

# CURRICULUM VITA



**DR. MOHAMMED E. HAQUE, P.E., M.ASCE, M.ACI, M.ASEE**  
**Professor**

Department of Construction Science

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## I. EDUCATION

**Ph.D.** (Civil/Structural Eng.)- May 1995, New Jersey Institute of Technology, Newark, New Jersey

*Dissertation:* Composite Beam Analogy Fracture Model (CBAFM): A Non-linear Fracture Mechanics Model for Concrete. *Advisor:* Dr. Farhad Ansari

**MSCE** (Civil/Structural Eng.)- May 1986, New Jersey Institute of Technology, Newark, New Jersey

*Thesis/Project:* Computer Aided Analysis and Design for an Open-system Building Using Banded Cantilever Approach. *Advisor:* Dr. Rafaat Hussein

**BSCE** – July 1982, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

*Thesis/Project:* Comparative Study of Earthquake Loading of Multistoried Building.  
*Advisor:* Dr. Jamilur R. Choudhury.

## II. PROFESSIONAL REGISTRATION, AFFILIATION, RECOGNITION, AND AWARDS

### A. PROFESSIONAL REGISTRATION

*Licensed Professional Engineer (PE)*

[1] New York (since 1990), PE # 067484

[2] Pennsylvania (since 1991), PE # 041525-R

[3] Michigan (since 1998), PE # 044539

### B. PROFESSIONAL AFFILIATION/RECOGNITION

[1] Member, American Society of Civil Engineers (M.ASCE, 1992)

[2] Member, American Concrete Institute (M.ACI, 1992)

[3] Member, American Society for Engineering Education (M.ASEE, 2000)

[4] Member, International Association of Science and Technology for Development (2005)

[5] Educator Member, American Institute of Steel Construction (M.AISC, 2007)

[6] Charter Member, ASCE Engineering Mechanics Institute

[7] Certificate of Appreciation - New York City MTA Bridges and Tunnels

[8] ACI Tech. Committee Member *342 Evaluation of Concrete Bridges and Bridge Elements* (1999)

[9] ACI Tech. Committee Member *345 Concrete Bridge Construction, Maintenance and Repair* (1999)

[10] Peer Reviewer: ACI Journal - *Concrete International*; ASCE *Journal of Materials for Civil*

*Engineering*; ASCE *Journal of Management in Engineering*; ASEE *Journal of Engineering Education*;  
*Journal of Construction Management and Economics*; *International Journal in Architectural*  
*Engineering and Design Management*.

### C. AWARDS AND NOMINATIONS FOR AWARDS

- [1] **Cecil O. Windsor, Jr., Endowed Professorship**, (2004 – 2008)
- [2] **Distinguished Achievement Award in Teaching** by the Association of Former Students of Texas A&M University, 2006.
- [3] **Administrative Merit Award** - Western Michigan University, 1999
- [4] **2001 ASEE Best PIC V Paper Award**, American Society for Engineering Education, June 24-27, 2001, Albuquerque, New Mexico, USA.
- [5] **2002 ISEC Best Paper Award**, the Second International Conference on Information Systems in Engineering and Construction (ISEC), June 13-14, 2002, Cocoa Beach, Florida.
- [6] 2004 ASEE Annual Conference, June 20-23, 2004, Salt Lake City, Utah, USA. Received **Nomination for Best Paper Award**.
- [7] CATE 2004: The 7<sup>th</sup> IASTED International Conference on Computers and Advanced Technology in Education, Aug. 16-18, 2004, Kauai, Hawaii, USA. Received **Nomination for Best Paper Award**.
- [8] **2008 ASEE-GSW Best Paper Award (Second Place)**, American Society for Engineering Education - Gulf-Southwest, March 26-28, 2008, Albuquerque, New Mexico, USA.

### III. EMPLOYMENT RECORD

| Dates                      | Details of Appointment   |
|----------------------------|--|
| July 2000 - Present        | Professor (2007)<br>Cecil O. Windsor, Jr., Endowed Professor (2004 - 2008)<br>Associate Professor (Tenured 2003)<br>Department of Construction Science<br>TEXAS A&M UNIVERSITY, College Station, TX 77843-3137<br>Website: <a href="http://www.tamu.edu">http://www.tamu.edu</a>   |
| August 1998 – June 2000    | Assistant Professor<br>Construction Engineering and Management<br>WESTERN MICHIGAN UNIVERSITY, Kalamazoo, MI 49008<br>Website: <a href="http://www.wmich.edu">http://www.wmich.edu</a>   |
| August 1991 – August 1998  | Supervising Engineer, Technical Services, Structures<br>(New York City Civil Service Title: Administrative Project Coordinator)<br>NEW YORK CITY METROPOLITAN TRANSPORTATION<br>AUTHORITY - BRIDGES & TUNNELS<br>(Previous Name: Triborough Bridge and Tunnel Authority -TBTA)<br>Randall's Island, New York, NY<br>Website: <a href="http://www.mta.nyc.ny.us/bandt/index.html">http://www.mta.nyc.ny.us/bandt/index.html</a> |
| May 1987 – August 1991     | Project Engineer/Structural Engineer<br>GANDHI ENGINEERING, INC. (Franklin Engineering Corp., est. 1931)<br>111 John Street, 3rd Floor, New York, NY 10038<br>Website: <a href="http://www.gandhieng.com/">http://www.gandhieng.com/</a>   |
| September 1986 – May 1987  | Civil/Structural Engineer<br>OMNI ENGINEERING, P.C.<br>381 Park Ave. South, New York, New York   |
| January 1985 – May 1986    | Graduate Assistant, Civil Engineering Department<br>NEW JERSEY INSTITUTE OF TECHNOLOGY<br>University Heights, Newark, New Jersey<br>Website: <a href="http://www.njit.edu">http://www.njit.edu</a>   |
| August 1982 – January 1985 | Lecturer, Faculty of Civil Engineering<br>BANGLADESH UNIVERSITY OF ENGINEERING AND<br>TECHNOLOGY (BUET), Dhaka, Bangladesh<br>Website: <a href="http://www.buet.ac.bd/">http://www.buet.ac.bd/</a>   |

## **IV. TEACHING EXPERIENCE**

### **A. TEXAS A&M UNIVERSITY (TAMU)**

#### **COURSES DEVELOPMENT AND TAUGHT:**

##### **UNDERGRADUATE COURSE**

COSC 321 Structural Systems I (3 Cr-hr)  
COSC 421 Structural Systems II (3 Cr-hr)  
COSC 422 Structural Systems III (3 Cr-hr)

##### **GRADUATE COURSE**

COSC 601 Construction Practices (3 Cr-hr)  
COSC 608 Structural Principles and Practices (3 Cr-hr)  
COSC 690 Theory of Research in Construction Management (3 Cr-hr)

### **B. WESTERN MICHIGAN UNIVERSITY (WMICH)**

#### **COURSES DEVELOPMENT AND TAUGHT:**

##### **UNDERGRADUATE COURSES**

[1] CMD 233 Construction Code and Specifications (3 Cr-hr)  
[2] CMD 236 Construction Measurement and Layout (3 Cr-hr)  
[3] CMD 336 Soil Mechanics and Foundation Design (3 Cr-hr)  
[4] CMD 386 Structural Analysis and Design (3 Cr-hr)  
[5] CMD 440 Reinforced Concrete Design (3 Cr-hr)

##### **GRADUATE COURSES**

[6] CMD 630 Computer-Aided Construction (3 Cr-hr)  
[7] CMD 633 Design of Construction Systems (3 Cr-hr)  
[8] CMD 696 Advanced Construction Management Topics (1 to 3 Cr-hr)

### **C. NEW JERSEY INSTITUTE OF TECHNOLOGY (NJIT)**

As a graduate assistant, Dr. Haque developed some useful software for Structural and Construction Engineering including computer program for shoring and re-shoring for high-rise building structures, and taught undergraduate courses.

### **D. BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)**

#### **COURSES DEVELOPMENT AND TAUGHT:**

##### **UNDERGRADUATE COURSES**

[1] Building Construction and Estimation  
[2] Strength of Materials  
[3] Structural Analysis  
[4] Reinforced Concrete Design  
[5] Fluid Mechanics  
[6] Hydraulics  
[7] Open Channel Flow  
[8] Computer Programming Languages

## **E. GRADUATE STUDENT ADVISING (DISSERTATION/THESIS/PROFESSIONAL PAPERS)**

### **Ph.D. Committee Member (4 completed)**

- [1] Youn Su Jung: “*Advancement of Erosion Testing, Modeling, and Design of Concrete Pavement Subbase Layers*”, Ph.D. Civil Engineering, August 2010
- [2] Sang Ick Lee: “*Development of Approach to Measure Volumetric Fraction of Multiphase Materials Using Dielectrics*”, Ph.D. Civil Engineering, (Defended on December 2009), May 2010
- [3] Se Hoon Jang: “*Identification of Concrete Incompatibilities using Cement Paste Rheology*”. Ph.D. Civil Engineering, December 2008.
- [4] Yosaporn Leelarasamee: *A Decision Support System for Income Production Real Estate Development Feasibility Analysis and Alternative Assessment*. Ph.D. in the Urban and Regional Science – Real Estate Development, December 2004.

