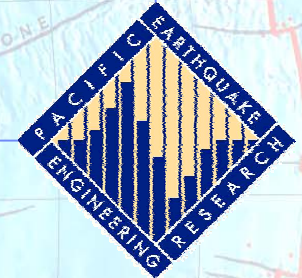




The background is a detailed map of the Pacific Ring of Fire, showing tectonic plates such as the North American, Pacific, and Juan de Fuca plates. It highlights various geological features including trenches (Kuril, Izu, Ryukyu, Japan, Mariana, Tonga, Bougainville, Bougainville, Bougainville), ridges (Emperor, Hawaiian, Christmas, Tonga, Bougainville), and fracture zones (Mendocino, Pioneer, Murray, Molokai, Clipperton). Major cities like Anchorage, San Francisco, and Los Angeles are marked. A red line traces the Ring of Fire around the Pacific Ocean basin. A blue crosshair is overlaid on the map.

PEER 2005 Annual Meeting

Jack Moehle, Director
Greg Deierlein, Deputy Director, Research
Yousef Bozorgnia, Associate Director, Industry
Scott Ashford, Associate Director, Education



Day 1 (Friday)

MORNING

I – PBEE: How will it affect engineering practice and decision making?

Ron Mayes, Bob Bachman, Greg Deierlein

II - Ground Motions for Performance-based Earthquake Engineering: Selection of Ground Motions for Nonlinear Analysis

Marshal Lew, Nicos Luco, Tom Shantz, Yousef Bozorgnia

Day 1 (Friday)

AFTERNOON (Part III)

IIIa – Nonlinear Analysis of Viaducts and Overpasses

*Stephen Mahin, Silvia Mazzoni, Steve Kramer,
Marc Eberhard, Bozidar Stojadinovic*

IIIb – PBEE Approach to Tall Building Design

*Ron Hamburger, Laurence Kornfield, Farzad
Naeim, Ron Klemencic, Helmut Krawinkler*

Day 1 (Friday)

AFTERNOON (Part IV)

IVa – Nonductile Concrete Buildings

*Jack Moehle, Ken Elwood, Dawn Lehman, John Wallace,
Craig Comartin*

IVb – Managing seismic risk to California's Delta Levees and its impact on California's economy

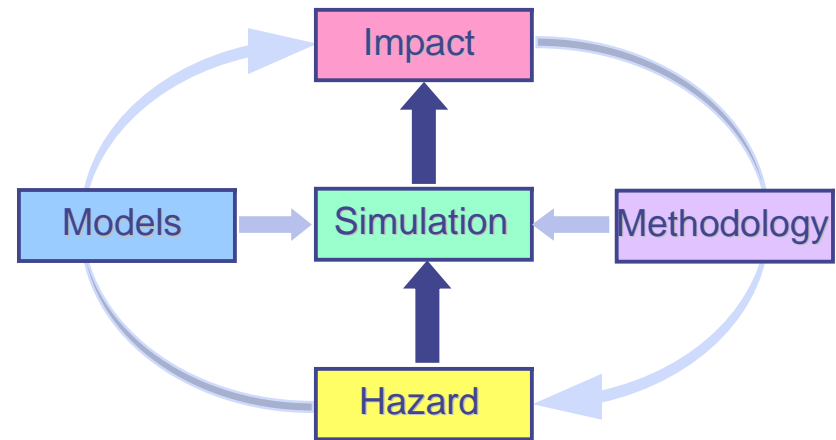
Ross Boulanger, Ray Seed, Les Harder, Marty McCann

Meeting Objectives

- ◆ Review accomplishments & coordination
 - research / education / engineering practice
 - data / tools / methodology / demonstration
- ◆ Identify future opportunities
- ◆ Articulate strategies and initiatives
 - To wrap up research & make an impact
 - To pursue new opportunities

