation (FDOT)

Time Period - 12 months (1/07 - 12/08)

4. "Development of a Strategic Model for Improvement of Construction Project Management Education, Research and Practice in Pakistan,"

Principal Investigator - Dr. Syed Ahmed

Co-Principal Investigator - Dr. Irtishad Ahmad

and Dr. Sarosh H. Lodi (Pakistan)

Amount: **\$405,000.00** (\$130,000 US Side and \$275,000 Pakistan Side)

Awarded by the United States Agency for International Development (USAID) and the Higher Education Commission (HEC), Government of Pakistan,

Time Period - three years (1/06-12/08)

5. "Coordination of Specialized Transportation Services for Transportation-Disadvantaged Populations: Issues and Solutions."

Principal Investigator - Dr. L. David Shen. (Lehman Center and CEE Department)

Dr. Albert Gan (Co-PI) (Lehman Center and CEE Department)

Dr. Fang Zhao(Co-PI) (Lehman Center and CEE Department)

Dr. Jill Strube (Co-PI) (FIU Metropolitan Center)

Dr. Min-Tang Li (Co-PI) (Lehman Center and CEE Department)

Dr. Tzai-Shian Jung (Co-PI) (Lehman Center and CEE Department)

Dr. Irtishad Ahmad (Co-PI) (Lehman Center and CM Department)

Total Amount: **\$388,350**

Jointly awarded to Florida International University and University of Miami by Federal Transit Administration, US Department of Transportation.

Time Period - 18 months (8/04 - 2/06)

6. "A Need Assessment and Catalog of Best Practices for Emergency Management at Remote K12 Schools in Florida"

Principal Investigator - Dr. Irtishad Ahmad

Co- Principal Investigator - Mr. Ricardo Alvarez

Amount: **\$100,000**

Awarded by The Florida Department of Education

Time Period - 12 months (1/05 - 1/06)

7. "Utilization of Maturity Meters for Concrete Quality Assurance."

Principal Investigator - Dr. Irtishad Ahmad

Amount: **\$104,742**

Awarded by the Florida Department of Transportation (FDOT)

Time period - 24 months (5/03 - 4/05)

8. "Lumps and Balls in High-slump Concrete: Reasons and Remedy."

Principal Investigator - Dr. Irtishad Ahmad

Amount **\$94,957.00.**

Awarded by the Florida Department of Transportation (FDOT)

Time period - 15 months (10/00 -1/02)

9. "Temperature variation in Drilled Shaft Concrete."

Principal Investigator - Dr. Irtishad Ahmad

Amount **\$161,250.00**

Awarded by the Florida Department of Transportation (FDOT)

Time period - 24 months (10/00 -10/02)

10. Generalized Method for Analysis of Pavement Management Database

Principal Investigator - Dr. Irtishad Ahmad

Amount **\$35,000.00**

Awarded by the Florida Department of Transportation (FDOT)

Time period - 24 months (11/99 - 6/01)

11. "An Investigation into Application and Bonding Strengths of Thermoplastic Pavement Markings on Concrete and Asphaltic Roadway Surfaces."

Principal Investigator - Dr. Irtishad Ahmad

Amount **\$50,000.00**

Awarded by the Florida Department of Transportation (FDOT)

Time period - 24 months (1/99 -12/00)

12. "Evaluation and Analysis of Current Compaction Methods for FDOT Pipe Trench Backfills in Areas of High Water Tables."

Principal Investigator - Dr. Irtishad Ahmad.

Amount **\$104,500.00.**

Awarded by the Florida Department of Transportation (FDOT).

Time period - Fifteen months (9/96-11/98).

13. "A Study of Florida's Licensing System for Construction Contractors - Phase II."

Co-Principal Investigator - Dr. Irtishad Ahmad.

Amount **\$22,573.00.**

Awarded by the Building Construction Industry Advisory Committee.

Time period - Fifteen months (9/95-11/96).

14. "Effects of HVAC Sanitation Procedures on Indoor Air Quality of Residential Buildings - Phase II."

Principal Investigator - Dr. Irtishad Ahmad

Co-Principal Investigator - Dr. Berrin Tansel
Co-Principal Investigator - Prof. Jose D. Mitrani
Amount **\$29,857.00.**

Awarded by the Building Construction Industry Advisory Committee (BCIAC) through the Department of Education of the State of Florida and the North American Insulation Manufacturers' Association (NAIMA).

Time period - Twenty months (2/94-9/95).

15. "An Investigation of the Attorney's Role in Worker's Compensation."

Principal Investigator - Prof. Wilson Barnes
Co-Principal Investigator - Dr. Irtishad Ahmad
Co-Principal Investigator - Larry Lieby, Esqr.
Amount **\$19,901.00.**

Awarded by the Building Construction Industry Advisory Committee (BCIAC) through the Department of Education of the State of Florida.

Time period - Sixteen months (4/94-7/95).

16. "Assessment of the Effectiveness of HVAC Sanitation Processes in Improving Indoor Air Quality."

Principal Investigator - Dr. Irtishad Ahmad
Co-Principal Investigator - Dr. Berrin Tansel
Co-Principal Investigator - Prof. Jose D. Mitrani
Amount **\$40,393.00.**

Awarded by the Building Construction Industry Advisory Committee (BCIAC) through the Department of Education of the State of Florida and the North American Insulation Manufacturers' Association (NAIMA).

Time period - Twenty two months (10/92-8/94).

17. "Development of MBE/DBE/WBE Database and Analytical Models to Determine Their Capacity for the Florida Construction Industry."

Principal Investigator - Dr. Irtishad Ahmad
Co-Principal Investigator - Prof. John Dye
Amount **\$19,048.00.**

Awarded by the Building Construction Industry Advisory Committee (BCIAC) through the Department of Education of the State of Florida.

Time period - Fifteen months (2/92-4/94).

18. "Alternative Bid-Evaluation and Contract-Award Systems."

Principal Investigator - Dr. Irtishad Ahmad
Co-Principal Investigator - Dr. Ayman Morad
Amount **\$15,970.00.**

Awarded by the Building Construction Industry Advisory Committee.
Time period - Sixteen months (3/92-7/93).