### **Masters Committee Chair (33 completed)**

- [1] Parth Arora: *Macroeconomic Study of Construction Firm’s Profitability Using Cluster Analysis*. MS Construction Management. TAMU, August 2012.
- [2] Saher Zunaira: *Productivity Roadmap for the Architecture/Engineering/Construction Industry*. MS Construction Management. TAMU, May 2011.
- [3] Swapnil Shriram Jori: *Glass as a Building Element – A Sustainable Approach: A Study of an Existing Academic Building*. MS Construction Management. TAMU, December 2010.
- [4] Hrishikesh C. Pethkar: *Finding Critical Path of Construction Activities using Ant Colony System*. MS Construction Management. TAMU, December 2010.
- [5] Harika Peddiraju: *Study of Practical Implementation of RFID Technology in Construction Industry*. MS Construction Management. TAMU, December 2010.
- [6] Sruti Nallapaneni: *Data Transfer between BIM based AUTODESK REVIT Architecture and Energy Analysis Tools: ECOTECH, DESIGN BUILDER, and EQUEST from an Interoperability Perspective*. MS Construction Management. TAMU, December 2010.
- [7] Almasbek Botabekov: *Green Building Rating Program of Kazakhstan*. MS Construction Management. TAMU, December 2009.
- [8] Paul Thurston Gregg: *A Comparative Cost Analysis of Residential Construction Styles: Traditional versus Green Building*. MS Construction Management. TAMU, August 2009.
- [9] Vardhaman V. Bora: *Design Calculator for Quick Estimation of Concrete and Reinforcement in the Flat Plate Slab*. MS Construction Management. TAMU, March 2009.
- [10] Reniz Moosa: *Application of Unreal Game Engine 2 in the Visualization of Foundations of Buildings*. MS Construction Management. TAMU, November 2008.

- [11] Swapna Biju: *Energy Efficiency in Mumbai, India*. MS Construction Management. TAMU, November 2008.
- [12] Muzibur Rahman: *Time-Space-Activity Conflict Detection using 4D Visualization in Multi-Storied Construction Project*. MS Construction Management. November 2008.
- [13] Manish Ramnathkar: *Post Occupancy Evaluation of Safety and Comfort Issues of Hospital Buildings in India*. MS Construction Management. TAMU, November 2008.
- [14] Farzana Sultana: *Sustainable Water Supply: Rainwater Harvesting for Multistoried Residential Apartments in Dhaka, Bangladesh*. MS Construction Management, TAMU, December 2007. Committee Co-Chair.
- [15] Juan Carlos Zuluaga: *Knowledge-based Expert System for Selection of Soil Compaction Equipment for Construction*. MS Construction Management. TAMU, May 2007.
- [16] Rajmohan Mishra: *5D Visualization in Residential/Commercial Construction A Contractor's Perspective*. MS Construction Management, TAMU, May 2007.
- [17] Pallab Dasgupta: *Unreal Game Engine 2 as a Platform for Real time, Interactive and Educational Visualization*, MS Construction Management, TAMU, December 2006.
- [18] Gaurav K. Shah: *A Digital Library of 4D Models Used in Construction Education*, MS Construction Management, TAMU, May 2006.
- [19] Suketu Shah: *An On-line Instruction Tool to Develop 4D Model Using 4D Software*, MS Construction Management, TAMU, May 2006.
- [20] Garima Jain: *A Teaching Tool Development Methodology using Virtual Reality and Interactive 3D Animation for Steel Joints Failures*. MS Construction Management, TAMU, December 2005.
- [21] Sanjeev S. Sastry: *Implementation of a Multi-skilled Workforce in Construction Industry*. MS Construction Management, TAMU, May 2005.
- [22] Roop Chanda: *Using Virtual Reality and Interactive 3D modeling for Classroom Teaching of Steel Structures*. MS Construction Management, TAMU, May 2005.
- [23] Suril S. Mehtalia: *Virtual Tour of Light Wood Framed Construction*. MS Construction Management, TAMU, May 2005.
- [24] Thattanappillil Sunil Kumar: *Effect of Aggregate Gradation and W/C on Strength Characteristics and Cost of Concrete*, MS Construction Management, TAMU, May 2004.
- [25] Salim Saherwala: *Integrating 3D Animation with the Design and Construction of Timber Formwork for R.C. Columns, Beams, and Slabs – A Web-based Teaching Tool*, MS Construction Management, TAMU, May 2004.
- [26] Murtuza Aluminiumwala: *Virtual Tour to a Reinforced Concrete Building Construction Site*, - MS Construction Management, TAMU, December 2003.
- [27] Vikram Karandikar: *Knowledge Model for Comfort and Safety in Residential Housing Complex: An Artificial Intelligence (AI) Approach*, - MS Construction Management, TAMU, December 2003.

- [28] Travis Michael Martinek: *A Web Resource for Windstorm Damage Mitigation Techniques*, - MS Construction Management, TAMU, May 2003.
- [29] Shashikala Balasubramanian: *A Simulation Model for Fire Evacuation in an Educational Building*, - MS Construction Management, TAMU, May 2003.
- [30] Amro A. Taibah: *The Impact of Construction Type on Average Single-Family Home Values Using Hedonic Estimation and Artificial Neural Network Approach*, - MS Construction Management, TAMU, December 2002.
- [31] Amarneethi Vamadevan: *JAVA and VRML based Virtual Studio for Reinforced Concrete Design Course*, MS Construction Management, WMICH, Winter 2000.
- [32] Prawit Rotsawatsuk: *Computerized Facility Maintenance Management Database System*, MS Construction Management, WMICH, Spring 2000.
- [33] Kajpong Pongponrat: *Conform: A Computerized Job-Built Concrete Construction Formwork Design*, MS Construction Management, WMICH, Summer 1999.

**Masters Committee Member (31 completed)**

- [1] Akshay Parchure: *DESIGN OF CONTINUOUS PRESTRESSED CONCRETE SPLICED GIRDER BRIDGES*, MS Civil Engineering. (Defended on May 22, 2013), August 2013
- [2] JOEL PETERSEN-GAUTHIER: *APPLICATION OF THE GRILLAGE METHODOLOGY TO DETERMINE LOAD DISTRIBUTION FACTORS FOR SPREAD SLAB BEAM BRIDGES*, MS Civil Engineering. (Defended on June 13, 2013), August 2013
- [3] PEIZHI SUN: *A NEW PROTOCOL FOR EVALUATING CONCRETE CURING EFFECTIVENESS*, MS Civil Engineering. (Defended on June 14, 2013), August 2013
- [4] Yinghui Huang: *Building Damage, Death and Downtime Risk Attenuation in Earthquakes*, MS Civil Engineering. (Defended on March 1, 2012), May 2012
- [5] Subha Lakshmi Roy: *Design and Development of a Pre-cast Pre-stressed Concrete Bridge System: PART- A*. MS Civil Engineering. (Defended on Dec 7, 2010), May 2011
- [6] Anagha Parkar: *Design and Development of a Pre-cast Pre-stressed Concrete Bridge System: PART- B*. MS Civil Engineering. (Defended on Dec 7, 2010), May 2011
- [7] Jubair Ahmed: *Method for Identifying Best-Value Bid for Performance-based Maintenance Contracts*, MS Civil Engineering, August 2010
- [8] Shailendra Jondhale: *“A case Study to Examine and Analyze use of IFC protocol in Integration of BIM’s Model using Autodesk and Tekla software”*. MS Construction Management, August 2010
- [9] Brian James Geiger: *The Effects of using Alkali-Silica Reaction Affected Recycled Concrete Aggregate in Hot Mix Asphalt*,” MS Civil Engineering. August 2010
- [10] Sameh Alathirah: *Design-Build Project Delivery Method in Qatar: Testing the Local Contractors’ Level of Awareness and Utilization*. MS Construction Management. May 2010.

- [11] Amruta A. Deshpande: *Analysis of Project Delivery Systems used for Bridge Construction in the USA*. MS Construction Management, TAMU, August 2010.
- [12] Madhu K. Reddiar: *Piecewise Stress-Strain Model of Unconfined and Confined Concrete and Stress-Block Parameters*. MS Civil Engineering, December 2009.
- [13] Ryan Michael Alberson: *Lap Splice Performance in ASR and/or DEF Damaged Concrete Elements*. M.S. Civil Engineering, August 2009.
- [14] Jae Woong Won: *Obstacles and Strategies in Infill Development*. M.S. in the Urban and Regional Science – Land Development, May 2009.
- [15] Dong Yeun Kim: *The Financial Ways for Transit-Oriented Developments (TODs)*, M.S. in the Urban and Regional Science – Land Development, November 2008.
- [16] Woongsik Yoo: *The Strategic Positioning of Urban Entertainment Centers*, M.S. in the Urban and Regional Science – Land Development, May 2008.
- [17] Gene Lehmann: *Creating Master Planned Communities*. M.S. in the Urban and Regional Science – Land Development, TAMU, December 2007.
- [18] Sharmistha Ghosh: *Software Support Systems in Construction Project Management*. MS Construction Management, TAMU, December 2006.
- [19] Byoung Hoon Hwang: *The Application of Project Finance in Infrastructure Developments*. M.S. in the Urban and Regional Science – Land Development, TAMU, December 2006.
- [20] Yun Huh: *Empirical Study on the Impact of Color Code in Representing Multiple 4D Construction Schedules*. MS Construction Management, TAMU, May 2006.
- [21] Himanshu Shekhar: *Design of a Cultural Center*. M. Arch., TAMU, May 2006.
- [22] Ho Hyun Jang: *Mixed Use Town Center Development*. M.S. in the Urban and Regional Science – Land Development, TAMU, May 2006.
- [23] Jin Su Jeong: *Web-based Feedback System: The Life Cycle Management as Continuous Maintenance of Apartment Facility Information*. M. Arch., TAMU, May 2006.
- [24] John K. Evans: *The Lifestyle Center – “Hybrid Entertainment Power Centers.”* M.S. in the Urban and Regional Science – Land Development, TAMU, December 2005.
- [25] Tommy Stansell: *Office Space – Redevelopment/Adaptive Reuse*. M.S. in the Urban and Regional Science – Land Development, TAMU, December 2005.
- [26] R. Douglas Sebastian: *Real Estate Redevelopment Opportunities – A Review of Literature Relevant to Real Estate Developers*. M.S. in the Urban and Regional Science – Land Development, TAMU, December 2005.
- [27] Ivan Avelar-Lezama: *Non-Destructive Assessment of Moisture Content, Hydration and Dielectric Properties of Portland Cement Concrete in Hot-Dry Weather Conditions*, MS Civil Engineering, TAMU, August 2005.
- [28] Sehoon Jang: *Automated Crack Control for Concrete Pavement Construction*, MS in Civil Engineering, TAMU, May 2005.

