

MINUTES
SEI of the ASCE: Technical Committee on Structural Control
Meeting of April 18, 1999, New Orleans, LA

The meeting was called to order at 8:27 a.m. by Satish Nagarajaiah, chair. In attendance were

Name	Affiliation	Status	E-mail
Satish Nagarajaiah	Rice U.	Member	nagaraja@rice.edu
Bill Spencer	U. of Notre Dame	Member	spencer@nd.edu
Larry Bergman	U. of Illinois	Member	lbergman@uiuc.edu
Shirley Dyke	Washington U.	Member	sdyke @seas.wustl.edu
Franklin Cheng	U. of Missouri, Rolla	Member	chengfy@umr.edu
Mike Symans	Washington State U.	Member	symans@wsu.edu
Linda Hanagan	Penn State U.	Member	hanagan@psu.edu
Rakesh Goel	Cal. Poly., San Luis Obispo	Guest	rgoel@calpoly.edu
Dave Dinehart	Villanova U.	Guest	ddinehar @email.vill.edu
Rich Helgeson	U. of Tennessee, Martin	Guest	helgeson@utm.edu
Panos Tsopelas	Catholic U. of America	Guest	tsopelas@cua.edu

Introductions followed, and guests were invited to apply for membership to the Committee. Minutes of the Kyoto meeting were accepted without change.

The former Chair, Bill Spencer, summarized the committee's activities at 2WCSC in Kyoto. In particular, the benchmark sessions were viewed as successful, attracting a large following and leading to significant benchmark activity in Japan, as well as in the U.S. Nagarajaiah recognized Spencer's service to the Committee and its formation, and Spencer thanked Cheng for his efforts.

The subject of committee membership was discussed. The Committee currently has 20 members. Those wishing to join were instructed to obtain the application from Nagarajaiah and to complete and return it prior to June 1, in order to be added to the roster in time to be included in the next edition of the ASCE Committee Membership Directory. Membership takes effect on October 1. The first term of service is 3 years, with approval required for each renewal year thereafter. Nagarajaiah will examine the renewal issue in an effort to eventually rotate the membership on a staggered basis.

Spencer gave a short report on his associate editor activities for the Journal of Structural Engineering. There are currently 3 associate editors from the Analysis and Computation Committee, of which Spencer is one. By informal agreement, all control papers are routed to him, including

those that come first to other committees within SEL. Since Spencer's appointment, he has sent 6 controls papers for review; to date, 4 have been accepted and 2 are still in review. Spencer suggested that the Committee consider a SOTA paper in structural control as an activity, with emphasis on case studies.

Participation in various conferences was discussed, as follows:

1999 Structures Congress: 2 sessions were proposed by the Committee, and I was approved, organized by Dyke and Yang. Cheng organized an additional session for which the Committee received credit.

2WCSC: 3 benchmark sessions were organized by Spencer and Yang as special theme sessions, all of which were well-received. Additional sessions on semi-active control were also organized by the Committee.

2000 Structures Congress: 3 sessions have been submitted and approved. Hanagan raised the issue of renaming one or more of the sessions to make it more encompassing. Nagarajaiah will discuss this issue with the organizers.

1999 ACC: 3 sessions were submitted and approved, organized by Dyke and Bergman; 2 on structural control and I on damage detection and health monitoring. 17 papers will be presented, including 5 from Japan. Spencer explained the relationship between the ACC and its umbrella organization, the AACC.

2001 Structures Congress: The Congress will be held in D.C., May 21-23, 2001. Nagarajaiah solicited 3 session proposals, which are due by Nov. 20, but should be sent to him much earlier to be included in a group submission. Those tentatively volunteering to organize sessions were Symans and Tsopelas (Innovative Seismic Protection Systems for Bridges), Dinehart and Symans (Vibration Control of Wood Frame Buildings) jointly with wood committee, and Hanagan (Optimal Design of Control Systems).

2000 ACC: Nagarajaiah solicited session proposals, which are due in September 1999, with full papers due in March 2000. Dyke and Bergman proposed to organize a session on bridge control. Hanagan will decide whether the optimal design session proposed above is more suitable for this conference.

2nd European Conference on Structural Control and 3rd International Workshop on Structural Control: These will take place concurrently in Italy, July 3-7, 1999. A potential conflict with the 2000 ACC was noted.

Nagarajaiah asked that additional suggestions for sessions be sent to him and/or to Spencer.

