

## ABOUT THE SPEAKERS

**Mahmoud Kamara**, Ph.D., Senior Structural Engineer, is PCA's senior structural engineer for buildings and special structures. Dr. Kamara's responsibilities include developing technical publications, coordinating and conducting seminars in the field of structural engineering, conducting software testing and verification, responding to technical questions, and performing feasibility studies. He also serves as a resource in the areas of reinforced concrete design and structural engineering. He is an active member of the American Concrete Institute and the American Society of Civil Engineers. In 1992, Kamara received the ACI Structural Research Award. Kamara has a Ph.D. in Civil Engineering from The University of Illinois at Chicago. Prior to joining PCA, Kamara held faculty positions at the University of Alexandria, Egypt and the University of Alabama at Birmingham. His experience also includes structural engineering design and consulting, and structural forensic investigations.

**Basile G. Rabbat**, Ph.D., SE, is manager of structural codes for PCA. Dr. Rabbat currently serves as Secretary to American Concrete Institute (ACI) Committee 318, Structural Concrete Building Code. He acts as a technical resource on the American Railway Engineering and Maintenance-of-Way Association Committee 8 and American Association of State and Highway Transportation Officials specifications for concrete bridges. He develops and disseminates design information related to concrete structures. He instructs frequently at structural concrete design seminars. He has published over 40 papers related to behavior and design of structural concrete. He is Chairman of the Technical Activities Committee of the National Concrete Bridge Council, and is active on many national technical societies. He was elected a Fellow of ACI in 1988 and of the Precast/Prestressed Concrete Institute in 1995. He is a registered structural engineer in the state of Illinois. Rabbat received a B.Sc. in Civil Engineering from Alexandria University, Egypt, and M.Sc. and Ph.D. degrees in Structural Engineering from the University of Toronto, Canada.

### SEMINAR PLANNING COMMITTEE

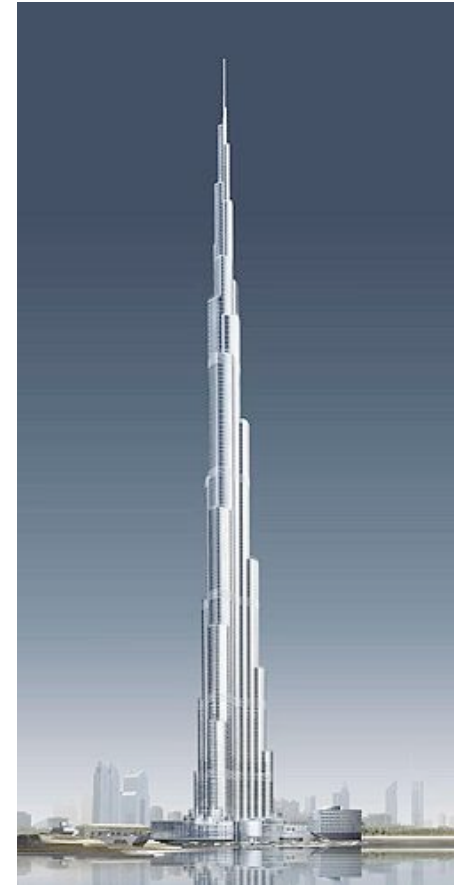
**Joseph Richardson, McNeese State University**  
**Occie Norton, Levingston Engineering**  
**Glenn Boaz, ReCon**

FOR ADDITIONAL INFORMATION ABOUT THE SEMINAR,

### CONTACT:

**Dr. Joseph Richardson**  
**Department of Engineering**  
**McNeese State University**  
**Phone: (337) 475-5871 Fax: (337) 475-5237**  
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## ACI 318 Reinforced Concrete Design



**Sponsored by**  
**Lake Area Industries/McNeese Engineering**  
**Partnership**

*March 11<sup>th</sup>, and 12<sup>th</sup> 2008*  
*Stream Alumni Center*  
*McNeese State University Campus*

# ACI 318 - Reinforced Concrete Design

## ABOUT THE COURSE

The 2006 edition of the International Building Code (IBC 2006) adopts ACI 318-05, *Building Code Requirements for Structural Concrete*, for the design of concrete structures. This course focuses on design of concrete elements. Latest concepts include: factored load combinations based on ASCE 7-05 and corresponding strength reduction factors; unified design provisions for flexure and axial loads; torsion design based on thin-walled tube, space truss analogy; and design of cast-in-place and post-installed anchors.

Course participants will receive a copy of:

- PCA Publication EB705, Notes on ACI 318-05 Building Code Requirements for Structural Concrete with Design Examples
- Seminar Notes (PowerPoint handout)

## WHO SHOULD ATTEND

Civil, architectural, and structural engineers; building officials; and others involved with reinforced concrete.

## REGISTRATION

- Seminar fees are \$400 per individual for members of LAI/MEP and \$800 for non-members. Fee includes registration, course materials, lunch and refreshments. The seminar is limited to 30 participants. The deadline for registration / cancellation is March 3<sup>rd</sup>. Payments for non-members must be received by the deadline.
- Participant names and registration information should be submitted to:

Mrs. Betty Anderson, Director of Continuing Education  
McNeese State University  
P.O. Box 92375  
Lake Charles, LA 70609  
(337) 475-5615  
Fax (337) 475-5172  
[anderson@mcneese.edu](mailto:anderson@mcneese.edu)

- Checks should be made payable to MSU Foundation, Account No. 0123 and sent to:  
Dr. John Griffith, Secretary/Treasurer  
Lake Area Industries / McNeese Engineering Partnership  
P.O. Box 91735  
Lake Charles, LA 70609  
[griffith@mcneese.edu](mailto:griffith@mcneese.edu)
- 1.6 ceu and 16 PDH will be awarded to attendees.
- Parking passes will be provided to attendees.

## PROGRAM SCHEDULE

**Tuesday, March 11:** 7:30 Registration, JUICE, COFFEE & ROLLS  
**Wednesday, March 12:** 7:30 JUICE, COFFEE & ROLLS  
Seminar 8:00 a.m. – 5:00 p.m.

### Tuesday, March 11, 2008 (8:00 am-5:00 pm)

1. Materials for Structural Concrete
  - a. Concrete
  - b. Steel Reinforcement
2. Strength Design Method
  - a. Strength Design Requirements
  - b. Analysis Methods
3. Analysis and Design of Beams and One-way Slabs
  - a. Flexure
  - b. Serviceability
  - c. Shear
  - d. Torsion
  - e. Detailing of Reinforcement
  - f. Structural Integrity Requirements
  - g. Design Examples
4. Analysis and Design of Columns
  - a. Axial loads
  - b. Combined flexure and axial loads
  - c. Slenderness Effects
  - d. Design Examples

### Wednesday, March 12, 2008 (8:00 am-5:00 pm)

5. Analysis and Design of Two-way Slabs
  - a. Two-Way Slab Systems
  - b. Flexure
  - c. Serviceability
  - d. Shear
  - e. Design Examples
6. Analysis and Design of Walls
  - a. Axial loads
  - b. Combined flexure and axial loads
  - c. Shear
  - d. Design Examples
7. Analysis and Design of Reinforced Concrete Spread Footings
  - a. Flexure
  - b. Shear
  - c. Load transfer
  - d. Design Examples
8. Anchorage to Concrete
  - a. Cast-in-place and Post-Installed Mechanical Anchors
  - b. Design Examples