[29] Woo Jin Shin: *The Impact of Parks and Greenways on Value of Single-family Property in Hedonic Price Model*. M.S. in the Urban and Regional Science – Land Development, TAMU, May 2004.

[30] Ramakrish Subramanian: *Extension to the College of Architecture: Texas A&M University*. M. Arch. TAMU, 2003.

[31] Andre Mund: *IntellCranes - A Neural Network Supported Crane Selection System*, MS Construction Management, WMICH, Fall 1998.

#### **F. UNDERGRADUATE STUDENT ADVISING (SENIOR DESIGN PROJECT)**

Perry G. Housman: *Design, Cost Estimation, and Scheduling of a Structural Steel and Reinforced Concrete Composite Single-Span Overpass*, Bachelor of Science in Engineering (Construction). Senior Design Project, WMICH, Spring 1999.

#### **G. ACCE ACCREDITATION 2005 (TAMU)**

Developed ACCE Accreditation course materials for COSC 422.

#### **H. ABET ACCREDITATION FALL 1999 (WMICH)**

Developed ABET Accreditation course materials for CMD 336, CMD 440, and CMD 233.

#### **I. COORDINATOR OF THE CONSTRUCTION ENGINEERING COMPUTER LABORATORY (WMICH, 1998-1999)**

Computers are the backbone of today's information system, which form an integral part of construction engineering and project management. The students of construction engineering and management need to be computer literate. As a coordinator of the construction engineering computer laboratory, Dr. Haque worked to modernize the computer laboratory with many new hardware and software.



## V. PRIVATE AND PUBLIC INDUSTRY/AGENCY EXPERIENCE (1986-1998)

Dr. Haque's teaching activities in Construction Science are underpinned by the 4Cs of teaching: commitment to the teaching endeavor, competence in the subject area, comfort with his teaching style, and compassion for his students. These 4Cs of teaching are well nourished by his previous academic and long industry experience in the field of civil/construction engineering. Dr. Haque has over 14 years of professional experience in analysis and design, planning and management of bridges, tunnels and building projects valued over 250 million dollars. His professional experience includes structural analysis and design of bridges (steel, concrete, and prestressed concrete), buildings, and special structures, such as catenary poles and high mast towers and their foundations, load ratings for highway and railway bridges, project management for structural projects with various City and State agencies. Before he moved to academia in 1998, Dr. Haque worked for seven years with the Triborough Bridge and Tunnel Authority (New York City Metropolitan Transportation Authority – Bridge & Tunnel) in New York City as an Administrative Project Coordinator - Supervising Structural Engineer for the Technical Services, and was involved with diversified responsibilities that included in-depth review of Consultant-designed drawings and technical specifications, addressing technical, constructibility, maintainability and durability issues, and resolving field problems arising during the construction phase. He supervised and developed in-house design projects, and computer aided Bridge and Tunnel Management System. He was actively involved with the Bridge Management Database System, and the Capital Programming Database System, which provided the Authority with an analytical tool to assess near-term and long-term capital needs. He worked for various New York City Engineering Consulting firms where he was involved with numerous buildings, bridges and other civil infrastructure design, inspection, evaluation and project management.

### A. AUGUST 1991 - AUGUST 1998

#### **Supervising Engineer, Technical Services, Structures**

(New York City Civil Service Title: **Administrative Project Coordinator**)

New York City Metropolitan Transportation Authority, Bridges & Tunnels

(Previous Name: Triborough Bridge and Tunnel Authority, TBTA)

Randall's Island, New York, NY

(Website: <http://www.mta.nyc.ny.us/bandt/index.html>)

Largest among the nation's bridge and tunnel toll authorities in terms of traffic volume, the Triborough Bridge and Tunnel Authority (TBTA) serves more than a million people daily in the New York metropolitan area. As a constituent agency of the Metropolitan Transportation Authority (MTA), its dual role is to operate seven bridges and two tunnels and to provide surplus toll revenues to help support public transit. Its facilities are the: (1) Triborough Bridge, (2) Throgs Neck Bridge, (3) Verrazano Narrows Bridge, (4) Bronx-Whitestone Bridge, (5) Henry Hudson Bridge, (6) Marine Parkway Gil Hodges Memorial Bridge, (7) Cross Bay Veterans Memorial Bridge, (8) Brooklyn Battery Tunnel, (9) Queens Midtown Tunnel

**Responsibilities:** In-depth review of consultant design drawings and technical specifications for complex structural systems. It included review of technical, feasibility, constructibility, maintainability and durability issues, and identification of critical areas, which required further study by the Consultants. Resolved field problems related to structural systems during construction phases. In-house design, supervision of contractors and consultants, and review of several major design and structural rehabilitation projects, valued over \$200 million dollars. Involved significantly with the Capital Programming System (CPS) and Biennial Bridge Inspection Databases, which were the key to planning, executing, and monitoring the twenty-year needs capital-programming plan for the Authority.

## ***Major projects:***

[1] Biennial Bridge Inspection Database System

*Project involved mainly* - Developed Uniform Bridge Element Identification System (UBEIS) to identify each bridge element uniquely, and utilized it in developing the Biennial Bridge Inspection Database System (BBIDS). Developed the algorithm for transferring bridge inspection data from BBIDS to Capital Programming System and to assess near-term and long-term capital needs for TBTA. These databases can test different priorities and scenarios, and estimate the costs and impacts of varying the timing, the scale and the levels of repair to be performed on Authority's bridges and tunnels. This bridge inspection database system has been used since 1991 for the Authority's all seven long span bridges including cable-suspension, truss, prestressed concrete bridges – (1) Triborough Bridge, (2) Throgs Neck Bridge, (3) Verrazano Narrows Bridge, (4) Bronx-Whitestone Bridge, (5) Henry Hudson Bridge, (6) Marine Parkway Gil Hodges Memorial Bridge, (7) Cross Bay Veterans Memorial Bridge.

Dr. Haque published four peer-reviewed publications on Bridge Inspection, Maintenance, and Management in journals and conference proceedings.

[2] Tunnel Leak Repairs, Walls, Ceiling, and Fire line Rehabilitation of the Queens Midtown Tunnel, New York City (\$97 M)

*Project involved mainly* - In-depth inspection and evaluation including various nondestructive evaluation; Repair/Replacement of ceiling slabs; new veneer panels; Leak Repairs; Rehabilitation of the Fire lines and Tunnel lighting.

The Queens Midtown Tunnel was opened in 1940 by the New York City Tunnel Authority to relieve traffic congestion on the city's East River bridges. One of the largest public works projects of the New Deal era; it represented the most advanced tunnel engineering techniques of its day.

[3] Rehabilitation of the Anchorages at the Triborough Bridge, New York City (\$10 M)

*Project involved mainly* - Cable strands socketing and re-anchoring; Strand wires splicing; Post-tensioning of the front and rear concrete anchorage blocks to prevent/decrease the crack openings due to Alkali-Silica Reaction; Epoxy-grouting of all major cracks; Elasto-plastic analysis (by ABAQUS) of the cable bent and rehabilitation design; Seismic Investigation of the roadway bents and rehabilitation design.

The Triborough Bridge, the authority's flagship facility, opened in 1936. It is actually three bridges, a viaduct, and 14 miles of approach roads connecting Manhattan, Queens, and the Bronx. The Manhattan branch is the Harlem River Lift Bridge, which links the Harlem River Drive, the FDR Drive, and 125th Street, Harlem's commercial and cultural center. The Bronx Crossing leads motorists to points north via the Bruckner and Deegan expressways and, more locally, to the neighborhoods of the South Bronx and the Port Morris Industrial Area. The longest span of the Triborough Bridge, the East River Suspension Bridge to Queens, connects with the Grand Central Parkway and the Brooklyn-Queens Expressway and to Astoria's residential areas, restaurants, and shops.

Dr. Haque published a paper based on this project in a peer-reviewed conference (XIII<sup>th</sup> FIP - International Federation of Prestressing) proceedings.

[4] Tunnel Leak Repairs, Walls, Ceiling Rehabilitation of the *Brooklyn Battery Tunnel* (\$56 M)

*Project involved mainly* - In-depth inspection and evaluation, including various nondestructive evaluations; Replacement of Ceiling slabs (precast reinforced concrete panel); new veneer panels; Leak Repairs, and Tunnel lighting.

When the Brooklyn Battery Tunnel opened in 1950, it was the longest continuous underwater vehicular tunnel in North America. It still is. Two ventilation buildings in lower Manhattan, a third near the Brooklyn portal, and a fourth just off Governors Island provide a complete air change in the tunnel every one and a half minutes. The Battery Parking Garage in Manhattan was built as part of the tunnel project.

[5] Rehabilitation of the 37<sup>th</sup> Street Bridge at the Queens Midtown Tunnel, New York City (\$3M)

*Project involved mainly* - Replacement of the entire bridge superstructure by pre-stressed box girders and new deck; Rehabilitation of abutments, bridge seats and the bearings.

[6] Rehabilitation of Queens Midtown Tunnel Roadway slab and fresh Air Duct (\$19 M)

*Project involved mainly* - In-depth inspection and evaluation, including various nondestructive evaluation (such as Sonic-ultrasonic, Ground Penetrating Radar, Half-Cell Potential, etc.); Finite Element analysis of the roadway deck; Load Test on the deck; Rehabilitation design for the reinforced concrete roadway slab and fresh air duct walls; installing membrane waterproofing, and fresh air flue rehabilitation.

[7] Rehabilitation of Brooklyn Battery Tunnel Roadway slab, New York City.

*Project involved mainly* - In-depth inspection and evaluation, including various nondestructive evaluation (such as Sonic-ultrasonic, Ground Penetrating Radar, Half-Cell Potential, etc.); Finite Element analysis of the roadway deck; Load Test on the deck; Rehabilitation design for the reinforced concrete roadway slab.