PEER's Products & Research Plan

- PBEE Methodology
- Technologies & Data
- Illustrative Examples
- Guidelines



t r a n s i t i o n s

Year 1

Year 5

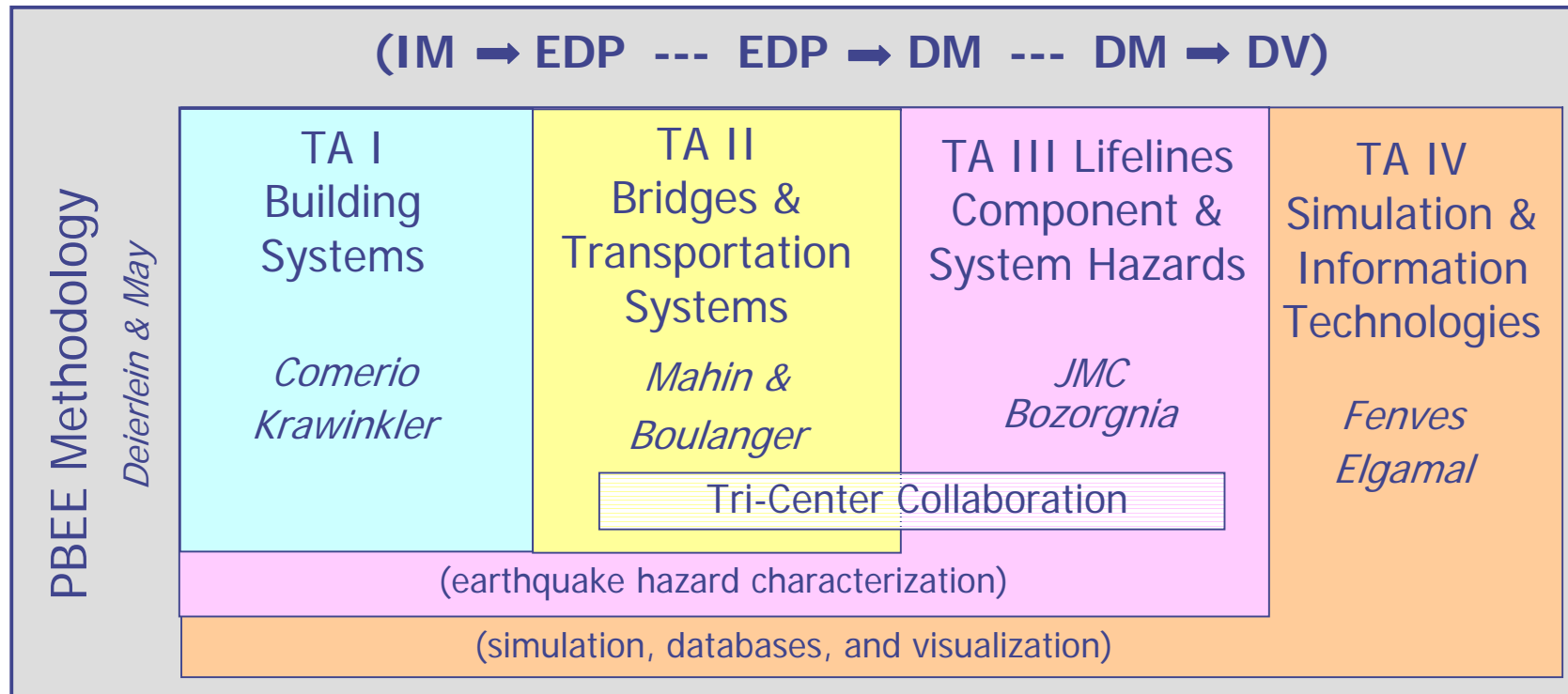
Year 10

Methodology: *Development* ---- *Application/Packaging*

Data/Model: *Creation* ---- *Implementation/Validation*

Demonstrations: *Evaluate/Synthesize* ---- *Impact of PBEE*

Research Thrust Areas (Years 7 – 10)



Thrust Area Focus

TA I – Building Systems

- structural & foundation performance (IM – EDP)
- loss modeling (EDP – DV)
- decision making