A status report on the next generation of benchmarks followed. Spencer gave a brief history of benchmarks in CE structural control, up to the most recent building benchmarks moderated by Spencer (seismic) and Yang (wind). He elaborated upon the formation of 3 IASC Task Groups addressing benchmarks on control (Spencer, chair), health monitoring (Beck, chair), and codes

(Iwan, chair). Masri has had these groups designated ASCE task committees, all of which will meet for the first time in Baltimore at the ENM Conference. Dyke summarized developments to date on the forthcoming cable-stayed bridge benchmark. Spencer suggested a benchmark for seismic isolation of highway bridges.

Nagarajaiah solicited suggestions for future group activities. Nagarajaiah proposed two activities that the committee can examine further:

Nagarajaiah and Symans will take the lead in developing the SOTA paper(s) on semi-active control, for publication in JSE, with contributions from members of the committee.

Dyke and Symans will similarly take the lead in developing paper(s), for publication in JSE, on small and medium size shake tables for seismic testing, from design to construction to control to shakedown, with contributions from members of the committee.

In addition, the committee decided to undertake the development of a web page.

New business items included the following:

Spencer suggested that the Committee attempt to claim health monitoring as part of its charter and perhaps even change its name to reflect this. Nagarajaiah will discuss this with the chair of the System Identification Committee.

Cheng suggested that the Committee make an effort to recruit more practicing engineers.

The meeting was adjourned at 11:42 a.m.

Respectfully submitted,
Lawrence A. Bergman
Secretary

Attachment 1: Agenda
Attachment 11: Current Roster
Attachment III: Committee Report

MEETING OF THE ASCE COMMITTEE ON STRUCTURAL CONTROL

Sunday, April 18, 1999

8:00 a.m. - 2:00 p.m.

1999 Structures Congress

New Orleans Sheraton, New Orleans, LA.

AGENDA

1. Introduction of members and guests.
2. Approval of minutes from June 29, 1998 meeting.
3. Review of current and future membership.
4. Report by Prof. Bill Spencer, Associate Editor, regarding review of structural control papers.
5. Review of participation in the 1999 Structures Congress, and Second World Conference on Structural Control.
6. Report on sessions planned for the 2000 ASCE Structures Congress and 1999 American Control Conference.
7. Development of sessions for 2001 Structures Congress and 2000 ACC etc.
8. Status of the next generation of benchmark problems.
9. Proposals for future activities.
10. New business.
11. Adjournment.

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The following new members have been nominated for membership effective October 1, 1999. Approval from EXCOM is expected.

- | | | |
|------------------------------|-------------|---------------------------------------------------------------------------------------------------------------|
| 1. Prof. Anil Agrawal | (1999-2002) | anil@ce-mail.engr.ccny.cuny.edu |
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| 3. Prof. Henry Gavin | (1999-2002) | henri.gavin@duke.edu |
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| 8. Prof. Panagiotis Tsopelas | (1999-2002) | tsopelas@cua.edu |

STRUCTURAL CONTROL COMMITTEE REPORT

Bill Spencer, the vice chair of the committee, has/is coordinating the following activities:

- Review of structural control papers as the Associate Editor
- Development of benchmark problem with active control, which focuses on a 20-story building, subjected to seismic excitation.
- Development of the special issue of Earthquake Engineering and Structural Dynamics, Vol. 27 (11), November 98, edited by Prof. Caughey.

Jann Yang has/is coordinating the following activities:

- Development of benchmark problem with active control, which focuses on a 76-story building, subjected to wind excitation.
- Yang is currently formulating third generation benchmark problems for more complex structures that exhibit coupled bending and torsional responses. Both seismic and wind excitations will be examined.

The committee has developed the following session for the 1999 structures congress:

- “Semi-active control system implementation issues” chaired by Shirley Dyke

In addition the following session has been developed for the 1999 structures congress:

- “Seismic structural control with soil-structure interaction” chaired by Franklin Cheng

Shirley Dyke, and Lawrence Bergman coordinated the development of three sessions in 1999 American Control Conference.

The committee has developed the following sessions for the 2000 structures congress (approved recently by the conference committee):

- “Modeling and application of semi-active control systems,” chaired by Shirley Dyke
- “Intelligent Seismic Isolation Systems for Structural Control,” chaired by Michael Symans and Bill Spencer
- “Recent Developments in Passive Damping Systems,” chaired by Anil Agrawal