[8] Rehabilitation of the Ventilation Buildings at the Queens Midtown Tunnel, New York City.

*Project involved mainly* - Rehabilitation design for the floor, walls, exhaust shafts and retaining walls.

[9] Rehabilitation of the 10 Columbus Circle Parking Garage, New York City.

*Project involved mainly* - Replacement of the existing waffle slab floor with reinforced concrete flat slab system; repair wall cracks.

[10] Rehabilitation of the Bridge Deck Superstructure for Cross-Bay Veterans Memorial Bridge, Queens, New York City.

*Project involved mainly* - In-depth inspection and evaluation, including various nondestructive evaluations (Sonic-ultrasonic, Ground Penetrating Radar); Load rating; and rehabilitation design drawings for the new roadway overlay and structural repairs for the bridge under-deck, pre-stressed girders, and substructure.

In 1970, the TBTA completed the present Cross Bay Veterans Memorial Bridge, a high level fixed bridge, which permits boats to pass under it without the traffic delays caused by the lifting of a bascule bridge. Located four miles east of the Marine Parkway Bridge, which connects the Rockaway Peninsula to Brooklyn, the Cross Bay Bridge connects the peninsula to the rest of Queens, the Belt Parkway, and the Southern State Parkway.

## **B. MAY 1987- AUGUST 1991**

### **Project Engineer/Structural Engineer**

**GANDHI ENGINEERING, INC.**

**(Franklin Engineering Corp., est. 1931)**

111 John Street, 3rd Floor, New York, NY 10038

(Website: <http://www.gandhieng.com/> )

Gandhi Engineering, Inc. is a consulting engineering firm located in New York City, established in 1931 (original name, Franklin Engineering Corp.), provides civil, structural, architectural, traffic, electrical, mechanical and construction management services. It is one of the top 50 architectural and engineering design firms in New York City. It employs more than 80 full-time design and construction professionals including several licensed professional engineers and architects.

**Responsibilities:** Structural analysis and design of bridges (Steel, Reinforced Concrete, Composite and Prestressed), buildings, load ratings for highways and railways bridges, and analysis and design of special structures, such as, catenary poles and high mast towers, and their foundations. In charge of in-house CAD training, management and expansion of computer usage in design and analysis. Preparation of Contract Drawings, Technical Specifications, and Technical Proposals.

**Major Projects:**

[1] Rehabilitation of West Fordham Road Bridges over Metro-North tracks and Major Deegan Expressway in Bronx, NY.

Project involved mainly - Analysis and design for composite wide flange beam superstructure for the two bridges, (one with two spans continuous, and the other with four spans), abutments, piers and ramp structures.

[2] Rehabilitation of Ellis Ave. Pedestrian Bridge over I-95, Bronx, NY.

Project involved mainly - Structural design for the new pre-stressed box beams superstructure, and new-elevated ramps for the handicapped, abutments and piers.

[3] Rehabilitation of Alexander Hamilton Bridge, Bronx, NY.

Project involved mainly - Structural analysis to determine causes of bearing and joint failure, and rehabilitation design for the replacement of bearings and joints.

[4] Rehabilitation Design and widening of Queens Midtown Viaduct, Queens, NY.

Project involved mainly - Structural analysis and checking the adequacy for all existing steel-column bents (truss structures) including their foundations considering new loading, design for six new columns and their foundations for the widened ramp, retaining walls, and various steel brackets and joints.

[5] Inspection and load ratings for the Atlantic Ave. Viaduct (Railway bridge), Brooklyn, NY.

Project involved mainly - Copper-E Load Rating using the manual for railway engineering, (AREA).

[6] Biennial and Interim Inspection of Arterial Bridges in Queens and Brooklyn, NY.

Project involved mainly - Load Ratings for the Honeywell Street Bridge Ramp, Queens, NY

[7] Engineering and Design of Catenary Poles and Foundations for High Mast Light Towers for New Haven Yard, CT, for Metro-North Commuter Railroad.

Project involved mainly - Structural analysis and design for new Catenary poles, drilled shaft pier foundation for the Catenary poles and high mast light towers, preparation of contract drawings and technical specifications.

**C. SEPTEMBER 1986 - MAY 1987**

**Civil/Structural Engineer**

**OMNI ENGINEERING, P.C.** , 381 Park Ave. South, New York, New York

**Major Projects:**

[1] Catenary Support Structure Design for AMTRAK (Commuter Railway)

[2] Computer Aided Traffic Analysis for Miller Highway (West Side Highway), Manhattan, NY: Level of Service Analysis for Signalized and Un-signalized Intersections, Ramp and Freeway Analysis using Highway Capacity Manual Software.

## VI. RESEARCH

### A. RESEARCH INTERESTS

Computer Applications in Structural Analysis, Design and Construction - Analysis, design, testing and numerical modeling of concrete and reinforced concrete structures subjected to static and dynamic loads; Artificial Neural Networks and Genetic Algorithms applications; Knowledge based expert system design; Application based Software developments.

Construction Visualization; 3D/4D/5D/...n-D Visualization in Construction and Construction Education.

Structural Assessments and Remedial Actions to solve problems associated with buildings, bridges and tunnel structures - Investigation, testing and evaluation of structural problems in steel/concrete, and remedial actions.

Fracture Mechanics of Engineering Materials - Fracture Mechanics Parameters; Application of Fracture Mechanics in Analysis and Design.

Composite Materials and Advanced Construction Materials - Fiber reinforced plastic reinforcement for concrete, application of fiber composite for new structure and for strengthening and rehabilitation of existing structures.

Nondestructive Evaluation of Concrete Structures - Application of various non-destructive techniques to evaluate the deterioration in concrete structures and assisting in making the right decisions for optimum repair strategy.

Bridges/Buildings/Infrastructure/Tunnels inspection and database management systems - Graphics relational database development for large-scale projects.

### B. RESEARCH PUBLICATIONS

Dr. Haque's research publications are focused on six major areas in construction science and engineering – (1) Engineering/Construction Materials (Steel, Concrete, Composite, etc.), (2) Structures Evaluation, Maintenance, and Management, (3) Structural Analysis and Design, and Computing Software Development, (4) Construction Engineering and Management, (5) Artificial Neural Networks and Genetic Algorithms applications, and (6) Innovative Use of Information Technology in Construction Science/Engineering Education.

Dr. Haque's *graduate students* were involved in many of his research, and their names have been written in *italic* in the following list of publications.

#### **Refereed Journal Publications (12):**

[1] Sudhakar, K.V. and **Haque, M.E.**, "Artificial Neural Network Model: Prediction of Mechanical Properties in Beta-Titanium Biomaterial," *Applied Mechanics and Materials*, Vol. 367 (2013) pp 40-44 © (2013) Trans Tech Publications, Switzerland, doi: 10.4028/www.scientific.net/AMM.367.40.

[2] Choi, K., **Haque, M.**, Lee, HW, Cho, YK and, Kwak, YH, "Macroeconomic labour productivity and its impact on firm's profitability," *Journal of the Operational Research Society* (2013) 64, 1258–1268.

[3] **Haque, M.E.** and *Balasubramanian, S.*, "A Computer Simulation Model for Emergency Building Evacuation with ARENA," *Engineering Intelligent Systems*, Vol. 15 No. 3, pp 57-63, September 2007, Publisher- CRL Publishing Ltd.

[4] **Haque, M.E.**, and Sudhakar, K.V., "ANN Back-propagation Prediction Model for Fracture Toughness in Microalloy Steel," *International Journal of Fatigue*, Vol. 24, Issue 9, pp. 1003-1010, September 2002, Publisher - Elsevier Science, Ltd.

[5] **Haque, M.E.**, and Sudhakar, K.V., "Prediction of Corrosion-Fatigue behavior of DP steel through Artificial Neural Network," *International Journal of Fatigue*, Vol. 23, Issue 1, pp. 1-4, January 2001, Publisher - Elsevier Science, Ltd.

[6] **Haque, M.E.**, and Sudhakar, K.V., "ANN based prediction model for fatigue crack growth in DP steel," *International Journal of Fatigue & Fracture of Engineering Materials & Structures*, Vol. 24, Issue 1, pp. 63-68, January 2001, Publisher - Blackwell Science Ltd.

[7] Sudhakar, K.V., and **Haque, M.E.**, "Mechanical behavior of Powder Metallurgy steel - Experimental Investigation and Artificial Neural Network-Based Prediction Model," *Journal of Materials Engineering and Performance*, 10(1), pp. 31-36, February 2001, Publisher- ASM International.

[8] **Haque, M.E.**, and *Pongponart, K.*, "Integrated Multimedia Uniform Bridge Element Identification System Database for Bridge Inspection and Maintenance," *Transportation Research Record: Journal of the Transportation Research Board*, pp. 1-5, Record No. 1697 Maintenance and Management of Bridges and Pavements, July 2000.

[9] **Haque, M.E.**, and Sudhakar, K.V., "An Artificial Neural Network Prediction for Dry Sliding Wear in Fe-2%Ni based PM Alloy," *Brazilian Journal of Materials Science and Engineering*, Vol. 3, N.1, pp. 37-44, July 2000.

[10] Sudhakar, K.V., and **Haque, M.E.**, "Effect of Heat Treatment on Mechanical Properties and Neural Network Simulation in MIM Alloy," *Brazilian Journal of Materials Science and Engineering*, Vol. 3, N. 1, pp. 5-14, July 2000.

[11] **Haque, M.E.**, "Uniform Bridge Element Identification System (UBEIS) for Database Management for Roadway Bridges," *ASCE Journal of Bridge Engineering*, Vol. 2, No.4, pp. 183-188, November 1997.

[12] **Haque, M.E.**, and Ansari, F., "Composite Beam Analogy Fracture Model for Concrete," *ASCE Journal of Engineering Mechanics*, Vol. 122, No. 10, pp. 957-965, October 1996.