TA II – Bridge and Transportation Systems

- benchmarking standard bridges
- innovative self-centering bridges
- bridges with liquefaction and large ground displacements
- transportation system

TA IV – Simulation and Information Technologies

- structural & geotechnical simulation models
- computational reliability tools
- advanced computing and databases

IMPACT

- ◆ Tools for decision makers
 - Cost-benefit, financial models
 - Regulatory & implementation issues
- ◆ Packaging of PBEE Methodology
 - Specificity & Simplification !
- ◆ Demonstrate value/benefits of PBEE
- ◆ Dissemination & Outreach Initiatives
 - Research community (NEES researchers)
 - Professional engineers
 - Other design professionals & decision makers
- ◆ Implementation Initiatives
 - Buildings - ATC 58, NEHRP, Insurance, ...
 - Bridges – Caltrans, FHWA, ...

100th Anniversary Earthquake Conference

Commemorating the 1906 San Francisco Earthquake



18-22 April 2006
San Francisco, California

A joint meeting of



EERI's Eighth U.S.
National Conference on
Earthquake Engineering
(8NCEE)



The Centennial
Meeting of the
Seismological Society of America

O E S
CALIFORNIA

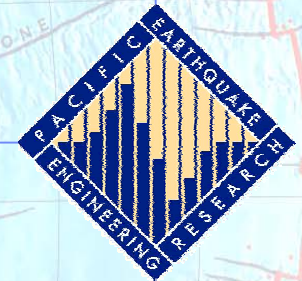


Governor's Office of
Emergency Services

The Disaster Resistant
California (DRC)
Conference of the
California Office of
Emergency Services