19. "A Comprehensive Study of the Licensing System for the Construction Contractors in Florida."

Principal Investigator - Dr. Irtishad Ahmad

Co-Principal Investigator - Prof. Jose D. Mitrani

Amount **\$23,575.00.**

Awarded by the Building Construction Industry Advisory Committee.

Time period - Sixteen months (10/91-3/93).

20. "Alternative to 10% Retainage."

Principal Investigator - Dr. Irtishad Ahmad

Co-Principal Investigator - Prof. Wilson Barnes

Amount **\$9,745.00.**

Awarded by the Building Construction Industry Advisory Committee.

Time period - Sixteen months (8/91-12/92).

3.4. RESEARCH PROJECTS WITH INTERNAL FUNDING

Active research projects with graduate students. These projects include:

- Modeling Information for Integrated Project Delivery Systems – ongoing doctoral research.
- Enterprise Resource Planning in Construction – ongoing doctoral research.
- Job Site Management Tool – automation and information management in construction – doctoral research, completed doctoral thesis.
- Data Warehousing A doctoral dissertation research on data warehousing techniques for effective construction project management, completed doctoral thesis.

3.5. GRADUATE RESEARCH: THESIS/PROJECT TOPICS

1. "Integrated Construction Project Delivery System in the US Public Sector: An Information Modeling Framework," Doctoral Dissertation, Nida Azhar, completed, 2010-2014.

2. "The Use of Computing Technology in Construction Contractor Organizations as a Total Jobsite Management Tool," Doctoral Dissertation, Christin Perkinson, Completed, 2005-2008.

3. "Data Warehousing for Effective Project Management in Construction," Doctoral Dissertation. Salman Azhar, Completed, 2001-2005.

4. "Using the Meta-model Approach to Integrate Structured and Unstructured Data for

Document Management in the Construction Industry," Masters Thesis, Weihua Mao, Completed, November 2005.

5. "Extent of Lumps and Balls in Drilled Shaft Concrete." Master's Thesis. Ivan Canino, 2002.

6. "An Investigation into the Effects of Shoring/Reshoring Sequence on the Cost of Multistory Concrete Buildings." Master's Thesis. Student Name: Apinop Koolawang, Completed in December 2000.

7. "A Data warehouse/GIS technique to provide decision-support to builder-developers." Master's Thesis. Student Name: Pranas Lukauskis, Completed May 1999.

8. "An object-oriented computerized estimating system for skylights." Master's Thesis. Student Name: Anthony Smith, Completed September 1999.

9. "A spreadsheet-based system for wind load calculations of multistoried buildings." Master's Project. Student Name: Roda Fawaaz, Completed May 1999.

10. "A Knowledge-Based System for Sequential Parametric Estimating." Master's Thesis. Student Name: Praveen Ommi, Completed July 1995.

11. "A Study of the Construction Industry and Market in the South East Asia." Masters Project. Student Name: Nathapon Panthasen, Completed April 1995.

12. "Use of Artificial Neural Network for Predicting Contractor Failure." Masters Project. Student Name: Noriyuki Takahashi, Completed March 1994.

13. "Use of Microcomputer-Based Scheduling Systems for Minimizing and Resolving Construction Claims." Masters Project. Student Name: George Navarrete, Completed March 1994.

14. "Development of a Database Management System for selecting Minority-owned Business Enterprises." Masters Project. Student Name: Hesham El-Badrawi, Completed December 1993.

14. "Development of a Cost-Effective Shoring/Reshoring Plan for the Construction of Multi-story Concrete Buildings." Masters Project. Student Name: Santiago Sanin, Completed July 1993.

3.6. PUBLICATIONS

Summary of Publications

Has authored or coauthored more than **eighty five** technical articles, as the principal author of most of the articles. Several of these papers were presented in various national and international conferences. The journal articles underwent formal refereeing processes by the reviewers selected from experts and educators from the construction engineering and management field. These articles have been published in the reputed journals of construction engineering and management including *ASCE Journal of Construction Engineering and Management*, *ASCE Journal of Management in Engineering*, *Civil Engineering Systems*, *Transportation Research Record*, *American Institute of Constructors (AIC) Journal*, *Automation in Construction*, and the *Journal of Construction Management and Economics*.

Citation by Other Researchers

The research studies conducted made significant contribution to the existing body of knowledge and added new and important knowledge to the subject matters. This was evidenced by references made to his published work by noted scholars from institutions such as Massachusetts Institute of Technology, Columbia University, Concordia University and several other international researchers.

Books

Tang, S.L. I. Ahmad, S.M. Ahmed and M. Lu, "*Quantitative Techniques for Decision Making in Construction*." Hong Kong Polytechnic University Press. 2004.

Edited Proceedings

1. Ahmad, I., S.M. Ahmed, and S. Azhar, *Proceedings of the First International Conference on Construction in the Twenty First Century*, held in Miami, April, 2002.
2. Ahmed, S.M., I. Ahmad, S.L. Tang, and S. Azhar, *Proceedings of the Second International Conference on Construction in the Twenty First Century*, held in Hong Kong, December, 2003.

Refereed Journal Articles

1. Ahmad, I., N. Suksawang, K. Sobhan, et al., "Developing Guidelines for Epoxy Grout Pourback Systems for Controlling Thermal/Shrinkage Cracking at Post-Tensioning Anchorages: Full-scale Testing and Numerical Analysis", *Transportation Research Journal*, Accepted for publication, November 2017 (also for presentation in Annual TRB Meeting, January 2018).
2. Azhar, N., Y. Kang, I. Ahmad, "Critical Look into the Relationship between Information and Communication Technology and Integrated Project Delivery in Public Sector Construction." *Journal of Management in Engineering*, August, 2014.