### **Peer-reviewed Conference Proceedings (81):**

[1] Sudhakar, K.V. and **Haque, M.E.**, " Artificial Neural Network Model: Prediction of Mechanical Properties in Beta-Titanium Biomaterial," Accepted for presentation and publication of the International Conference on Mechanics, Simulation and Control (ICMSC 2013), Kanyakumari, India, June 22-23, 2013.

[2] **Haque, M.E.**, " Multilayer Perceptron Back-Propagation Artificial Neural Network Model to Predict Failure Loads on Reinforced Concrete Slabs," Proceedings of the 2013 Asian Conference on Civil, Material and Environmental Sciences (ACCMES'2013), Tokyo, Japan, March 15-17, 2013.

[3] **Haque, M.E.**, " An Artificial Neural Network Trained Model based on Yield-Line Analysis to Predict Failure Loads on Two-Way Rectangular Slabs," Proceedings of the third International

Conference on Construction In Developing Countries (ICCIDC-III) "Advancing and Integrating Construction Education, Research & Practice", July 4-6, 2012, Bangkok, Thailand.

[4] **Haque, M.E.**, "Effect of Class Absenteeism on Grade Performance: A Probabilistic Neural Net (PNN) based GA trained model," Proceedings of 2012 American Society for Engineering Education (ASEE) Annual Conference, Educational Research and Methods Division, June 10 - 13, 2012, San Antonio, Texas.

[5] Ryoo, B.Y., Duff, M.T., and **Haque, M.E.**, " Bridging the Gap Between the Classroom and the Construction Industry on Scheduling Practices," Proceedings of 2012 ASEE Gulf-Southwest Section Annual Conference, April 4-6, 2012, El Paso, Texas.

[6] **Haque, M.E.**, "Relationship between Class Absenteeism and Grade Performance: A Pattern Recognition using Artificial Neural Network," Proceedings of 2011 ASEE Gulf-Southwest Section Annual Conference, March 9-11, 2011, Houston, TX.

[7] *Pethkar, Hrishikesh* and **Haque, M.E.**, "Finding Critical Path of Construction Activities using Ant Colony Optimization," Proceedings of 2011 ASEE Gulf-Southwest Section Annual Conference, March 9-11, 2011, Houston, TX.

[8] *Jori, Swapnil*, **Haque, M.E.** and Beltran, Liliana, " Selection of Glass as a Building Element: A Sustainable Approach," Proceedings of 2011 ASEE Gulf-Southwest Section Annual Conference, March 9-11, 2011, Houston, TX.

[9] **Haque, M.E.**, "Multi-Dimensional Construction Visualizations with Examples: Suggested Topics for Graduate Course," Proceedings of 2010 American Society for Engineering Education (ASEE) Annual Conference, Architectural Engineering Division, June 20 - 23, 2010, Louisville, Kentucky.

[10] *Botabekov, Almasbek* and **Haque, M.E.**, "Proposed Guidelines for a Green Building Rating System of Kazakhstan," Proceedings of 2010 ASEE Gulf-Southwest Section Annual Conference, March 24-26, 2010, Lake Charles, LA.

[11] **Haque, M.E.**, and *Rahman, Muzibur*, "Time-Space-Activity Conflict Detection Using 4D Visualization in Multi-storied Construction Project," Book: Visual Informatics: Bridging Research and Practice- First International Visual Informatics Conference (IVIC 2009) Kuala Lumpur, Malaysia, November 11-13, 2009 Proceedings – IVIC 2009, LNCS 5857, pp. 266-278, 2009, (ISBN 978-3-642-05035-0, Vol. 5857/2009, Published by Springer-Verlag Berlin / Heidelberg.

[12] **Haque, M.E.**, and *Moosa, Reniz*, "VIRTUAL WALKTHROUGH OF A BUILDING FOUNDATIONSYSTEM USING GAME ENGINE," Proceedings of 2009 American Society for Engineering Education (ASEE) Annual Conference, Architectural Engineering Division, June 14 - 17, 2009, Austin, TX.

[13] *Biju, Swapna* and **Haque, M.E.**, "Energy Efficiency in Residential Buildings in Mumbai, India," Proceedings of 2009 ASEE Gulf-Southwest Section Annual Conference, March 18-20, 2009, Waco, Texas.

[14] *Bora, Vardhaman* and **Haque, M.E.**, "Design Calculator for Quick Estimation of Concrete and Reinforcement in the Flat Plate Slab," Proceedings of 2009 ASEE Gulf-Southwest Section Annual Conference, March 18-20, 2009, Waco, Texas.

[15] **Haque, M.E.** "VR, n-D and FPS Game Engine Driven Visualization For the Architectural/Construction Engineering Education," Proceedings of the International Conference on Computers and Advanced Technology in Education (CATE 2008), organized by the International

Association of Science and Technology for Development (IASTED), ISBN 978-0-88986-768-0, pp. 419-423, September 29 – October 1, 2008 Crete, Greece.

[16] **Haque, M.E.**, and *Dasgupta, Pallab*, "An Architectural Walkthrough using 3D Game Engine," Proceedings of 2008 American Society for Engineering Education (ASEE) Annual Conference, Architectural Engineering Division, June 22-25, 2008, Pittsburgh, PA.

[17] **Haque, M.E.**, and *Dasgupta, Pallab*, "Architectural/Engineering Visualization Using Game Engine," Proceedings of the 2008 ASEE Gulf-Southwest Section Annual Conference, March 26-28, 2008, Albuquerque, NM. **This paper received the 2008 ASEE-GSW Best Paper Award (Second Place).**

[18] **Haque, M.E.**, and *Mishra, Rajmohan* "5D Virtual Constructions: Designer/Constructor's Perspective," Proceedings of the 10th International Conference on Computer and Information Technology (ICCIT 2007), ISBN 1-4244-1550-0, pp. 134-137, December 27-29, 2007, Dhaka, Bangladesh.

[19] **Haque, M.E.**, "n-D Virtual Environment in Construction Education," Proceedings of the 2nd International Conference on Virtual Learning (ICVL 2007), pp. 81-88, ISBN: 973737218-2, October 26-28, 2007, Constanta, Romania.

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[21] *Das, Somnath* and **Haque, M.E.**, "Study of Residential Building Roof Specifications considering Wind Loads in the East Coast of Houston," Proceedings of the 2007 ASEE Gulf-Southwest Section Annual Conference, March 28-31, 2007, South Padre Island, TX.

[22] *Yechuri, Rama* and **Haque, M.E.**, "Utilization of 3D (Dynamic) Visualization in Construction Simulation Systems," Proceedings of the 2007 ASEE Gulf-Southwest Section Annual Conference, March 28-31, 2007, South Padre Island, TX.

[23] **Haque, M.E.**, "Virtual Reality and Learner-Centered Pedagogy: Technology's New Role for the Architectural Engineering Students," Proceedings of the first International Conference of the Center for the Study of Architectural in the Arab Region (CSAAR 2006) – Changing Trends in Architectural Design Education, pp. 205-215, ISBN: 9957-8602-0-8, November 14-16, 2006, Rabat, Morocco.

[24] **Haque, M.E.** and *Mehtalia, S. S.*, "Virtual Reality: An Analytical Concept Visualization Technique for Architectural Engineering," Proceedings of the International Conference on Computers and Advanced Technology in Education (CATE 2006), organized by the International Association of Science and Technology for Development (IASTED), pp. 272-276, ISBN: 0-88986-626-0, ISSN: 1482-7905, October 4-6, 2006, Lima, Peru.

[25] **Haque, M.E.**, "Visualization in Construction Science and Engineering Education," Proceedings of 2006 American Society for Engineering Education (ASEE) Annual Conference, Construction Engineering Division, June 18-21, 2006, Chicago, Illinois.

[26] **Haque, M.E.** and *Jain, G.*, "3D Animation and Virtual Reality for Teaching Steel Joints," Proceedings of the 2006 ASEE Gulf-Southwest Section Annual Conference, Section 21, Technical Writing and Virtual Laboratories, March 15-17, 2006, Baton Rouge, Louisiana.

[27] *Shah, G.* and **Haque, M.E.**, "4D Model of Concrete Foundation used in Residential Construction," Proceedings of the 2006 ASEE Gulf-Southwest Section Annual Conference, Section 18, New Developments in Engineering Education, March 15-17, 2006, Baton Rouge, Louisiana.



[28] *Shah, S.* and **Haque, M.E.**, "Web-based 4D Visualization of Steel Structure Construction Process: An Instruction Tool," Proceedings of the 2006 ASEE Gulf-Southwest Section Annual Conference, Section 18, New Developments in Engineering Education, March 15-17, 2006, Baton Rouge, Louisiana.

[29] **Haque, M.E.**, "Desktop Virtual Environments in Construction Education," Proceedings of the SIGRADI'05 – IX Iberoamerican Congress of Digital Graphics, pp. 712-730, ISBN: 1-59975-306-5, November 21-23, 2005, Lima, Peru.

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[31] *Thattanappillil, S.K.* and *Haque, M.E.*, "An Experimental Investigation on Aggregate Gradation and W/C ratio on Strength and Cost Effectiveness of Concrete," Proceedings of the 3rd International Conference on Construction in the 21st Century (CITC- III), Paper No. 17, ISBN: 960-254-655-7, September 15-17, 2005, Athens, Greece.

[32] **Haque, M.E.**, *Saherwala, S.* and *Aluminiumwalla, M.*, "A Virtual Walkthrough on Reinforced Concrete Construction Details," Proceedings of the American Society for Engineering Education 2005 ASEE Annual Conference, Session 1121 – Trends in Construction Engineering, June 12-15, 2005, Portland, Oregon.

[33] **Haque, M.E.**, *Shah, S.* and *Agarwal, G.*, "A Virtual Tour of Energy Conscious Architecture," Proceedings of the American Society for Engineering Education 2005 ASEE Annual Conference, Session 2406 Architectural Engineering Education, June 12-15, 2005, Portland, Oregon.