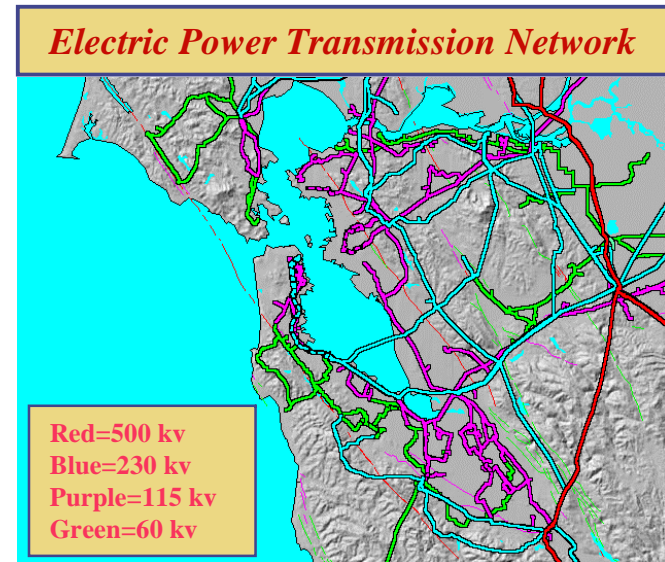
PEER Lifelines Program

Yousef Bozorgnia
January 20, 2006

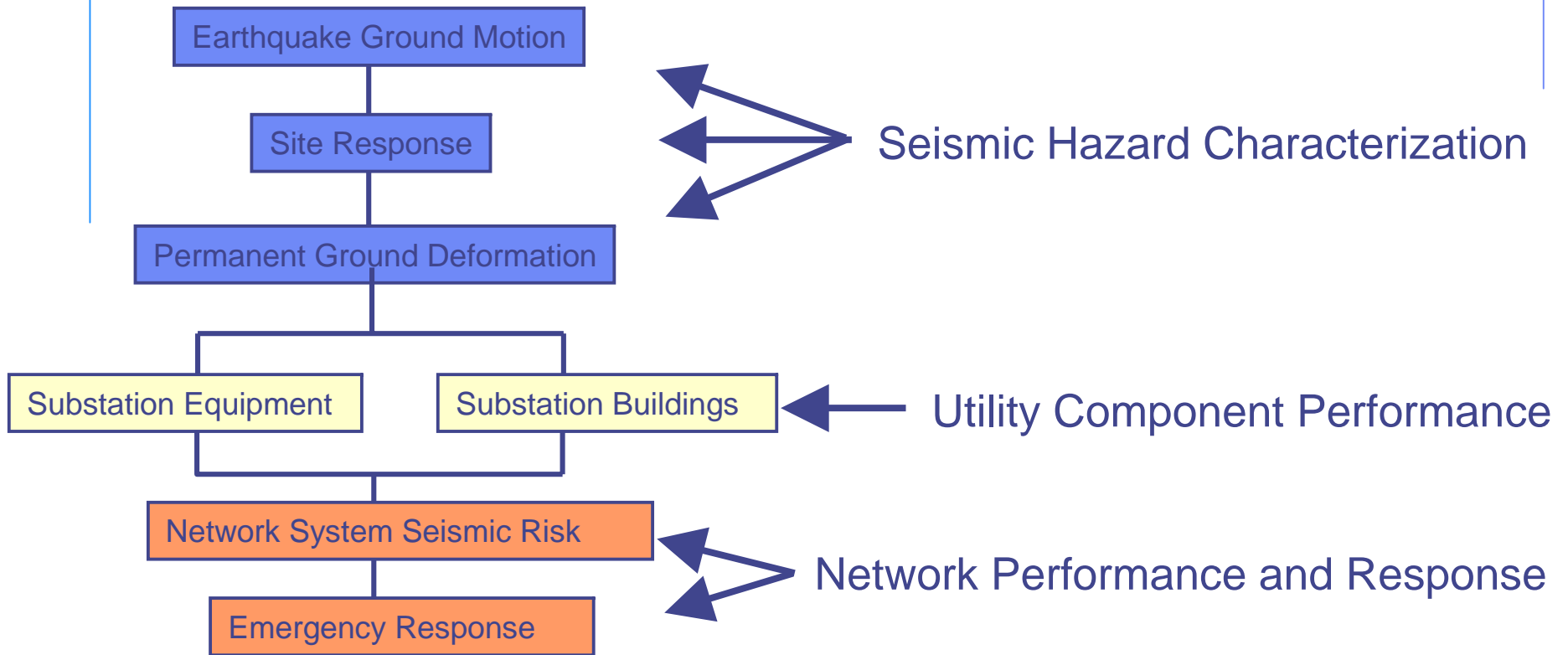


PEER Lifelines Program

- ◆ Goal: to improve safety and reliability of Lifelines systems
- ◆ Direct collaboration among industry, government and academia
- ◆ Research emphasis is on user needs

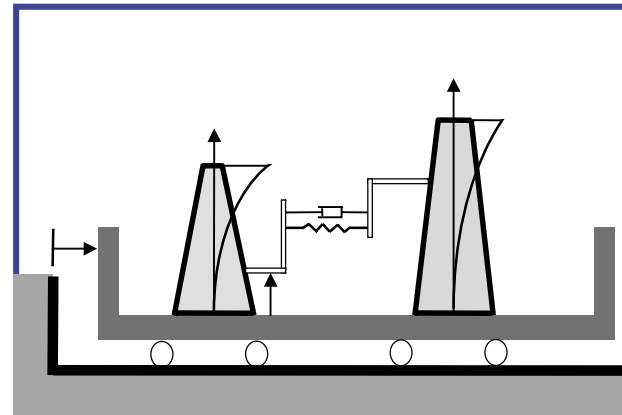
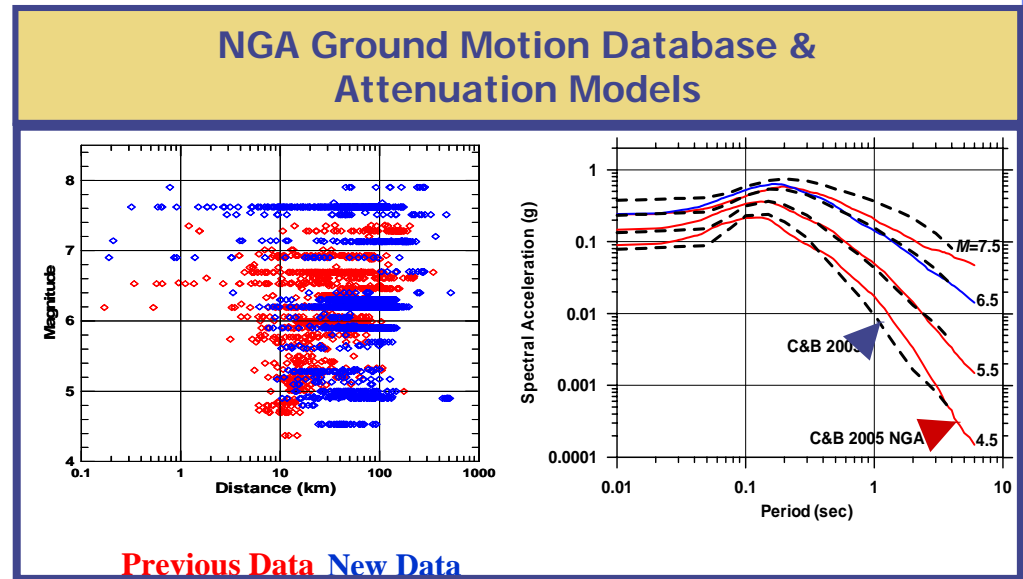


