

# Program for 2009 SSA Annual Meeting

Presenter is indicated in bold.

## Wednesday, 8 April—Concurrent SSA Oral Sessions

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
	<b>Global Seismotectonics</b> Session Chair: Allison Bent (see page 294)	<b>New Developments in Seismic and Acoustic Monitoring of Earthquakes and Explosions</b> Session Chairs: Lee Steck and Megan Flanagan (see page 296)	<b>Supershear Earthquake Rupture Speeds</b> Session Chairs: Shamita Das and Michel Bouchon (see page 299)	<b>M5.4 Mt. Carmel, Illinois, Earthquake, 18 April 2008</b> Session Chairs: Mitch Withers, Steve Horton, and Robert Williams (see page 301)
8:30	Parameterization of the Active Seismic Source Zones of the Caucasus Region, <b>Godoladze, T.</b> , Javakhishvili, Z., and Elashvili, M.	Hypocenter Locations of Earthquakes in Sonora, Mexico, Using Source-Specific Station Terms. <b>Castro, R.R.</b> , Shearer, P., Astiz, L., Vernon, F., Jacques, C., and Huerta, C.	INVITED: The Near-Sonic Rupture Velocities of the Kokoxili Mw 7.8 and Denali Mw 7.9 Strike-Slip Earthquakes Imaged with Teleseismic P-Waves Recorded by the Global Seismic Network. <b>Walker, K.T.</b> , and Shearer, P.M.	Introduction and Background for the April 18, 2008 Illinois Earthquake. <b>Withers, M.M.</b> , Herrmann, R.B., and Benz, H.M.
8:45	Possible Transient Strain Accumulation along the North Anatolian Fault: Precursor or Artifact? <b>Dolan, J. F.</b>	Global Crust and Upper Mantle Tomography for Improved Seismic Location. <b>Myers, S.C.</b> , Ballard, S., Rowe, C., Wagner, G., Antolik, M., Phillips, S., Ramirez, A., Begnaud, M., Pasyanos, M.A., Dodge, D., Flanagan, M.P., Dwyer, J., Hutchenson, K., and Russell, D.	INVITED: What Characterizes Supershear Fault Segments? <b>Bouchon, M.</b> , and Karabulut, H.	Analysis of Effects from the April 18, 2008 Illinois Earthquake. <b>Larson, T.H.</b> , Bauer, R.A., Su, W.-J., Devera, J.A., Seid, M., Hester, N.C., Elrick, S.D., and Korose, C.P.
9:00	A 4000 Year Record of Earthquakes in the Late Holocene Sediments from Saanich Inlet, an Anoxic Fiord near Victoria, British Columbia. Blais-Stevens, A., <b>Rogers, G.C.</b> , and Clague, J.J.	Maximum-Likelihood $m_b$ Station Correction Factors for the Stations of the International Monitoring System (IMS). <b>Murphy, J.R.</b> , and Barker, B.W.	INVITED: Super-Fast Rupture on Faults and Its Impact on Population Centres. <b>Robinson, D.P.</b>	Felt Intensity vs. Instrumental Ground Motion: A Difference Between California and Eastern North America?—The M5.2 (M5.4 NEIC) Mt. Carmel Earthquake Contribution. <b>Dangkua, D.T.</b> , and Cramer, C.H.
9:15	An Updated GPS Surface Velocity Field in the Northeastern Caribbean: Implications for Microplate Tectonics and Regional Seismic Hazard. <b>Jansma, P.E.</b> , and Mattioli, G.S.	Developing Frequency-Dependent 2D Pn Attenuation Models for Asia. <b>Yang, X.</b> , Phillips, W.S., Randall, G.E., Hartse, H.E., and Stead, R.J.	INVITED: Rupture Directionality and Super-Shear: Elastic Mismatch or Damage Induced Retardation? <b>Rosakis, A. J.</b> , Sammis, C. G., Bhat, H.S., and Biegel, R.L.	NEHRP Site-Class Corrected Ground Motions for the 2008 Mt. Carmel M5.2 (M5.4 NEIC) Earthquake Compared with Eastern North America Ground Motion Prediction Equations. <b>Cramer, C.H.</b>

