

ACI-ASCE Committee 447
Finite Element Analysis of Reinforced Concrete Structures
Meeting at Room C2012-B, Kansas City MO
04/13/2015 11:00 am - 1:30 pm
ACI Spring 2015 Convention

1. Call to Order and Introduction of Members and Guests

Meeting called to order at 11:00 am.

Members present: Gangolu Appa Rao, Ashraf Ayoub, Allan Bommer, Mi Geum Chorzepa, Chris Conley, Carlos Coronado, Mukti L. Das, Jason Draper, **Heshan Elemam**, Robert Esplin, Ayman El-Zohaivy, Trevor Hrynyk, Ioannis Koutromanos, Laura Lowes, Michael Mitchell, Yi-Lung Mo, Abbas Mokhtar-Zadeh, Michael O'Leary, Marios Panagiotou, Victor Saouma, Sri Sritharan, and Jian Zhao.

Members absent: Kyle Marshall, James Deaton, Song Jan, John Jakovich, Ganesh Thiagarajan (Chair), Gianluca Cusatis, Cris Moen, Mohammad Sharafbayani, Brian (BJ) Siljenberg, Dan Palermo, Zhibin Lin, Jeffrey Dragovich, Riadh Al-Mahaidi, Sarah Billington, Serhan Guner, Anthony Ingraffea, Feng-Bao Lin, Yong Lu, Zdenek Bazant, Guillermo Alberto Riveros, Christian Meyer, Wassim Naguib, Syed Rahman, Guillermo Alberto Riveros.

Guests: Yijian Shi, Xiao Liang, Noh Sang Hoon, Yoon Lim, Javien Arnez, Kevin Kirkley, Ani Vaidya, Don Piggott, Mike Tholen (ACI staff), Mahdi, Adibi, Rajaram Dhole, Mahmoodreza Soltani, and William Brant.

2. Excused absences

3. Review and approve minutes from previous meeting: ACI Fall 2014 Washington DC convention.

Motion to approve the minutes for ACI Fall 2014 Washington DC convention. (Lowes, Sritharan)

The motion passed unanimously (Yes: 14; Abstained: 0; No: 0).

4. Membership update

Voting members: **26**; Associate members: **38**; Consulting members: **16**.

Associate members who are intended to be promoted, please send an email to the chair.

5. Report on possible technical sessions/Special Publications to be sponsored by the committee:

- a. **Cusatis/ Ioannis:** "Development of guidelines for the calibration and validation of concrete models," Session in collaboration with ACI-446 on Calibration of Concrete Models.

Ioannis discussed the session planned on how to use finite element tools. The focus will be on material/component models.

The committee provided feedback. Seven members/attendees showed interests in

participating in the sessions.

- b. **Special Publication** –Fall 2014 Session based on ‘Blast Blind Prediction Contest cosponsored by ACI-370 (Thiagarajan).

Thiagarajan reported the progress of the special publication. Nine draft papers have been collected. All submitted papers have been reviewed, and comments sent to the authors.

- c. **Zhao and Chen** (from ACI-408): Joint session on "Advancement in Modeling Bond of Deformed Bars."

Zhao reported on the sessions in Spring 2015 convention in Kansas City, MO.

- d. **Future sessions to be organized**

- Session on "Design of shear walls in nuclear structures." (Das)
Das reported on the intention of this planned session. The committee discussed the session plan.
- Session on the outcome of NESCC-concrete Task Group report on Post-processing Finite Element Analysis Results for the design of Nuclear Concrete Structures (447.YT) (O'Leary and Coronado)
- Session on "simulation of the concrete wall behavior." (Sritharan and Lowes)

6. Update on State-of-the-Art Reports

- a. **Ayoub/Guner**: Modeling of Modern Concrete Structures for Performance-Based Earthquake Engineering (447.XR) - Ballot Results

Thiagarajan reported the balloting results.

Ayoub reported the initial responses to the review comments. Chapter 4 on numerical examples will be updated.

The committee provided feedback, and discussed the negative comments.

- b. **Sritharan/Zhao**: State-of-the-art report on modeling bond in reinforced concrete (447.YR)

Zhao and Sritharan updated the progress on the report.

- c. **Al-Mahaidi**: Modeling for the Repair and Rehabilitation of Modern Concrete Structures for Performance Based Design (447.ZR)

ACI just published SP301, which is sponsored by ACI-447. Al-Mahaidi reported the progress of the document (three chapters are ready for balloting).

- d. **NESCC – Concrete Task Group (CTG) Report: Post-Processing Finite Element Analysis Results for the Design of Nuclear Concrete Structures (447.YT)**

O'Leary updated the committee on the document. Volunteers are needed to help with the final chapter on conclusions. A complete draft is likely ready by Fall 2015 convention in Denver, CO.

O'Leary, Coronado, Draper, and Mokhtar-Zadeh are leading the effort.

7. Twisting Moments in Finite Element Based Design of Reinforced Concrete Slabs (Bommer, Siljenberg, and Deaton)

Allan updated the committee on the document. New contents are available in Chapter 4.

The committee provided comments. The document may be expanded to include curved

shells. Esplin is willing to help with the development.
Ganesh will acquire a document number from the TAC.

8. Initiating discussion with Dr. Das/Dr. Koutramanos on developing a webinar on Finite Elements for Engineers.

Das presented a talk on Finite Element Analysis.

Koutromanos presented a plan of lecturing on Advanced Finite Element Analysis.

The committee provided feedbacks, and Mike Tholen (ACI Staff) provided comments on how to proceed with the webinar(s).

9. New Business/ Adjourn

none

Meeting adjourned at 1:30 pm.