[34] *Chanda, R.*, and **Haque, M.E.**, " A Virtual Tour of a Steel Structural Construction," Proceedings of the 2005 ASEE Gulf-Southwest Section Annual Conference, March 23-25, 2005, Corpus Christi, TX.

[35] *Shah, S.*, *Agarwal, G.*, and **Haque, M.E.**, " A Virtual Walkthrough of an Energy Conscious Single-Family Home," Proceedings of the 2005 ASEE Gulf-Southwest Section Annual Conference, March 23-25, 2005, Corpus Christi, TX.

[36] **Haque, M.E.**, *Aluminiumwalla, M.*, and *Saherwala, S.*, " A Virtual Construction Site to Teach Construction," Proceedings of the 7<sup>th</sup> International Conference on computers and Advanced Technology in Education (CATE 2004) organized by the International Association of Science and Technology for Development (IASTED), pp. 202-206, ISBN: 0-88986-422-5, ISSN: 1482-7905, August 16-18, 2004, Kauai, Hawaii. ***This Paper received the nomination for Best Paper.***

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2004 ASEE Annual Conference, Session 1121 Trends in Construction Engineering, June 20-23, 2004, Salt Lake City, Utah. **This Paper received the nomination for Best Paper.**

[40] **Haque, M.E.** and *Aluminiumwalla, M.*, "A Virtual Tour of a Reinforced Concrete Building Construction," Proceedings of the American Society for Engineering Education, 2004 ASEE Annual Conference, Session 2406 Technical Issues in Architectural Engineering, June 20-23, 2004, Salt Lake City, Utah.

[41] *Thattanappillil, S.K.*, **Haque, M.E.**, Zollinger, D., Mukhopadhyay, A. and Neekhra, S., "Influence of Aggregate Gradation and W/C ratio on Strength Characteristics and Cost Effectiveness of Concrete," Proceedings of the Fourth International Conference on Information Systems in Engineering and Construction (ISEC 2004), Cocoa Beach, Florida, June 12-13, 2004.

[42] **Haque, M.E.** and *Balasubramanian, S.* "Fire Emergency Building Evacuation: A Computer Simulation Model", Proceedings of the 19<sup>th</sup> International Conference on Computers and Their Applications (CATA-04), the International Society for Computers and Their Applications – ISCA, pp. 70-74, ISBN: 1-880843-50-1, Seattle, WA, March 18-20, 2004.

[43] **Haque, M.E.**, and *Aluminiumwalla, M.*, "A Virtual Walk-through of a Reinforced Concrete Building Construction," Proceedings of the 2004 ASEE Gulf-Southwest Section Annual Conference, March 10-12, 2004, Texas Tech University, Lubbock, TX.

[44] **Haque, M.E.**, and *Saherwala, S.*, "Teaching Design of Formworks for Concrete using 3-D Animated Free-body Diagrams," Proceedings of the 2004 ASEE Gulf-Southwest Section Annual Conference, March 10-12, 2004, Texas Tech University, Lubbock, TX. [www.ASEEGSW.org](http://www.ASEEGSW.org)

[45] **Haque, M.E.** and *Taibah, A.* "The impact of Construction type on Single- Family Home Values using Hedonic estimation and Artificial neural network", Proceedings of the Second International Conference on Construction in the 21st Century (CITC-II), pp. 732-740, ISBN: 988-97370-1-9, Hong Kong, December 10-12, 2003.

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[47] **Haque, M.E.** and *Karandikar, V.* " AI Knowledge Model on Comfort and Safety in a Housing Complex," Proceeding of the Seventh International Conference on the Application of Artificial Intelligence to Civil and Structural Engineering (AICC03), Editor: B.H.V. Topping, Civil-Comp Ltd., Stirling, Scotland (Saxe-Coburg Publications, Scotland), pp. 105-106 & CD – Paper 41; ISBN: 0-948749-92-X, Presented in Egmond ann Zee, The Netherlands, September 2-4, 2003.

[48] **Haque, M.E.**, " An ANN Model for Biaxial Bending of Reinforced Concrete Column," Proceeding of the Second International Conference on Structural Engineering and Construction (ISEC02), System-based Vision for Strategic and Creative Design, Editor: Franco Bontempi, Vol.2, pp. 1517-1521, ISBN: 90-5809-601-7, Publisher: A.A. Balkema; Presented in Rome, Italy, September 23-26, 2003.

[49] **Haque, M.E.**, " Visualization Techniques for Structural Design Education," Proceedings of the American Society for Engineering Education, 2003 ASEE Annual Conference, Session 2158, June 22-25, 2003, Nashville, TN.

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[51] *Karandikar, V.* and **Haque, M.E.**, " AI Knowledge Model based on Post-Occupancy Evaluation of a Large Residential Housing Complex," Proceedings of the third International Conference on Information Systems in Engineering and Construction (ISEC 2003), June 12-13, 2003, Cocoa Beach, Florida.

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[58] **Haque, M.E.** and *Karandikar, V.*, "A Study on Comfort and Safety in a Residential Housing Complex: A Neuro-Genetic Knowledge Model," Proceedings of the Second International Conference on Information Systems in Engineering and Construction (ISEC 2002), June 13-14, 2002, Cocoa Beach, Florida. **Dr. Haque received the 2002 ISEC Best Paper Award.**

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[64] **Haque, M.E.** "Interactive Animation and Visualization in a Virtual Soil Mechanics Laboratory," Proceedings of the 31<sup>st</sup> ASEE/IEEE Frontiers in Education Conference, Section T1C Laboratory Innovations, October 10-13, 2001, Reno, NV.

[65] Martin, J.W. and **Haque, M.E.** "Service Learning: Engineering, Construction, and the Experiential Curriculum," Proceedings of the 31<sup>st</sup> ASEE/IEEE Frontiers in Education Conference, Section F3E Service and Industry, October 10-13, 2001, Reno, NV.

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[71] **Haque, M.E.** and *Vamadevan, A.* "Visualization techniques for analysis and design principles in reinforced concrete structures," Proceedings of the 1<sup>st</sup> International Conference on Innovation in Architecture, Engineering and Construction (AEC), pp. 793 - 801, July 18-20, 2001, Loughborough University, UK.

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[73] **Haque, M.E.** and *Pongponrat, K.* "CONFORM - An interactive PC based job-built concrete formwork design," Proceeding of the 3<sup>rd</sup> International Conference on Construction Project Management (3ICCPM) From Fragmentation To Integration Conference, pp. 462-470, 29 - 30 March 2001, Singapore.

[74] Choudhury, I. and **Haque, M.E.** "A Study of Cross-cultural Training in International Construction Using General Linear Model Procedure and Artificial Neural Network Approach," Proceedings of the 3<sup>rd</sup> International Conference on Construction Project Management (3ICCPM) From Fragmentation To Integration Conference, pp. 444-453, 29 - 30 March 2001, Singapore.

[75] **Haque, M.E., Vamadevan, A., and Rotsawatsuk, P.**, "Java Simulation based Soil Mechanics Laboratory Course Studio," Proceedings of the American Society for Engineering Education - ASEE 2000 Annual Conference, Section 1426 Novel Instructional Procedure, June 19, 2000, St. Louis, MO.

[76] **Haque, M.E., Vamadevan, A., Duraimurugar, S., and Gandlur, Y.**, "Java and VRML based Interactive Reinforced Concrete Design Course Studio," Proceedings of the American Society for Engineering Education - ASEE 2000 Annual Conference, Section 1315 Use of Computer Technology to Enhance CE Education, June 19, 2000, St. Louis, MO.

[77] **Haque, M.E., Vamadevan, A., and Rotsawatsuk, P.**, "Java-VRML Based Studio for Reinforced Concrete Design Principles," Proceedings of the American Society for Engineering Education - 2000 ASEE North Central Section Spring Conference, Section 202, March 31, 2000, East Lansing, MI.

[78] **Haque, M.E., Vamadevan, A., and Rotsawatsuk, P.**, "Multi-media System based Soil Mechanics Laboratory Studio," Proceedings of the American Society for Engineering Education - 2000 ASEE North Central Section Spring Conference, Section 202, March 31, 2000, East Lansing, MI.

[79] **Haque, M.E., and Pongponart, K.**, "Multi-media Information System Integrated *UBEIS* Database for Bridge Inspection and Maintenance," Proceedings of the Transportation Research Board 79<sup>th</sup> Annual Conference, Section – Bridge, Culvert, and Tunnel Design and Performance, Paper no. 00-0569, January 9-13, 2000, Washington, D.C.

[80] Pituscan, V., O'Connor, T., **Haque, M.E.**, "Post-Tensioning the Queens Anchorage of the New York City's Triborough Bridge," Proceedings of the XIII<sup>th</sup> FIP (International Federation of Pre-stressing) Congress, Vol.2, and pp. 631-634, May 23-29, 1998, Amsterdam, The Netherlands.

[81] Hussein, R. and **Haque, M.E.**, "Computer Aided Analysis and Design of Open System Multistory Reinforced Concrete Building," Proceedings of ASCE Structure Congress 1986, Structure Division of ASCE, held in Louisiana, Sept. 1986.

### **Invited Conference Presentation Papers**

(These papers have been published previously in Peer Reviewed Conference Proceedings)

**Haque, M.E.**, " An Artificial Neural Network Trained Model based on Yield-Line Analysis to Predict Failure Loads on Two-Way Rectangular Slabs," Presented at the Global Symposia Presentations 2012 – Natural, Built & Virtual, College of Architecture, Texas A&M University, October 22, 2012.

**Haque, M.E.**, "Relationship between Class Absenteeism and Grade Performance: A Pattern Recognition using Artificial Neural Network," Presented at the Global Symposia Presentations 2011 – Natural, Built & Virtual, College of Architecture, Texas A&M University, October 24, 2011.