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3. Ahmad, I. and Azhar, S., "Introduction to Special Issue on Information and Communication Technology (ICT) in AEC Organizations: Assessment of Impact on Work Practices, Project Delivery, and Organizational Behavior," *Journal of Management in Engineering*, Vol. 31, 2014.
 4. Azhar, S., M. Lukkad, and I. Ahmad, "An Investigation of Critical Factors and Constraints for Selecting Modular Construction over Conventional Stick-Built Technique," *International Journal of Construction Education and Research*, 9(3), 203-225, 2013.
 5. Azhar, S., W.A. Carlton, D. Olsen, and I. Ahmad, "Building Information Modeling for Sustainable Design and LEED(R) Rating Analysis" *Automation in Construction*, Vol. 20, Issue 2, March 2011, p. 217-224.
 6. Perkinson, C.L., M.E. Bayraktar, and I. Ahmad, "The Use of Computing Technology in Highway Construction as a Total Jobsite Management Tool" *Automation in Construction*, Vol. 19, Issue 7, November, 2010, p. 884-897.
 7. Azhar, S. I. Ahmad and M. K. Sein, "Action Research: A Proactive Research Method for Construction Engineering and Management," Special Issue on Research in ASCE *Journal of Construction Engineering and Management*, January, 2010.
 8. Zhu, Y., R. Zhang and I. Ahmad, "Applying Concept Similarity to the Evaluation of Common Understanding in Multidisciplinary Learning," *Journal of Computing in Civil Engineering*, accepted for publication, 2009.
 9. Zhu, Y., I. Ahmad and L. Wang, "Estimating Work Zone Road User Cost for Alternative Contracting Methods in Highway Construction Projects," Accepted for publication *Journal of Construction Engineering and Management*, ASCE, 2009.
 10. Sein, M.K., I. Ahmad and G. Harindranath, "Sustaining ICT for Development Projects: The Case of Grameenphone CIC," *Teletronikk*, Issue 2, 2008.
 11. Zhu, Y. W. Mao and I. Ahmad, "Capturing Implicit Structures in the Unstructured Content of Construction Documents", *Journal of Computing in Civil Engineering*, 2006.
 12. Mao, W. Y. Zhu and I. Ahmad, "Applying Metadata Models to Unstructured Content of Construction Documents: A View-Based Approach", *Automation in Construction*, 2006.
 13. Ahmad, I., S. Azhar, and P. Lukauskis, "Development of a Decision Support System using Data Warehouseing to Assist Builders/Developers in Site Selection," *Automation in Construction*, Vol. 13, 2004, p. 525-542.

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14. Ahmad, I. and S. Azhar, "Temperature Variation in High Slump Drilled Shaft Concrete and its Effect on Slump Loss," *Cement and Concrete Research*, Vol. 34, 2004, p. 207-217.
 15. Ahmad, I., S. Azhar, and S. M. Ahmed, "Construction of a Bridge in a Developing Country: A Bangladesh Case Study." *ASCE Leadership and Management in Engineering*, October 2003, p. 177-182.
 16. Najafi, F.T., I. Ahmad, P. Lancaster, J. L. Benham, M. Sadeghinia, and M.M. Alam, "Methods of Application and Bonding Strengths of Thermoplastic Pavement Markings on Concrete and Asphalt Roadway Surfaces." *International Journal of Pavements*, Vol. 1, No. 3, September 2002, p. 97-.
 17. Ahmed, S. M., I. Ahmad and S. Azhar, "Current State and Trends in E-commerce in the Construction Industry: Analysis of a Questionnaire Survey," *Revista Ingeniería de la Construcción (Construction Engineering Journal)*, Vol. 17, No. 2, 2002, p. 47-58,.
 18. Ahmed, S.M., S. Azhar, and I. Ahmad, "Supply Chain Management in Construction," *Delhi Business Review*, Vol. 3, No.1, 2002.
 19. Ahmed, S.M., S. Azhar, and I. Ahmad, "Evaluation of Florida General Contractors' Risk Management Practices," *Revista Ingéniera de la Construction (Construction Engineering Journal)*, Vol. 17, No. 1, pp. 4-11., 2002.
 20. Ahmad, I., B.Tansel and J.D. Mitrani, "Effectiveness of HVAC Duct Cleaning Procedures in Improving Indoor Air Quality," *Environmental Monitoring and Assessment*, Vol. 72, pp. 265-276, 2001.
 21. Ahmad, I. and S. Putcha, "Evaluation of Compaction Methods for Pipe Trench Backfill in Areas of High Water Table," *Transportation Research Record Journal of the Transportation Research Board*, 1736, Part 2, 2001, p. 55-61.
 22. Ahmad, I. "Success in the wake of the IT revolution," *ASCE Journal of Management in Engineering*, Vol. 16, No. 1, 2000, p. 28.
 23. Ahmad, I. "Managing, Processing, and Communicating Information: What A/E/C Organizations Should Know," *Journal of Management in Engineering*, American Society of Civil Engineers, Vol. 15, No. 4, 1999, p.33-36.
 24. Ahmad. I. and M. Sein, "Building Construction Project Teams for TQM: A Factor-Element Impact Model," *Journal of Construction Management and Economics*, Vol. 15, No. 5, 1997, p. 457-467.

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25. Ahmad, I. "Projects and IT: An Optimal Pairing." *PM Network*, Project Management Institute, 1997, p. 31-34.
 26. Ahmad, I., J. Russell, and A. Abou-Zeid, "Information Technology and Integration in the Construction Industry." *Journal of Construction Management and Economics*, Vol. 13, 1995, p. 163-171.
 27. Ahmad, I. and W. Barnes, "Retainage Policies of Public Agencies." *The American Professional Constructor, The Journal of American Institute of Constructors*, Vol. 19, No. 1, 1995, p.2-8.
 28. Ahmad, I., "Applications of Knowledge-Based Systems in Construction." *The American Professional Constructor, The Journal of American Institute of Constructors*, Vol. 18, No. 1, 1994, p.2-8.
 29. Ahmad, I., "Decision Support System for Modeling the Bid/No-Bid Decision Problem." *ASCE Journal of Construction Engineering and Management*. Vol. 116, No. 4, 1990. p. 595-608.
 30. Minkarah, I. and I. Ahmad, "Expert System as Construction Management Tools". *ASCE Journal of Management in Engineering*. Vol. 5, No. 2, 1989. p. 155-163.
 31. Ahmad, I. and I. Minkarah, "Questionnaire Survey on Bidding in Construction." *ASCE Journal of Management in Engineering*. Vol. 4, No. 3, 1988. p. 229-243.
 32. Ahmad, I. and I. Minkarah, "Optimum Markup for Bidding: A Preference-Uncertainty tradeoff Approach." *Journal of Civil Engineering Systems*. Vol. 4, No. 4, 1987. p. 170-174.
 33. Minkarah, I., J. P. Cook and I. Ahmad, "Recommended Static and Dynamic Limits of Vertical Movements for Testing Joint Sealants." *Special Publication of the 2nd World Congress on Joints and Bearings*, Vol. 1, SP-04, American Concrete Institute (ACI), 1986. p. 389-408.

