

## SEI/ASCE Technical Committee on Optimal Structural Design

### 1999 ANNUAL REPORT

The OSD Committee met on April 19 at the 1999 Structures Congress in New Orleans, at which it sponsored 1.5 technical sessions. Namely, one session on the *Use of Genetic Algorithms in Structural Engineering* (Pezeshk), and a half-session (shared with the ECT Committee) on *Advanced Technologies in the Conceptual Design of Structures* (Swan).

The OSD Committee is sponsoring three technical sessions at the 2000 Structures Congress in Philadelphia. Namely: *Case Studies in Optimal Design of Civil Infrastructure Systems* (Frangopol); *Recent Advances in Structural Optimization* (Burns); and *Optimal Performance-Based Design of Buildings: Practical Applications* (Grierson/ Chan/ Xu).

The OSD Committee has proposed two technical sessions for the 2001 Structures Congress in Washington. Namely: *Recent Advances in Structural Optimization* (Burns); and *Computer-Based Conceptual Design of Structures* (Grierson/ Swan).

Under the editorship of Scott Burns, the OSD committee continues to work on its Report on the *State-of-the-Art of Structural Optimization*, a review of recent literature over the past ten years or so. The proposed chapters for the publication include: *Multi-Objective Optimization* (Cheng); *Bridge Optimization* (Hernandez); *Topology Optimization* (Swan); *Structural Decomposition* (Balling); *Genetic Algorithms* (Pezeshk); *Discrete Optimization* (Arora); *Combined Analysis and Design* (Burns); *Lifecycle Cost Optimization* (Frangopol); *Tall Building Optimization* (Chan); *Semi-Rigid Structures* (Xu); *Evolutionary Optimization* (Xie); and *Conceptual Design Optimization* (Grierson). The draft versions of most of the chapters were submitted to Scott Burns by late 1999, and the remaining chapters are expected by March 1, 2000.

Colby Swan became the new Secretary of the OSD Committee in 1999. Sharam Pezeshk stepped down as Secretary in 1999, and in October became an Associate Editor of the Journal of Structural Engineering.

Two new members joined the OSD Committee in 1999 ( Professor Christopher Foley of Marquette University, and Professor Makoto Ohsaki of Kyoto University). The terms of five members of the committee reached their time limit and expired in 1999 (Arora, Balling, Chang, Cheng and Pezeshk). They became "Friends" of the committee. The terms of six members of the committee were extended for one year to 2000 (Chan, Frangopol, Burns, Iordanescu, Rajan and Truman).

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Chair, TA Committee on Optimal Structural Design