**Haque, M.E.**, "Multi-Dimensional Construction Visualizations with Examples: Suggested Topics for Graduate Course," Presented at the Global Symposia Presentations 2010 – Natural, Built & Virtual, College of Architecture, Texas A&M University, October 18, 2010.

**Haque, M.E., and Moosa, Reniz.** "Virtual Walkthrough of a Building Foundation System using Game Engine," Presented at the Global Symposia Presentations 2009 – Natural, Built & Virtual, College of Architecture, Texas A&M University, October 19, 2009.

**Haque, M.E., and Dasgupta, P.** "An Architectural Walkthrough using 3-D Game Engine," Presented at the Global Symposia Presentations 2008 – Natural, Built & Virtual, College of Architecture, Texas A&M University, October 27, 2008.

**Haque, M.E.**, "Virtual Reality and Learner-Centered Pedagogy: Technology's New Role for the Architectural Engineering Students," Presented at the Global Symposia Presentations 2007 - Research on the Built & Virtual Environments, College of Architecture, Texas A&M University, October 29, 2007.

**Haque, M.E.**, "Visualization in Construction Science and Engineering Education," Presented at the Global Symposia Presentations 2006 - Research on the Built & Virtual Environments, College of Architecture, Texas A&M University, October 30, 2006.

**Haque, M.E.**, *Aluminiumwalla, M.*, and *Saherwala, S.*, "A Virtual Construction Site to Teach Construction," Presented at the seventh Annual College Research Symposium, College of Architecture - Research on the Built and Virtual Environment, Texas A&M University, November 14, 2005.

**Haque, M.E.**, *Balasubramanian, S.* "A Computer Simulation Model for Emergency Building Evacuation with AREAN," Presented at the sixth Annual College Research Symposium, College of Architecture - Research on the Built and Virtual Environment, Texas A&M University, October 29, 2004.

**Haque, M.E.**, "Reinforced Concrete Beam-Column Design: An Artificial Neural Network Approach," Presented at the fifth Annual College Research Symposium, College of Architecture - Research on the Built and Virtual Environment, Texas A&M University, October 27, 2003.

**Haque, M.E.** and *Mund, A.*, "Shoring Loads in Multistory Structure: An Artificial Neural Network Model," Presented at the fourth Annual College Research Symposium, College of Architecture - Research on the Built and Virtual Environment, Texas A&M University, November 15, 2002.

**Haque, M.E.** and *Pongponrat, K.* "CONFORM - An interactive PC based job-built concrete formwork design," Presented at the third Annual College Research Symposium, College of Architecture - Research on the Built and Virtual Environment, Texas A&M University, October 5, 2001.

**Haque, M.E.**, *Vamadevan, A.*, *Duraimurugar, S.*, and *Gandlur, Y.*, "Java and VRML based Interactive Reinforced Concrete Design Course Studio," Presented at the second Annual College Research Symposium, College of Architecture, Texas A&M University, October 6, 2000.

### **Book Review**

*Concrete Structures*, by Mehdi Setareh & Robert Darvas, McGraw-Hill, 2004

## **C. RESEARCH CONTRIBUTIONS:**

### **CECIL O. WINDSOR, JR., ENDOWED PROFESSORSHIP (2004-'08)**

Dr. Haque has been named the **Cecil O. Windsor Jr. Endowed Professor in Construction Science** for his work in advancing construction technology.

The Windsor Professorship, established by Keith Williams, president of gamma Construction Company, with the matching funds from the Construction Industry Advisory Council, honors Cecil O. Windsor, Jr., a 1966 Civil Engineering graduate and vice president of the construction company. In creating the endowment, Williams credited Windsor's mentorship for his success in the construction industry.

As the first Cecil O. Windsor, Jr., Endowed Professor, Dr. Haque introduced four Cecil O. Windsor, Jr. Fellowships (\$1000 each) for COSC Graduate Students. These fellowships were awarded to students with

high academic credentials for two consecutive semesters (\$500+\$500). Students who received the fellowships did their research in the field of construction technology advancement.

Publications (Windsor Fellowship):

*Das, Somnath* and Haque, M.E., “Study of Residential Building Roof Specifications considering Wind Loads in the East Coast of Houston,” Proceedings of the 2007 ASEE Gulf-Southwest Section Annual Conference, March 28-31, 2007, South Padre Island, TX.

*Yechuri, Rama* and Haque, M.E., “UTILIZATION OF 3D (DYNAMIC) VISUALIZATION IN CONSTRUCTION SIMULATION SYSTEMS,” Proceedings of the 2007 ASEE Gulf-Southwest Section Annual Conference, March 28-31, 2007, South Padre Island, TX.

*Chanda, R.*, and Haque, M.E., " A Virtual Tour of a Steel Structural Construction," Proceedings of the 2005 ASEE Gulf-Southwest Section Annual Conference, March 23-25, 2005, Corpus Christi, TX.

*Shah, S., Agarwal, G.*, and Haque, M.E., " A Virtual Walkthrough of an Energy Conscious Single-Family Home," Proceedings of the 2005 ASEE Gulf-Southwest Section Annual Conference, March 23-25, 2005, Corpus Christi, TX.

Haque, M.E. and *Chanda, R.*, "Desktop Virtual Reality for Teaching of Steel Structures," Proceedings of the 9th IASTED International Conference on INTERNET & MULTIMEDIA SYSTEMS & APPLICATIONS ~IMSA 2005, pp. 134-138, ISBN: 0-88986-508-6, August 15-17, 2005, Honolulu, Hawaii.

**FUNDED RESEARCH PROJECTS**

*4D/5D Visualization in Residential /Commercial construction - A Contractor’s perspective*, PI: Dr. Mohammed E. Haque, Graduate Student – Rajmohan Mishra, Construction Industry Advisory Council Research Grant, \$7,250.

*Virtual Soil Mechanics Laboratory for Construction Science*, PI: Dr. Mohammed E. Haque, Texas A&M University (TAMU), College of Architecture Research Council Fund, 2001; Research Fund: \$5,000

*Hand-held Computer in UBEIS Database for Bridge Inspection*, PI: Dr. Mohammed E. Haque, WMU Faculty Research and Creative Activities Support Fund (FRACSF), 2000; Research Fund: \$ 5,000

*Multimedia System Integrated Soil Mechanics Laboratory Courseware*, PI: Dr. Mohammed E. Haque, Teaching and Learning with Technology (TLT) Grants, 1999-2000, WMU Faculty Senate. Research Fund: \$ 9,622

Western Michigan University (WMU) *Research Development Award* (1999-2000); Research Fund: \$ 3,625

## **PROPOSALS UN-AWARDED**

NSF 12-569 REU SITE: APPLYING TECHNOLOGY IN DESIGN, ENGINEERING AND CONSTRUCTION PI: Dr. Mohammed Haque, Co-PI: Dr. James Smith, submitted on 9/12/12, Requested Amount, \$ 445,288.

REU Site: Computer and Information Technology (IT) for Architectural Engineering and Construction. Submitted to NSF. *PI: Dr. Mohammed E. Haque, Co-PI: Dr. Keith Sylvester, 2003; Funding requested: \$253,165.*

*An Innovative Regional Framework for Civil/Construction Engineering Curricula, PI: Dr. Mohammed E. Haque, Co-PI: Dr. Anil Sawhney, submitted to US Department of Education, Fund for the Improvement of Post-secondary Education (FIPSE): Congressional Priorities for Post Secondary Education, 1999; Funding requested: \$ 338,580*

*Experimental Investigation of the Flexural behavior of Timber Beam Reinforced with Steel/FRP Wires/Rebars, PI: Dr. Mohammed E. Haque and Co-PI: Dr. Roman Rabiej, submitted to USDA Forest Services, Wood Education and Resource Center, 1999-2000; Funding requested: \$150,000.*

ITR/IM: Virtual Healthy Home (VHH): The Dwelling Hazards Information Center, submitted to NSF, *PI: Dr. Mohammed E. Haque, Co-PI: Dr. John Martin, Funding requested: \$491,772.*

CCLI-EMD: Web-based Concept Visualization Techniques for Analysis and Design of Reinforced Concrete Structures, submitted to NSF, *PI: Dr. Mohammed E. Haque, Funding requested: \$74,779.*

Neuro-Fuzzy Hybrid System for Knowledge Modeling of "Soft" Data in Architectural Design, PI: Dr. Mohammed E. Haque, was submitted for university Mini-grants, \$1,545.



## VIII. PROFESSIONAL SERVICES

### TEXAS A&M UNIVERSITY

#### UNIVERSITY AND COLLEGE COMMITTEES

- ❑ University Committee: Committee on Academic Freedom, Responsibility and Tenure (CAFRT) (2004-2007)
- ❑ Member, College Promotion and Tenure (P&T) Committee (2008)
- ❑ College Research and Interdisciplinary Council (CRIC): COSC Faculty Representative (2005- 2009)
- ❑ College Research Advisory Committee (RAC) Member (2007 - 2008)
- ❑ College Graduate Instruction Committee (GIC) Member (2007 - 2008)
- ❑ COSC Department Head Search Committee Vice-Chair (2006 – 2007)
- ❑ COSC Department Head Search Committee Chair (2004 – 2005)
- ❑ College Visualization Faculty Search Committee Member (2003 - 2007)

#### DEPARTMENT COMMITTEES

- ❑ Member, Departmental Promotion and Tenure (P&T) Committee (2008 - Present)
- ❑ Member, Graduate Instruction Committee (GIC) (2012 – Present)
- ❑ Member, Faculty Search Committee (2012 – Present)
- ❑ Chair, Construction Management Graduate Student Recruitment & Marketing sub-committee (2012 – Present)
- ❑ Chair, Department Faculty Enhancement/Search Committee (2009 - 2010)
- ❑ Chair, Departmental Promotion and Tenure (P&T) Committee (2006 & 2007)
- ❑ Chair, Departmental Research Committee (2005 – 2008)
- ❑ COSC Faculty Search Committee Member (2006 – 2011)
- ❑ COSC Graduate Program Coordinator (2007 - 2008)
- ❑ Chair, Graduate Faculty Committee (2007 - 2008)
- ❑ COSC Signature and Replacement Faculty Search Committee Member (2004-2007)
- ❑ COSC Leadership Transition Team Member (2003 – 2004)
- ❑ COSC Graduate Program Member (2000 – Present)
- ❑ COSC Faculty Mentor for Tenure Track Faculty (*Drs. Boong & Choi*)(2010-Present)
- ❑ COSC New Faculty Mentor (*Dr. Julian Kang*) (2001 – 2003)
- ❑ COSC Faculty Mentor (*Dr. Keith Sylvester*) (2002-2003)
- ❑ COSC Student Grade Appeal Committee Member (2002 - 2004)
- ❑ COSC Scholarship Committee (2004)
- ❑ COSC Undergraduate Program – Member for Course Group Science
- ❑ Member, Distance Education Task Group (2000 – 2004)
- ❑ Faculty Advisor/Coach - Heavy Highway Student Competition Group (2001-2002)
- ❑ (AGC/ASC Heavy Highway 2002 Regional Competition at Dallas – Placed Third, and team member, Russell Lindsay, received the Outstanding Presenter award.)