Other Refereed Papers

34. Ahmad, I. "Information as a Resource," Editorial, *Journal of Management in Engineering*, American Society of Civil Engineers, Vol. 15, No. 4, 1999, p. 3-4.
35. Ahmad, I., "Networking with Internet, Corporate Intranet, and Project Extranet," Forum, *Journal of Management in Engineering*, Vol. 15, No. 4, 1999, pp. 7-8.
36. Navarrete, G. and I. Ahmad, "Computer Scheduling and Construction Specs." *Civil Engineering*, 1993. p. 50-52.

Proceedings

1. Zhu, J., A. Mostafavi, and I. Ahmad, "System-of-Systems Modeling of Performance in Complex Construction Projects: A Multi-Method Simulation Paradigm", 2014 International Conference on Computing in Civil and Building Engineering, Published online: June 17, 2014, <https://doi.org/10.1061/9780784413616.233>.
2. Arif, F., M.E. Bayraktar, I. Ahmad, "Net-Zero Building Venture Capital Market: Current Opportunities and Emerging Trends for Entrepreneurial Companies", Sustainable Building and Refurbishment for Next Generations, CESB 13, Prague, June 26-28, 2013.
3. Saqib, M. and I. Ahmad, "Public-Private Partnership in US Infrastructure Projects: Port of Miami Tunnel Case Study," Sixth International Conference on Construction in the 21st Century (CITC-VI), July 5-7, 2011.
4. Azhar, N. and I. Ahmad, "Internet-based ICT Usage in Construction Project Management: A Global Appraisal," Sixth International Conference on Construction in the 21st Century (CITC VI), July 5-7, 2011.
5. Ahmad, I. M.K. Sein and K. Panthi, "Challenges of Integration and ICT's Potentials in the Globalized Construction Industry," Annual PICMET Conference, Phuket, Thailand, July 2010.
6. Ahmad, I. and M.K. Sein, "Transformational Capabilities of ICT: A Technology Management Perspective in Construction," Annual PICMET Conference, Cape Town, South Africa, July 2008.
7. Ahmad, I. and M. K. Sein, "IT in Construction: Potentials and Challenges," Twenty-fifth anniversary of the Journal of *Construction Management and Economics*, Reading, UK, July 2007.
8. Ahmad, I. "Construction in the Twenty-first Century: Towards Effective Organizations," Keynote speech, CITC-IV conference, Gold Coast, Australia, July 2007.
9. Ahmad, I. and M.K. Sein, "ICT in Construction Education: An assessment," Annual PICMET Conference, Istanbul, July 2006.
10. Ahmad, I., S. M. Ahmed, A. Koolawong, and S. Azhar, "Safety and Economy of Shoring/Reshoring Schemes in Construction of Multistory Concrete Buildings". *Proceedings of the ASCE Construction Research Congress* (on CD ROM), Honolulu, Hawaii, March 19-21, 2003.
11. Ahmed, S.M.; I. Ahmad, S. Azhar, and S. Mallikarjuna, "Implementation of Enterprise Resource Planning (ERP) Systems in the Construction Industry". *Proceedings of the ASCE Construction Research Congress* (on CD ROM), Honolulu, Hawaii, March 19-21, 2003.

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12. Ahmad, I., S. Azhar, and S.M. Ahmed, "Web-based Construction Project Management: Scope, Potential and Trends," Proceedings of CIB-W65/W55 International Conference, Cincinnati, Ohio, USA September 2002.
 13. Ahmed, S.M, P. Tang, S. Azhar, and I. Ahmad, "An Evaluation of Safety Management System in the Hong Kong Construction Industry Using TQM Principles," Proceedings of CIB-W65/W55 International Conference, Cincinnati, Ohio, USA September 2002.
 14. Ahmad, I. and S. Azhar, "Data Warehousing in Construction: From Conception to Application," Proceedings of the First International Conference on Construction in the Twenty First Century, Miami, Florida, USA, April 2002.
 15. Ahmad, I., Najafi, F.T., Benham, J.L., Lancaster, P., Sadighinia, M, "Methods of Application and Bonding Strengths of Thermoplastic Pavement Markings: A Comparison between Concrete and Asphalt Roadway Surfaces," TRB paper # is: 02-3670, Washington, D.C., 2002.
 16. Azhar, S., I. Ahmad, and S. M. Ahmed, "Impact of ICT on Design and Management Process in the Construction Industry," Published in the 3rd International Conference on Technology Convergence - The Human Perspective, New Delhi, India, January 8-9, 2002.
 17. Ahmed, S. M., S. Azhar, and I. Ahmad, "Supply-Chain Management in Construction: Scope, Trends, and barriers," Published in the 3rd International Conference on Technology Convergence - The Human Perspective, New Delhi, India, January 8-9, 2002.
 18. Ahmad, I. and S. M. Ahmed, "Integration in the Construction Industry: Information Technology (IT) as the Driving Force," Accepted for presentation and publication in the proceedings for the Third International Conference on Construction Project Management, Singapore 29-30 March, 2001.
 19. Ahmed, S.M. and I. Ahmad, "Construction Contracts in Hong Kong: Procurement Strategies and Risk Sharing," Accepted for presentation and publication in the proceedings for the Third International Conference on Construction Project Management, 29-30 March, 2001.
 20. I. Ahmad, A. Koolawang, and S.M. Ahmed, "Safety and economy of shoring/reshoring schemes in construction of multistory concrete buildings," Accepted for presentation and publication in the proceedings for the Eighth East Asia Pacific Conference on Structural Engineering and Construction, Singapore 5-7 December, 2001.
 21. Ahmad, I., "Data Warehousing in Construction Organizations," ASCE Construction Congress-6, February 2000, Orlando, Florida.