PEER Lifelines Program: Research Topics



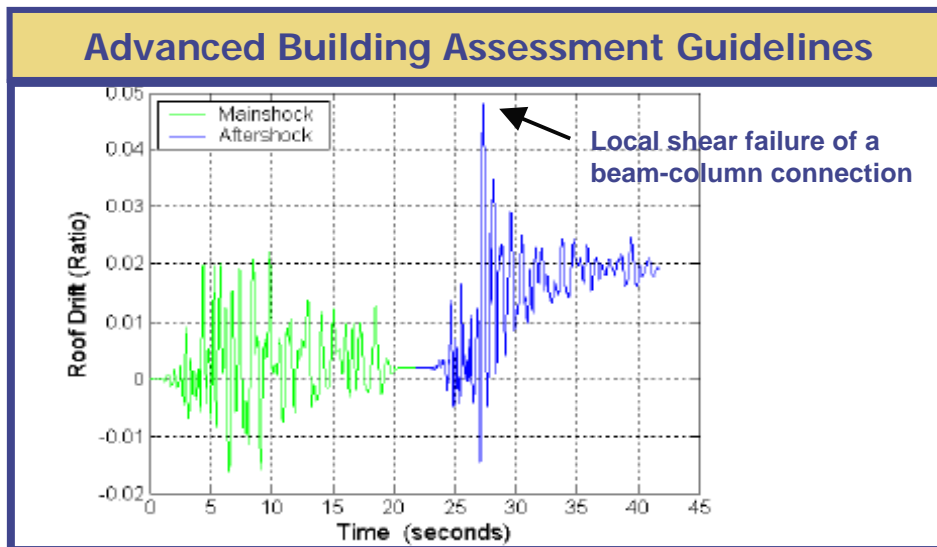
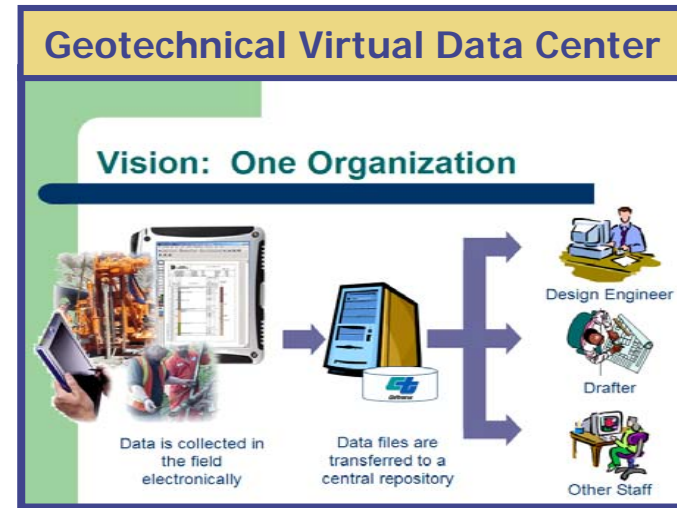
PEER Lifelines Projects

