

# **STRUCTURAL CONTROL COMMITTEE REPORT**

## **CONFERENCE SESSIONS**

### **2000 STRUCTURES CONGRESS**

The committee has organized the following sessions:

- “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

### **2001 STRUCTURES CONGRESS**

The committee has developed the following sessions:

- “Structural Control Provides Economical Solutions,” proposed by Linda M. Hanagan
- “Practical Development of Semi-active Damping Systems,” proposed by Anil Agrawal
- “Innovative Seismic Protection Systems for Bridges,” proposed by Panos Tsopelas and Michael Symans
- “Seismic Isolation and Energy Dissipation Systems: Contemporary Issues, Current Design Practice, and Recent Developments,” proposed by Panos Tsopelas and Satish Nagarajaiah

### **2000 ENGINEERING MECHANICS CONFERENCE**

The committee has organized the following sessions (approved recently by the conference committee) in collaboration with EMD Dynamics Committee and Task Group on Benchmark Control Studies:

- “Analytical Studies on Semi-active and Active Structural Control Systems,” Chaired by Satish Nagarajaiah and Henry Gavin
- “Shaking Table Studies on Semi-active Control Systems,” Chaired by Henry Gavin and Satish Nagarajaiah
- “Structural Control of Flexible and Asymmetric Buildings for Seismic Response Mitigation,” Chaired by Satish Nagarajaiah and Eric Johnson
- “Benchmark problem for response control of wind excited tall buildings,” Chaired by Anil Agrawal and Jann Yang

## **2000 AMERICAN CONTROL CONFERENCE**

The committee has organized the following sessions (approved recently by the conference committee) with Bill Spencer and Shirley Dyke as representatives of ASCE in the American Control Conference:

- “Structural Control Applications in Civil Engineering,” chaired by Shirley Dyke and Lawrence Bergman
- “Damage Detection, Health Monitoring, and System Identification in Civil Engineering Structures,” chaired by Shirley Dyke and Lawrence Bergman
- “Current Directions in Civil Infrastructure Protective Control,” chaired by Bill Spencer and Sheng-Guo Wang

## **2000 SECOND EUROPEAN CONFERENCE ON STRUCTURAL CONTROL**

- The committee is developing several sessions on benchmark control problems of nonlinear fixed and base isolated buildings and cable-stayed bridges subjected to seismic and wind forces. These sessions are being developed by Bill Spencer, Jann Yang, Shirley Dyke, Lawrence Bergman, Anil Agrawal, Seto, Nishitani and Watanabe

## **STATE OF THE ART PAPERS**

### **SEMIACTIVE STRUCTURAL CONTROL**

- Satish Nagarajaiah and Michael Symans are coordinating the effort to develop state of the art papers on semiactive structural control. The papers are being developed for possible publication in the Journal of Structural Engineering.

### **MEDIUM SCALE SEISMIC SIMULATORS**

- Shirley Dyke and Michael Symans are coordinating the effort to develop state of the art papers on medium scale seismic simulators. The papers are being developed for possible publication in the Journal of Structural Engineering.

## **BENCHMARK STUDIES**

The benchmark studies are being developed in collaboration with EMD Dynamics Committee and Task Group on Benchmark Control Studies headed by Bill Spencer:

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 nonlinear benchmark problem with active control, which focuses on a 20-story building, subjected to seismic excitation.

Jann Yang and Anil Agrawal are coordinating the following activities:

- Development of benchmark problem with active control, which focuses on a 76-story building, subjected to wind excitation.

Shirley Dyke and Lawrence Bergman are coordinating the following activities:

- Development of benchmark problem with active control, which focuses on a cable stayed bridge, subjected to seismic and wind excitation.

Seto, Nishitani, and Watanabe are coordinating the following activities:

- Development of benchmark problem with active control, which focuses on a base isolated buildings, subjected to seismic excitation.

## **NEW WEB SITE**

The committee has developed a new web site for dissemination of its activities. The web page is located at <http://www.seinstitute.org/techdiv.html>.