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22. Ahmad, I, "Evaluation of compaction methods for FDOT pipe trench backfill in areas of high water table," Transportation Research Board Annual Meeting, Washington, D.C., January 2000.
 23. Ahmad, I, G. Navarrete, and F.T. Najafi, "Delay Claims and the Use of CPM," Proceedings of the 1999 Annual Conference of the *Canadian Society for Civil Engineering*, Vol. III, June 1999, Regina, Saskatchewan, p. 227-236.
 24. Ahmad, I. and C. Nunoo, "Data Warehousing in the Construction Industry: Organizing and Processing Data for Decision-making," 8th International Conference on Durability of Building Materials and Components, *Institute for Research in Construction*, Vancouver, British Columbia, May-June, 1999.
 25. Ahmad, I. and S. Putcha, "Compaction methods for backfill materials under high water table," *Annual Meeting of the Florida section of the ASCE*, Orlando, Florida, September 1999.
 26. Ahmad, I. and C. Nunoo, "Implementation of data warehousing in Construction," *International Conference on the applications of Artificial Intelligence techniques in Civil Engineering*, Miami, Florida, September 1998.
 27. Ahmad, I., "TQM in construction organizations: A factor-element impact model," *International Conference on TQM and Leadership in Building and Construction*, Singapore, October, 1997.
 28. Ahmad, I. and P. Ommi, "Parametric Estimating: An Object-Oriented Approach," *Third Congress on Computing in Civil Engineering*, Anaheim, California, June 1996.
 29. Ahmad, I., "Role of Information Technology in Management of AEC Projects: Current Applications and Future Potentials," *International Conference on Computing and Information Technology for Architecture, Engineering and Construction*, Singapore, May, 1996.
 30. Ahmad, I. "Applications of Information Technology in Management," *International Conference on Information Technology*, Center for Advanced Management Systems, Miami, December 1995.
 31. Attoh-Okine, N.O. and I. Ahmad, "Application of Bayesian Influence Diagrams to Risk Analysis of Highway Construction Costs." *ASCE Second Congress on Computing in Civil Engineering*, Atlanta, Georgia, June, 1995.
 32. Ahmad, I. and W. Barnes, "Retainage Policies of Public Agencies: Findings of a Questionnaire Survey," *Proceedings of the Annual Meeting of the Associated School of Construction*, Peoria, April, 1994, p. 127-134.
 33. Tansel, B., I. Ahmad., and A. Vereas, "Environmental Planning for Community Housing

Projects," Proceedings of the 22nd International Association for Housing Science World Symposium, Salzburg, Austria, October 1994.

34. Ahmad, I. and S. Rahman, "Refinement of Cost Estimates with Artificial Neural Nets." *ASCE First Congress on Computing in Civil Engineering*, Washington, D.C., June, 1994.

35. Ahmad, I., B. Tansel, J.D. Mitrani, "Case Study of HVAC Sanitation Procedures on Indoor Air Quality of Selected Residential Buildings," *Proceedings of the Indoor Air Quality-1993 (IAQ-'93) Conference organized by ASHRAE*, Philadelphia, November, 1993. p. 157-163.

36. Navarrete, G. and I. Ahmad, "Scheduling Principles of the Miami Metromover Project," *Proceedings of the Fourth International Conference on Automated People Movers*, ASCE Urban Transportation Division, March 1993. p. 743-753.

37. Ahmad, I. and A. Morad, "Alternative Bid-Evaluation and Contract-Award Systems." *CIB Symposium held in Trinidad*, September 1993. p. 681-687.

38. Dye, J., J. Mitrani and I. Ahmad, "Florida's Licensing System for Contractors." *ASCE South Florida Section Annual Meeting Proceedings*, Naples Beach, Florida, October 1993.

39. Ahmad, I. and A. Morad, "Computer-Aided Decision Model for Selecting A Contractual System." *ASCE 5th International Conference on Computing in Civil and Building Engineering*, Anaheim, California, June, 1993. pp. 255-261.

40. Ahmad, I., "Innovative Organizational Structures for Construction Firms of the Future." Presented at the 1992 *ASCE Annual Convention*, New York, September.

41. Ahmad, I. and S.Rahman, "Framework of a Knowledge-Based Estimate Classification System." *ASCE 8th Annual Conference of Computing in Civil Engineering*, Held in Dallas, Texas in June 1992. p.967-74.

42. Ahmad, I., "Contingency Allocation: A Computer-Aided Approach." *AACE. (Cost Engineering) 36th Annual Meeting*, Held in Orlando, Florida in June, 1992.

43. Ahmad, I. and A. Morad, "Computer-Aided Decision and Risk Analysis in Construction." *CIB Symposium*, held in Montreal, Canada in May, 1992.

44. Ahmad, I., "Estimating Construction Costs Using Expert System Technology." *Ninth National Conference on Microcomputers in Civil Engineering*, Held in Orlando, Florida in October, 1991. p. 143-147.

45. Ahmad, I., "Expert Systems: New Tools for Construction." *Handbook for the Florida*

International University/Building Construction Industry Advisory Council Workshop on Expert Systems, December, 1990, March, 1991 and April, 1991.

46. Ahmad, I., "Restructuring Responsibility and Reward for More Construction Innovation." *Presented at the Construction Congress, 1991, sponsored by ASCE, held April 12-16, 1991, in Cambridge, Massachusetts.* Published in the proceedings. p. 453-458.

47. Russell, J. and I. Ahmad, "A PERT Approach to Contractor Prequalification Analysis." *AACE (Cost Engineering) 34th. Annual Meeting, Boston, June 1990.*

48. Ahmad, I., "Expert Decision Support Systems for the Construction Industry." Published in the *1990 Associated Schools of Construction (ASC) Annual Meeting Proceedings.* April 1990. p. 221-225.