◆ Over 100 research projects have been initiated



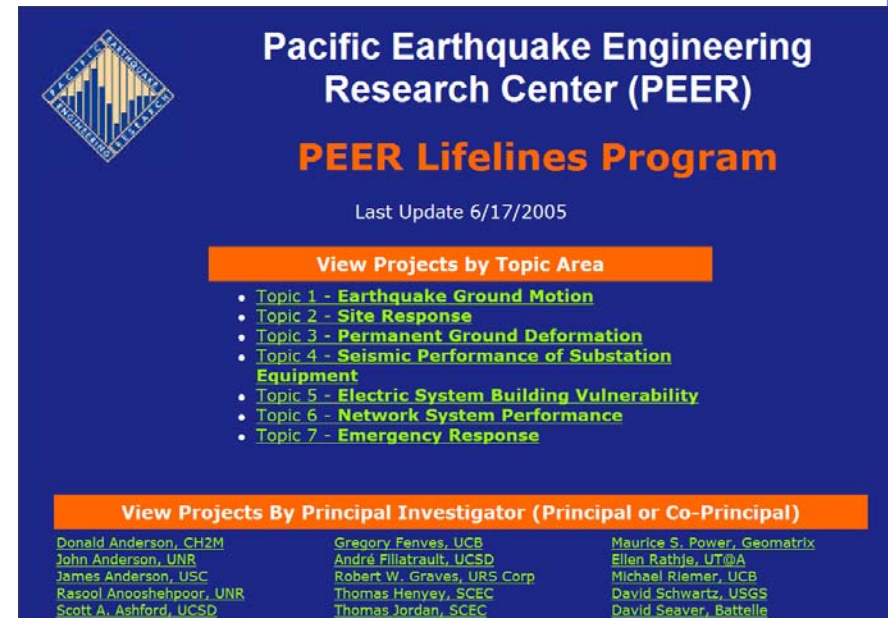
PEER Lifelines Projects

◆ Over 100 research projects have been initiated



PEER Lifelines Projects

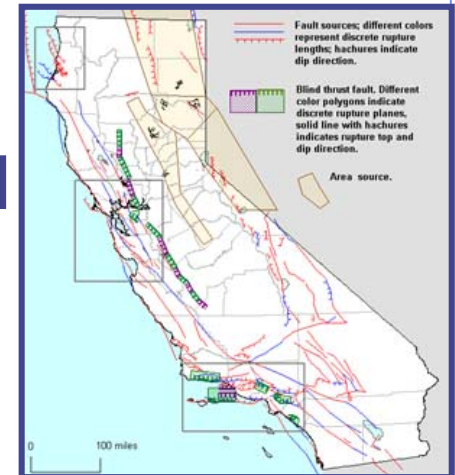
- ◆ Project reports are all available to the public:
 - PEER reports
 - LL final reports, available on-line



The screenshot shows the PEER Lifelines Program website. At the top left is the PEER logo, a diamond shape with vertical bars inside. To the right of the logo, the text reads "Pacific Earthquake Engineering Research Center (PEER)" and "PEER Lifelines Program" in orange. Below this, it says "Last Update 6/17/2005". There are two orange buttons: "View Projects by Topic Area" and "View Projects By Principal Investigator (Principal or Co-Principal)". Under the first button is a list of seven topics: Topic 1 - Earthquake Ground Motion, Topic 2 - Site Response, Topic 3 - Permanent Ground Deformation, Topic 4 - Seismic Performance of Substation Equipment, Topic 5 - Electric System Building Vulnerability, Topic 6 - Network System Performance, and Topic 7 - Emergency Response. Under the second button is a list of principal investigators, organized into three columns: Donald Anderson, CH2M; John Anderson, UNR; James Anderson, USC; Rasool Anooshehpour, UNR; Scott A. Ashford, UCSD; Gregory Fenves, UCB; André Filiatrault, UCSD; Robert W. Graves, URS Corp; Thomas Henyey, SCEC; Thomas Jordan, SCEC; Maurice S. Power, Geomatrix; Ellen Rathje, UT@A; Michael Rieher, UCB; David Schwartz, USGS; and David Seaver, Battelle.

