

**ATC-17-2 SEMINAR ON RESPONSE MODIFICATION
TECHNOLOGIES FOR PERFORMANCE-BASED
SEISMIC DESIGN
May 30-31, 2002 ♦ Los Angeles
Preliminary Program**

(Last Update: May 28, 2002)

THURSDAY, MAY 30, 2002

- 8:00 – 9:00 am: REGISTRATION
- 9:00 – 9:15 am: INTRODUCTORY REMARKS
Christopher Rojahn, ATC
George Lee, MCEER
Andrew Adelman, L.A. Department of Building and Safety
- 9:15 - 10:15 am: CASE STUDIES: MID-RISE AND HIGH-RISE BUILDINGS (Session
Chairman, I. Buckle)

Invited Paper:

Performance Based Design of High Rise Buildings Using Response Modification Technologies;
Nabih Youssef* and Gary C. Hart

Seismic Retrofit of a Suspended-Floor High-Rise Building Using Energy Dissipation Devices; S. Islam*, J. Kwok and H. Wu

Application of Energy Dissipation Technology for Retrofitting Steel Structures with Vulnerable Pre-Northridge Connections; O. Waqfi*, R. Hamburger and R. Kanitkar

10:15 – 10:30 am: BREAK

10:30 – 11:30 am: CASE STUDIES: LOW-RISE BUILDINGS

Seismic Isolation Retrofit of the Historic Pioneer Courthouse; J. Abdie, A. Taylor and B. Maxwell*

Torsional Control of Two Adjacent Office Buildings Using Viscous Dampers; W. Gates*, G. Hart, H. Mahramzadeh, S. Huang, D. Lee and L. Jacobson

Seismic Performance Improvement of a Torsional Irregular Concrete Shear-Wall Building Using Toggle-Brace Dampers (TBD); D. Shao* and K. Miyamoto

11:30 am – 12:30 pm: CASE STUDIES: LOW-RISE STEEL-FRAME BUILDINGS

Performance-Based Seismic Retrofit of a Flexible-Diaphragm SMRF Building Using Viscous Dampers; R. Elhassan*, J. Lin and V. Mercado

Design of a New Steel Moment-Frame Building Incorporating Viscous Dampers Following the Guidelines of the 1999 SEAOC Blue Book; M. Gemmill*, K. Lindorfer, and K. Miyamoto

Eccentric Braced Frames with Viscous Damping; G. Haskell*

* Presenting Author

12:30 – 2:00 pm: LUNCH

Invited Luncheon Presentation:

Base Isolation of Buildings in Japan: Specific Design Examples and Seismic Performance;
Mitsuo Miyazaki*

2:00 – 3:00 pm: CASE STUDIES: DATA CENTERS AND HIGH-TECH FACILITIES,
(Session Chairman, K. Miyamoto)

Design of a Seismically Isolated Data Center for Enhanced Performance; E. Dausman* and A. Scott

Seismic Isolation of an Internet Service Exchange Facility: Abovenet ISX-SF1; P. Lee*, A. Mazeika, C. Hartman and C. Dolan

Seismic Isolation and Supplemental Damping at the Immunex Research and Technology Center;
A. Taylor*, P. Diedrich, J. Creagan, J. Hochwalt and C. Weiss

3:00 – 3:25 pm: CASE STUDIES: BRIDGES, PART 1 (Session Chairman, K. Miyamoto)

Invited paper

The Application of Response Modification Technologies in Performance Based Design of Highway Bridges
Ian Buckle*

3:25 – 3:40 pm: BREAK

3:40 – 4:40 pm: CASE STUDIES: BRIDGES, PART 2 (Session Chairman, A. Taylor)

Seismic Isolation Retrofit of an Elevated Highway Structure Crossing an Active Fault; A. Mokha*, V. Zayas, G. Calvi, and G. Germani

Seismic Isolation Retrofit of Two Large Bridges; V. Zayas*, A. Mokha, and R. Imbsen

Elastoplastic Isolation System for Performance-Based Seismic Design of Bridges; A. Iqbal* and T.M. Al-Hussaini

4:40 – 5:00 pm: IMPLEMENTATION ISSUES (Session Chairman, A. Taylor)

Impediments to the Implementation of Seismic Isolation; R.L. Mayes*

5:00 – 6:30 pm: POSTER SESSION (with wine and cheese)

Nonlinear Viscous Dampers: Testing and Recent Applications; S. Infanti*, M.G. Castellano and G. Benzoni