49. Ahmad, I. and I. Minkarah, "Decision Analysis and Expert System Technology: A Construction Industry Perspective." *CIB Symposium on Value in Building Economics and Construction Management, Sydney, Australia, March 1990.* p. 363-372.

50. Ahmad, I. and L. Woodbury, "An Undergraduate Course on Microcomputer Applications in Construction," *Associated Schools of Construction (ASC) Region IV Meeting, October 1989.*

51. Minkarah, I., and I. Ahmad, "Expert Systems as Construction Management Tools." *Seminar on Improving Engineers as Managers, organized by Engineering Management Group, ASCE, April 1988, Cincinnati, Ohio.*

52. Ahmad, I. and I. Minkarah, "An Expert System for Selecting Bid Markups." *Fifth Conference on Computing in Civil Engineering organized by the American Society of Civil Engineers, March 1988, Alexandria, Virginia.* p. 229-238.

53. Ahmad, I. and I. Minkarah, "An Additive Utility Model for Selecting Optimum Bid Price." *Proceedings of the Eighteenth Annual Pittsburgh Conference on Modeling and Simulation, April, 1987, Pittsburgh.* p. 367-373.

54. Suckarieh, G., I. Minkarah and I. Ahmad, "Application of Maynard Operation Sequence Technique (MOST) to Measurement of Construction Tasks." *Proceedings of CIB W-65 Symposium 1987 on Organization and Management of Construction, September 1987, London.* p. 735-746.

Chapters in Books

1. Ahmad, I. and S. Azhar, "Data Warehousing in Construction: From Conception to Application," in *Data Warehousing: Design and Development Perspectives*, Edited by S. Jaya

Krishna, ICFAI University Press, Hyderabad, India, 2004, p. 132-144.

Government Reports or Monographs

1. Ahmad, I., N. Suksawang, and K. Sobhan, "Develop Epoxy Grout Pourback Guidance and Test Methods to Eliminate Thermal/Shrinkage Cracking at Post-Tensioning Anchorages," Florida Department of Transportation, 2016.
2. Zhu, Y., and I. Ahmad, "Developing a Realistic Prototyping Road User Cost Evaluation Tool for Florida Department of Transportation," Florida Department of Transportation, 2008.
3. Ahmad, I., and S. Azhar, "Use of Maturity Meters for Concrete Quality Assurance," Florida Department of Transportation, 2005.
4. Ahmad, I., and S. Azhar, "Temperature Variation in Drilled Shaft Concrete and its Effect on Slump Loss," Florida Department of Transportation, 2003.
5. Ahmad, I., S. Azhar, and J. Sobanjo, "Lumps and Balls in High-Slump Concrete: Reasons and Remedies," Florida Department of Transportation, 2003.
6. Ahmad, I. and M.T. Lu, "Generalized Method for Analysis of Pavement Management Database," Florida Department of Transportation, 2002.
7. Ahmad, I. "An Investigation into Application and Bonding Strengths of Thermoplastic Pavement Markings on Concrete and Asphaltic Roadway Surfaces," Florida Department of Transportation, 2001.
8. Ahmad, I. "Evaluation and Analysis of Current Compaction Methods for FDOT Pipe Trench Backfills in Areas of High Water Tables," Florida Department of Transportation, 1998.
9. Ahmad, I., B. Tansel and J. D. Mitrani, "Effectiveness of HVAC Sanitation Processes in Improving Indoor Air Quality - Phase II," Building Construction Industry Advisory Committee, 1996.
10. Ahmad, I. B. Tansel and J. D. Mitrani, "Effectiveness of HVAC Sanitation Processes in Improving Indoor Air Quality." Building Construction Industry Advisory Committee, 1994.
11. Ahmad, I. and J. Dye, "Development of a Database of MBE/DBE Firms and Decision Models to Determine their Capacity for the Florida Construction Industry." Building Construction Industry Advisory Committee, 1994.
12. Ahmad, I. and Morad. A. "Alternative Bid-Evaluation and Contract-Award Systems."

Building Construction Industry Advisory Committee, 1993.

13. Ahmad, I., J.D. Mitrani and J. Dye, "A Comprehensive Study of the Licensing System for the Construction Contractors in Florida." Building Construction Industry Advisory Committee. January 1993.

14. Ahmad, I. and W.C. Barnes, "Alternative to 10% Retainage." Building Construction Industry Advisory Committee, 1992.

Book Reviews

1. Ahmad, I. Review of *Successful Contract Administration for Constructors and Design Professionals* by Charles W. Cook, Routledge, 2014.

2. Ahmad, I. Review of *Project Management Framework* by David G. Carmichael, (A.A. Balkema Publishers, © 2004 Swets & Zeitlinger B.V., Lisse, ISBN 90 5809 325 5) for Construction Management and Economics, July 2004.

3. Ahmad, I. "Combining Management and Computing for Now and Later," Review of *Best Practices in Information Technology: How Corporations get the most value from Exploiting their Digital Investments* by James W. Cortada, (Prentice Hall, Inc., New Jersey), *ASCE Journal of Management in Engineering*. Vol.15, No. 4, July/ August 1999, p. 27-28.

4. Ahmad, I. Review of *The Corporation of the 1990's: Information Technology and Organizational Transformation*, edited by Michael S. Scott Morton (1991, Oxford University Press, New York), Review published in *ASCE Journal of Management in Engineering*. Vol. 9, No. 2, March 1993, p. 119-120.

Other Publications

1. Editor's Letters in every issue of the *ASCE Journal of Management in Engineering* in all issues of Volume 18 (2002), 19 (2003), and 20 (2004).

2. "Get the Yuck out of Ducts is a Game without Rules," *The Miami Herald*, Sunday, August 1, 1993. Featured research study on HVAC sanitation procedures of which Dr. Ahmad was the Principal Investigator.

3. "Air Conditioning Duct Cleaning," *Construction Today*, a call-in television show in which Dr. Ahmad was invited to participate as a panelist and to talk about his research on duct cleaning. Cable TAP channel 35, September 20, 1993.