### WESTERN MICHIGAN UNIVERSITY

#### UNIVERSITY AND COLLEGE COMMITTEES

- ❑ Facility Planning Committee Member for the College of Engineering and Applied Science
- ❑ College Computer Committee, Member representing CMD department
- ❑ College Curriculum Committee Member

#### DEPARTMENT COMMITTEES

- ❑ Graduate Program Coordinator, Master of Science in Construction Management

- ❑ Member of the Department Library Committee
- ❑ Member of the Departmental Curriculum Committee
- ❑ Coordinator of the Construction Engineering Computer Laboratory
- ❑ Coordinator of the Construction Industry Advisory Board

#### **PROFESSIONAL TECHNICAL COMMITTEES**

- ❑ **American Society of Civil Engineers (ASCE)** Full Member (Since 1992)
- ❑ **American Society for Engineering Education (ASEE)** Full Member (Since 2000).
- ❑ **American Concrete Institute (ACI)** Full Member (Since 1992).
- ❑ **Educator Member, American Institute of Steel Construction (M.AISC,** Since 2007)
- ❑ **American Concrete Institute (ACI) Technical Committee Member 342** *Evaluation of Concrete Bridges and Bridge Elements* (Since 1999)
- ❑ **American Concrete Institute (ACI) Technical Committee Member 345** *Concrete Bridge Construction, Maintenance and Repair* (Since 1999)
- ❑ **International Association of Science and Technology for Development (IASTED)** Member (Since 2005)

#### **TECHNICAL CONFERENCE SESSION CHAIR/MODERATOR AND ADVISORY COMMITTEE MEMBER:**

- ❑ **Session Chair:** Session - Civil Engineering I (3/16/2013) Asian Conference on Civil, Material and Environmental Sciences (ACCMES'2013), Tokyo, Japan, March 15-17, 2013.
- ❑ **Session Chair:** Sessions TC4 and TD4 –Graduate Papers, ASEE Gulf-Southwest Section Annual Conference, March 18-20, 2009, Waco, TX.
- ❑ **Session Chair:** Session 9 Innovations in the Classroom, ASEE Gulf-Southwest Section Annual Conference, March 26-28, 2008, Albuquerque, NM.
- ❑ **Session Chair:** Session 9 – Virtual Reality and Virtual Scientific Labs, the 9<sup>th</sup> IASTED International Conference on Computers and Advanced Technology in Education, October 4-6, 2006, Lima, Peru.
- ❑ **Session Co-Chair:** Session 21 F2B Technical Writing and Virtual Laboratories (Friday, March 17, 2006, 10:30 – 12:00 Noon), ASEE Gulf-Southwest Section Annual Conference, March 15-17, 2006, Baton Rouge, LA.
- ❑ **Session Chair/Moderator:** Session 5 – Collaborative Systems & Distance Learning I. The 9<sup>th</sup> IASTED International Conference on INTERNET & MULTIMEDIA SYSTEMS & APPLICATIONS ~IMSA 2005, August 15-17, 2005, Honolulu, Hawaii.
- ❑ **Session Chair/Moderator:** The 3rd International Conference on Construction in the 21st Century (CITC- III), September 15-17, 2005, Athens, Greece.
- ❑ **International Advisory Committee Member -** The 3rd International Conference on Construction in the 21st Century (CITC- III), September 15-17, 2005, Athens, Greece.
- ❑ **Session Chair/Moderator:** Session F1C (Friday, March 25, 2005, 8:30 – 10:00 AM), ASEE Gulf-Southwest Section Annual Conference, March 23-25, 2005, Corpus Christi, TX.
- ❑ **Session Chair/Moderator:** Session – A8 Simulation and Multi-Agent Systems: ICKEDS'04 – the First International Conference on Knowledge Engineering and Decision Support, July 19-23, 2004, Porto, Portugal.
- ❑ **Session Chair/Moderator:** Session – 12 Management of Concrete Structures: The First fib Congress 2002 - Concrete Structures in the 21<sup>st</sup> Century, October 13-19, 2002, Osaka, Japan.
- ❑ **Session Chair/Moderator:** Session – 4 Information Technology: The International Conference on Construction in the 21<sup>st</sup> Century - Challenges and Opportunities in Management and Technology, Miami, FL, April 24-26, 2002
- ❑ **Session Chair/Moderator:** Session - Information Systems: Computer Applications and Neural Networks: The Second International Conference on Information Systems in Engineering and Construction (ISEC 2002), June 13-14, 2002, Cocoa Beach, Florida.
- ❑ **International Advisory Committee Member –** Second International Conference on Construction in the 21<sup>st</sup> Century, December 10-12, 2003 Hong Kong.

- ❑ **International Advisory Committee Member – Third Scientific Conference on Project Management –“Clustering in Construction Project Management”**, September 17-18, 2004 Thessaloniki, Greece.
- ❑ **International Advisory Committee Member – Construction in the 21st Century (CITC III), 3rd International Conference on Advancing Engineering, Management and Technology**, Athens, Greece, September 15-17, 2005

**PEER REVIEWER OF JOURNALS AND CONFERENCE PROCEEDINGS:**

- ❑ ASEE and ASEE-GSW Conference Papers
- ❑ Elsevier Journal - *Automation in Construction*  
Automation in Construction is an international journal for the publication of original research papers. The journal publishes refereed material on all aspects pertaining to the use of Information Technologies in Design, Engineering, Construction Technologies, and Maintenance and Management of Constructed Facilities.
- ❑ *Journal of the Operational Research Society (JORS)*  
JORS is published 12 times a year and is the flagship journal of the Operational Research Society. It is the aim of JORS to present papers which cover the theory, practice, history or methodology of OR.
- ❑ ACI Journal - *Concrete International*  
Concrete International is published monthly by the American Concrete Institute ([www.aci-int.org](http://www.aci-int.org)). Its circulation is concentrated among the most important professionals in the concrete field -- the engineers, architects, contractors, manufacturers, technicians largely responsible for the advancement of concrete technology and practice. It is these influential groups that collaborate in preparing ACI Codes and Standards that are the essential guidelines for all types of concrete structures.
- ❑ ASCE: *Journal of Management in Engineering*  
The Journal of Management in Engineering is published bimonthly by the American Society of Civil Engineers ([www.asce.org](http://www.asce.org)). It examines contemporary issues associated with leadership and management for the twenty-first century civil engineer. Though this journal only publishes peer-reviewed papers and case studies, the focus is the practicing consulting civil engineer. Areas of interest that might be published in this journal include leadership issues such as teamwork, team building, mentoring, coaching, and diversity. Modern management issues such as partnering, project management, office management, professional practice and development, budgeting, financial management, recruitment and retention of human resources, career growth management, life-long learning, marketing and sales, ethics, technology and innovation management, business process reengineering, motivational theory, incentives, education, training, organization design, strategic planning, conflict management, negotiating, risk management, globalization, networking, and change management are of interest.
- ❑ ASCE: *Journal of Materials in Civil Engineering*  
The Journal of Materials in Civil Engineering covers the development, processing, evaluation, applications, and performance of construction materials in civil engineering.
- ❑ *Journal of Construction Management and Economics*  
Construction Management and Economics is the leading international refereed journal that publishes original research concerning the management and economics of building and civil engineering, while also including the management of built facilities.
- ❑ ASEE: *Journal of Engineering Education*  
The Journal of Engineering Education is a scholarly, peer-reviewed journal published quarterly by the American Society for Engineering Education (ASEE) ([www.asee.org](http://www.asee.org)). It serves as an archival record of scholarly articles on the progress of engineering education. The Journal publishes articles on a wide variety of topics relevant to engineering education. Among the topics are the following: educational innovations that

improve student learning or performance as typified by experiments involving courses, laboratories, experiential activities, and support and intervention programs; expositions synthesizing papers or reports that have influenced engineering education today, where it is headed, or where it should be headed; developments in assessment processes and methodologies used to evaluate the effectiveness of educational experiments or programs; and outreach and transition activities involving elementary and secondary education programs, pre-engineering transfer institutions, intra-campus or inter-campus collaborations, or efforts to improve technical literacy.

□ *Fatigue and Fracture of Engineering Materials and Structures.*

Fatigue & Fracture of Engineering Materials & Structures encompasses the broad topic of structural integrity, which is founded on the mechanics of fatigue and fracture, and is concerned with the reliability and effectiveness of structural components of any scale, geometry or material. The journal is interdisciplinary and includes papers from engineers, metallurgists, materials scientists, computer scientists, physicists, chemists, and mathematicians.

## **IX. PERSONAL**

US Citizen

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training, and directed research. Education frequently takes place under the guidance of educators, however learners may also educate themselves. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational. The