A New System for Absorbing Seismic Energy in Buildings; M. Kedar*

Seismic Infill Wall Isolator Subframe (SIWIS) System for Use in Buildings; A. Memari* and M. Aliari

Non-Invasive Passive Control of Steel MRFs with Rotational Friction Devices; M.G. Mulas* and J.E. Martinez-Rueda

Seismic Retrofit of a Nonductile Concrete Structure Using Heavily Damped Tuned-Mass Devices (TMD); D. Shao* and K. Miyamoto

Formulae for Vertical Distribution of Lateral Forces on Isolated Structures; C.S. Tsai*, B.J. Chen, and T.C. Chiang

6:30 pm: ADJOURNMENT OF DAY 1

* Presenting Author

FRIDAY, MAY 31, 2002

8:15 – 8:30 am: Introductory Remarks

8:30 – 9:50 am: CASE STUDIES: SPECIAL STRUCTURES AND WATER TANKS (Session
Chairman, C. Rojahn)

Seismic Retrofit of Elevated Steel Water Tanks Using Friction Dampers; T. Hale*

Renton Elevated Water Tanks Seismic Evaluation & Retrofit; D. Swanson, B. Falkin, K. Yamatsuka*
and D. Campbell

**Structural Upgrade of the Boeing Commercial Airplane High Bay Assembly Plant at Everett,
Washington;** C. Vail* and J. Hubbell*

Site Storage of Intermediate-Level Radioactive Waste in the United Kingdom; C.I. Robertson*, E.
Lavery, N.C. Sanders, and A.S. Whittaker

9:50 am – 10:50 am: NEW DEVICES AND SYSTEMS, PART 1

Rocking Wall-Frame Structures with Supplemental Tendon Systems; J. Ajrab, G. Pekcan, and J.
Mander (paper presented by I. Buckle)

An Interlocking Double-Wedge Base-Isolation Device; J. E. Luco*

Smart Frame Story Isolation System: A New High-Performance Seismic Technology; D. Mar* and
S. Tipping

10:50 – 11:10 am: BREAK

11:10 am – 12:30 pm: NEW DEVICES AND SYSTEMS, PART 2 (Session Chairman, G. Lee)

**Maison Hermes – A Case Study of Damped Stepping Columns – a Counter-Intuitive Solution to
High Overturning Forces;** A. Mole*, M. Kanada, L. Kawidjaja, and R. Long

Buckling-Restrained Braced Frames; C. Shuhaibar, W. Lopez*, and R. Sabelli

Development and Implementation of Base Isolation for Smaller Buildings; W. Taniwangsa* and J.
Kelly

Selected Study on Unbonded Braces; R. Staker* and L.D. Reaveley

12:30 – 2:00 pm: LUNCH

Invited Luncheon Presentation:

Smart Damping Technology: Opportunities and Applications;
Billie F. Spencer, Jr.*

2:00 – 3:20 pm: SYSTEM DESIGN AND PERFORMANCE (Session Chairman, L. Reaveley)

**Use of Supplemental Damping for Improved Performance of Buildings Subjected to Severe Pulse-
Type Ground Motions;** J.C. Anderson, V.V. Bertero, and V. Tarassoly*

Design of Amplified Structural Damping Using Optimal Considerations; A.M. Reinhorn and Y.
Ribakov (paper presented by S.C. Chu)

Performance of Structures with Dampers; K. Miyamoto* and J.P. Singh

Tension Buckling in Multilayer Elastomeric Bearings; J. Kelly (presented by W. Taniwangsa)

* Presenting Author

3:20 – 3:40 pm: BREAK

3:40 – 5:00 pm: DESIGN GUIDELINES, CODES, AND RELATED ISSUES (Session
Chairman, B. Spencer)

Invited paper:

Recent Developments in Seismic Code Provisions for Structures with Damping;
Robert D. Hanson*

Pitfalls of the Equivalent Damping Approach with Viscous Energy-Dissipating Systems;
R. J. McNamara*

**A Critical Evaluation of Current U.S. Building Code Provisions and FEMA Guidelines for the
Design of Seismic Isolated Structures;** S. Naaseh*, T. A. Morgan, and M. T. Walters

**Economic Decision Tools for Evaluation of Performance-Based Design: Innovative Response-
Modification Technology Applications;** C. C. Thiel, Jr.*

5:00 pm: ADJOURNMENT OF DAY 2

* Presenting Author