3.7. SEMINARS AND PRESENTATIONS

Delivered numerous invited lectures and presentations at various universities in the US and abroad, as well as in many national and international conferences. These have included presentations on construction organizations, computerized estimating, expert systems, contractual methods, decision and risk analysis, and indoor air quality of residential buildings.

Selected presentations/workshops

1. Invited keynote speaker in the ICCIDC-II, Construction in the Developing Countries, August 2010, Cairo, Egypt.
2. Invited seminar speaker, Angan Lecture Series, Construction Management Education: A New Paradigm, Department of Architecture, BRAC University, July 2010, Dhaka, Bangladesh.
3. Invited keynote speaker in the CITC - IV, Construction in the Twenty-first Century conference, July 2007, Gold Coast, Australia.
4. Seminar on Global Construction in Tsinghua University, Beijing, China, June 2005.
5. Seminar on Construction Education and Research in Harbin Institute of Technology, Harbin, China, June 2005.
6. Taught the reinforced concrete design part of the P.E. refresher course offered by the Civil and Environmental Engineering Department in September, 2004.
7. Invited keynote speaker in the ASCE Miami-Dade chapter meeting on design of concrete slender columns - use of cracked versus uncracked sections, May 2003, Miami, Florida.
8. Taught Dade, Broward and Palm Beach County professional engineers a four-hour module on the calculations of wind loading on structures according to ASCE 7-2002 to enable them earn PDH hours, in April and June 2002.
9. Invited keynote speaker in the Second Korean Institute of Construction Engineering and Management Annual Conference, November 2001, Seoul, Korea.
10. Conducted a three-day workshop in Hong Kong for the local construction industry professionals on Project Management Information Systems, Organized by Hong Kong Polytechnic Institute, August 2001.
11. Conducted a two-day workshop in Dhaka, Bangladesh for the local construction industry professionals and civil engineers on Cost Engineering, Organized by Bangladesh University of Engineering and Technology, March 2001.

12. Conducted a two-day workshop on Cost Engineering, at Sol Engineering, August 18-19, 2000, St. Antonio, Texas.
13. Conducted a two-day workshop on Project Control and Cost Engineering at T & N Associates, August 23-24, 2000, Milwaukee, Wisconsin.
14. Seminar on *Decision Making under Uncertainty*, American Association of Cost Engineers, May 8, 1996, Sheraton Riverhouse, Miami, Florida.
15. Seminar on *Information Technology in Project Management*, IT-95, Project Management Systems, Inc., December 20, 1995, Hyatt Regency, Miami, Florida.
16. Seminar on *Indoor Air Quality of Residential Buildings*, Indoor Air Quality Association, Inc. November 18, 1995, Boca Raton, Florida.
17. Discussion panel on *Civil Engineering Careers*, ASCE Miami-Dade branch, February 1994, Miami, Florida.
18. Seminar on *Computerized Estimating*, Gerrits Urban Joint Venture, October 31, 1992, Miami International Airport, Miami, Florida.
19. Seminar on *Alternative Bidding Systems*, Construction Specifications Institute Annual Regional Meeting, September 26, 1992, Miami, Florida.
20. "*Expert Systems: New Tools for Construction*." Building Construction Industry Advisory Committee Workshop on Expert Systems, Dec. 1990, Mar. 1991 and April, 1991.

3.8. OTHER ACADEMIC ACTIVITIES

Newspaper Interviews

Interviewed by the *Miami Herald* and the *Sun Sentinel* on the prospects of job market for construction graduates during 2005 and 2006. One example:

"Job Outlook for 2005: Nursing, biotech and construction are hot," By Niala Boodhoo, *Sun-Sentinel*, January 10, 2005.

Advising

Post-Doctoral Research Fellow

-
- Rui Zheng, Ph.D., Construction Management, Harbin Institute of Technology, Harbin, P.R. of China (2007-08).

Ph.D. students - Major Professor

- Nida Azhar, "Integrated Construction Project Delivery System in the US Public Sector: An Information Modeling Framework," completed in 2014, currently a faculty member in NED University, Karachi, Pakistan.
- Salman Azhar, "Data Warehousing in Construction," completed in 2005, currently a faculty member in the Building Science Department at Auburn University.
- Christin Perkinson, "Total Jobsite Management Tool," completed in 2008, currently employed in the industry, as a co-owner of a construction company.

Ph.D. students - Committee Member

- Xiong Yang (2016)
- Saher Ghasemi (2016)
- Ramtin Kargarmoakhar (2015)
- Maryam Asghari Mooneghi (2014)
- Ivan Canino (2009)
- Elio Espino (2005)
- Javier Gonzalez (2004)
- Michael Sadighinia (2004)
- Hailing Zhang, Ph.D. (2002)
- Jeth Fogg, Ph.D. (2001)

Masters' Students - Major Professor/Committee Member

- Sohaib Siddiqui MSCM (2016)
- Hazal Ergun MSCM (2015)
- Weihua Mao MSCM (2005)
- Anas Bataineh MSCE (2004)
- Ivan Canino MSCE (2002)
- Apinop Koolawang MSCE (2000)
- Pranas Lukauskis MSCE (1999)
- Anthony Smith MSEM (1999)
- Praveen Ommi MSCM (1995)

Projects/Independent Studies

- Sarah Goodridge in Construction Management (2006)

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- Juan Zheng in Construction Management (2005)
 - Ytve Guerra, Masters in Civil Engineering (2004)
 - Jack Parry, Masters in Civil Engineering (2004)
 - Chris Hansen, Masters in Civil Engineering (2003)
 - Quazi Masood, Masters in Civil Engineering (2003)
 - Yiping Wang, Masters in Civil Engineering (2002)
 - Marwan Yassine, Masters in Civil Engineering (2001)
 - Roda Fawaaz, Masters in Civil Engineering (1999)

International Conferences Organized

Organized and co-chaired the International conference on Construction in the Twenty First Century (CITC I) in Miami in April 2002. The second in the series (CITC II) was organized in Hong Kong in December 2003, CITC III was held in September 2005 in Athens, Greece, and CITC IV was held in July 2007 in Australia, CITC V in 2009 in Istanbul, Turkey and CITC VI in 2011 in Kuala Lumpur, Malaysia.