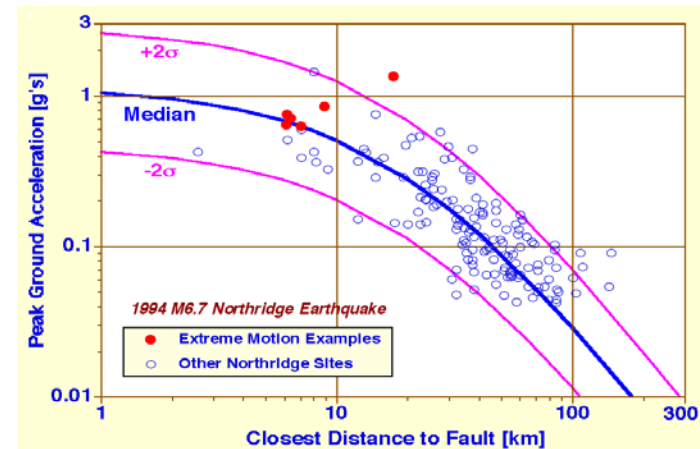
Funding for PEER Lifelines Program

- ◆ PEER LL Program is mainly supported by the **State of CA** and private industry
- ◆ We recently signed \$2.25 Million contract with Caltrans for the next phase
- ◆ Other proposals are being reviewed by other State agencies
- ◆ Negotiations are underway with other lifelines organizations



Future Projects Will Include ...

- ◆ Ground motions:
 - hazard
 - engineering characterization
 - ground motions for PBEE



- ◆ Ground deformations, soil response, SSI
- ◆ Performance of bridges and transportation systems
- ◆ Seismic reliability of electric components and networks

Business & Industry Partnership Is Growing

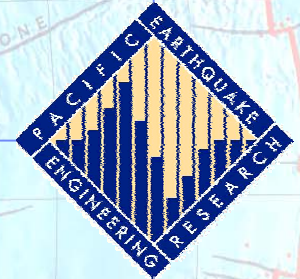




The background is a detailed map of the Pacific Ring of Fire. It shows the boundaries of major tectonic plates such as the North American, Pacific, Nazca, and Antarctic plates. Key features include the Kuril, Japan, Ryukyu, Izu Bonin, and Mariana trenches in the north; the Tonga, Bougainville, and Bougainville trenches in the south; and the Hawaiian, Phoenix, and Christmas ridges. Major cities like Anchorage, San Francisco, Los Angeles, and Tokyo are marked. The map is overlaid with a grid of latitude and longitude lines. A blue circle is drawn on the left side, and a blue line runs horizontally across the map.

PEER Education Program

Scott Ashford
January 20, 2006



PEER Education 2006



*Program objective:
Build a diverse pool of
well-educated students
for the earthquake
engineering profession.*

*2006 Highlights:
Shake Table Competition
at 8NCEE in April
22 Summer Internships*

Day 1 (Friday)

12:00 - 1:00 LUNCH

- breakout room for SLC
- breakout room for RC, IAB, and SAC

5:00 – 7:00 POSTER SESSION

7:00 – 8:30 BANQUET

Day 2 (Saturday)

7:30 – 8:30 BREAKFAST

8:30 – 9:30 PEER LEGACY IN RESEARCH &
EDUCATION

10:00 – 12:00 Thrust Area Topical Sessions

12:00 – 1:00 LUNCH

1:00 – 3:00 Thrust Area I, II, IV Sessions

----- Meeting Adjourns -----

3:00 – 4:30 Research Committee meeting
with IAB/JMC