Sessions Organized/Chaired

1. Chaired a session in the Journal of Construction Management and Economics twenty-fifth anniversary conference, Reading, UK, July 15-17, 2007.
2. Chaired a session on construction organizations in the CIB-W65/W55 International Conference, Cincinnati, Ohio, 7-10 September, 2002.
3. Chaired a session on Information Technology in the Third International Conference on Construction Project Management in Singapore, 29-30 March, 2001.
4. Organized and chaired a session on *Implementation of TQM Principles in Construction and Building Projects* for the International Conference on Leadership and Total Quality Management in Construction and Building, Singapore, October, 1997.
5. Organized a session on *Construction Information Management* for ASCE Construction Congress V, Minneapolis, October, 1997.
6. Organized sessions on *Decision Support Systems* for ASCE Second Congress on Computing in Civil Engineering, Atlanta, Georgia, June, 1995.
7. Organized sessions on *Decision Support Systems* and *Constructibility* for ASCE First Congress on Computing in Civil Engineering, Washington, D.C. June, 1994.

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8. Chaired session on *Decision Support Systems* at the ASCE 5th International Conference on Computing in Civil and Building Engineering, Anaheim, California, June, 1993.
 9. Chaired session on *Construction Organizational Structures of the Future*, at the 1992 ASCE Annual Convention, New York, September, 1992.
 10. Moderated session on *Computer Estimating* at the Ninth National Conference on Microcomputers in Civil Engineering, Held in Orlando, Florida in October, 1991.

4. PROFESSIONAL AND INSTITUTIONAL SERVICE

4.1. PROFESSIONAL LEADERSHIP

- Editor-in-Chief (2002-2008), *Journal of Management in Engineering*, American Society of Civil Engineers.
- Presiding Chair, Florida Infrastructure Sustainability Forum, College of Engineering and Computing, Florida International University, February 18, 2010.
- Chair (1999-2001), ASCE Publications Committee of the Management Group.
- Member, Editorial Board (2006 -), *Leadership and Management in Engineering*, American Society of Civil Engineers.
- Served as the elected secretary of the ASCE Committee on Computing in Construction during 1993-96.
- Co-Chair and Organizer (2002), International conference on Construction in the Twenty-first Century (CITC), Miami, Florida. Subsequent conferences were organized in Hong Kong (2003), Athens, Greece (2005), Gold Coast, Australia (2007).
- A member of the ASCE Construction Research Council, and the Committee on IT in Construction.

Reviewer of the papers submitted in -
ASCE Journal of Management in Engineering,
ASCE Journal of Construction Engineering and Management,
ASCE Journal of Computing in Civil Engineering,
Journal of Construction Management and Economics,
Automaton in Construction,
The Kuwait Journal of Science and Engineering, and
Computer-aided Civil and Infrastructure Engineering

4.2. AFFILIATIONS

American Society of Civil Engineers (ASCE)
American Society of Engineering Education (ASEE)
Honorary Faculty Member of Chi Epsilon, a Civil engineering Honor Society.
Honorary Faculty Member of Sigma Lambda Chi, a Construction Honor Society.

4.3. INSTITUTIONAL SERVICE AND LEADERSHIP

University

- Chair, Construction Management, since January 2004.
- Graduate Program Director, Civil Engineering, 1999-2003.
- Engineering Representative, University Breadth Requirement (undergraduate core curriculum) Committee. 2001-02.
- Elected University Senator, Faculty Senate, 2001-03, 1999-01, 1996-98.
- Chair of the College Faculty Council (1994-1995), College of Engineering, Florida International University.
- Senate Steering Committee Member, 2001-2003.

School/College

- Chair, Search Committee, Electrical and Computer Engineering Chair position, FIU, 2010.
- Member, Construction Management Chair Search Committee, 2002-03.
- Member, College Tenure and Promotion Committee, 1998-2000.
- Chair, College Faculty Council 1994-95.
- Vice-Chair, College Faculty Council 1993-94.
- Member, Civil Engineering Search and Screen Committee, 1992-93.
- Member, Dean's Faculty Advisory Committee 1991-93.

Department

- Chair, CEE Tenure and Promotion Committee, 1998-2000
- Chair, Civil Engineering Structures Faculty Search Committee, 2003-04.
- Chair, Department Tenure and Promotion Committee, 1998-2000.
- Chair, Construction Management Search and Screen Committee, 1995-96, 1994-95, 1993-94.
- Faculty Advisor, Sigma Lambda Chi Student's Chapter, 1991-1997.

4.4. COMMUNITY SERVICE

- Member, Advisory Board, Hope Foundation to operate a hospital in Bangladesh, Miami, Florida, 2006-present.
- Member, Asian-American Advisory Board, Miami-Dade County, 2001-2007.
- Chair, Scholarship Committee, Asian-American Federation of South Florida, 1997-1999.

4.5. CONSULTING

Sep. 2005 – Mar. 2006: Expert witness in a construction dispute lawsuit as a cost engineer.

Mar. – June 2002: Taught professional development courses for professional engineers on cost engineering, and wind load analysis of buildings using ASCE 7. Miami.

Aug. 1991-Present: Consulting in the fields of Structural Analysis and Design, Cost Engineering, Computerized Estimating, and Project Planning and Scheduling. Included several value engineering projects and design of reinforced concrete structures.

Mar. 1991-Aug. 1991: Project Management Consultant for Cogefarimpresit USA, Inc., an international construction company doing business in Miami. Responsible for development and maintenance of a complex project schedule using Primavera Project Planning System for Metro Mover Brickell Avenue Extension Project.

Aug. 1984-Dec. 1986: Worked for American Tectonics, a construction firm, as a project management consultant. The project was a six story concrete frame building utilizing post-tensioned construction in Cincinnati that had a project cost of approximately \$17,000,000.

1979-1983: Worked for Prasthapana Building Design Center and Stone Steel Ltd. (Bangladesh) as structural engineer. Works included design and supervision of a 120 ft. high concrete minaret of a mosque in Dhaka, a sea-food cold storage plant in Chittagong and numerous residential buildings.