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
9:30	The October and November 2008 Arctic Ocean Earthquake Swarm. <b>Bent, A. L.</b> , and Hayek, S.	Lg Attenuation in the Northern Korean Peninsula: A Study Based on Waveforms of the 9 October 2006 Nuclear Test Recorded along the Sino-North Korean Border. <b>Chun, K.-Y.</b> , and Henderson, G. A.	INVITED: Kinematic and Dynamic Source Inversion in the Low Frequency Range. DiCarli, S., <b>Madariaga, R.</b> , and Peyrat, S.	Cataloging the 1811–1812 New Madrid, Central U.S. Earthquake Sequence: What the Recent Past Can Tell Us about the Distant Past. <b>Hough, S.E.</b>
9:45		Regional Seismic Amplitude Modeling and Tomography for Earthquake-Explosion Discrimination in the Middle East. <b>Pasyanos, M.E.</b> , Walter, W.R., Matzel, E.M., and Rodgers, A.J.	INVITED: The 14 November 2001 Kokoxili (Tibet) Earthquake: High-Frequency Seismic Radiation Originating from the Transitions Between Sub-Rayleigh and Supershear Rupture Velocity Regimes. <b>Vallée, M.</b> , Landès, M., Shapiro, N.M. and Klinger, Y.	Earthquake Ground Motion Simulations in the Central United States. <b>Ramirez-Guzman, L.</b> , Williams, R.A., Boyd, O., Hartzell, S.
10:00	Break			
	<b>Earthquake Source Mechanics</b> Session Chairs: Justin Rubinstein and Nick Beeber (see page 295)	<b>New Developments in Seismic and Acoustic Monitoring of Earthquakes and Explosions</b> ( <i>continued</i> ) Session Chairs: Steve Myers and Anastasia Stroujkova	<b>Supershear Earthquake Rupture Speeds</b> ( <i>continued</i> ) Session Chairs: Michel Bouchon and Shamita Das	<b>M5.4 Mt. Carmel, Illinois, Earthquake, 18 April 2008</b> ( <i>continued</i> ) Session Chairs: Mitch Withers, Steve Horton, and Robert Williams
10:30	Shear Strain Localization in a Model of Coseismic Slip below the Seismogenic Zone. <b>Daub, E.G.</b> , and Carlson, J. M.	Aftershock Characteristics as a Means of Discriminating Explosions from Earthquakes. <b>Ford, S.R.</b> , Walter, W.R.	Transition to Supershear Speeds in 3D Simulations of Earthquake Sequences and Aseismic Slip. <b>Lapusta, N.</b> , and Liu, Y.	Determination of the Fault Plane of the April 18, 2008 Illinois Earthquake by Detecting and Relocating Aftershocks. <b>Yang, H.</b> , Zhu, L., and Chu, R.
10:45	An Alternative Way to Estimate Moment of Repeating Earthquakes and Its Implications for Earthquake Recurrence Relations. <b>Rubinstein, J.L.</b> , and Ellsworth, W.L.	Comprehensive Test Ban Monitoring: Contributions from Regional Moment Tensors to Determine Source Type and Depth. <b>Hellweg, M.</b> , Dreger, D. and Romanowicz, B.	Experimental Investigation of Radiated Ground Motion Due to Supershear Earthquake Ruptures. <b>Mello, M.</b> , Bhat, H. S., Rosakis, A. J., and Kanamori, H.	Site Response from Observations of the Mw 5.2 April, 18, 2008, Mt. Carmel, Illinois Earthquake Sequence. <b>Horton, S.</b>
11:00	Seismic Signature of Subducting Seamounts on the Faulting Process of the 2003 Great Tokachi-Oki, Japan, Earthquake. <b>Robinson, D.P.</b> , Cheung, L.-T., and Das, S.	Seismic Radiation from Regions Sustaining Material Damage. <b>Ben-Zion, Y.</b> , and Ampuero, J.-P.	Effect of the Free Surface on Supershear Transition in 3D Simulations of Spontaneous Dynamic Rupture on Strike-Slip Faults. <b>Kaneko, Y.</b> , and Lapusta, N.	Analysis of Shallow Vs and Site Response at Five ANSS Stations Located within 50 km of the M5.4 Mt. Carmel Earthquake, Illinois and Indiana U.S.A. <b>Odum, J.K.</b> , Stephenson, W.J., Williams, R.A. and Worley, D.M.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
11:15	Estimated Effects of Episodic Slow Slip on the Occurrence and Probability of Great Earthquakes in Cascadia Using Lab-Based Failure Relations. <b>Beeler, N.M.</b>	Toward Improved Understanding of Seismic Signals from Underground Explosions with Shock and Anelastic Wave Propagation Modeling. <b>Rodgers, A., Vorobiev, O., and Petersson, N. A.</b>	Dependency of Supershear Transition in Dynamic Rupture Simulations on the Autocorrelation of Initial Stress. <b>Schmedes, J., Archuleta, R.J., and Lavallée, D.</b>	Linear Site Effects from the April 2008 Illinois Earthquake Sequence at Selected Sites in the Lower Wabash River Valley, Central United States. <b>Woolery, E., Street, R., Meighen, P., and Hart, P.</b>
11:30	Investigation of the Rupture Properties of Deep Earthquakes Using Back-Projection of Multiple Seismic Phases. <b>Kiser, E., Ishii, M., Shearer, P.M.</b>	The Pulse-Shape and Spectral Characteristics of P-Waves from Perfshots before and after Hydraulic Fracturing. <b>Krasnova, M.A., Menke, W., Ammerman, M., and Chesnokov, E.</b>	Measuring Rupture Speed Differences Between Computed and Actual Values Using Kinematic Scenario Rupture Models. <b>Aagaard, B.</b>	Ground Motion Recordings from the April 18, 2008 Illinois Earthquake. <b>Wang, Z., Woolery, E.W., and Schaefer, J.A.</b>
11:45		Improvements to a Major Archive of Seismic Waveforms from Nuclear Explosions Digitally Recorded at Borovoye, Kazakhstan, 1966–1996. <b>Baker, D.F., Kim, W.-Y., Patton, H.J., Phillips, W.S., Randall, G.E., and Richards, P.G.</b>	Some Ground Motion Implications of Apparent Supershear Rupture Velocities. <b>O’Connell, D.R.H.</b>	
12:00	SSA Annual Luncheon in Serra II (Convention Center)			
	<b>Applications of LiDAR Data to the Study of Active Faults</b> ( <i>continued</i> ) Session Chairs: Carol Prentice, Tim Dawson, and Ashley Streig	<b>New Developments in Seismic and Acoustic Monitoring of Earthquakes and Explosions</b> ( <i>continued</i> ) Session Chairs: Chris Young and Sue Nava	<b>Earthquake-induced Ground Failure and Site Response: Theory to Observations</b> Session Chairs: Laurie Baise and Keith Knudsen (see page 307)	<b>Earthquake Damage and Loss Assessment</b> Session Chairs: Doug Bausch and David Wald (see page 309)
2:15	INVITED: GeoEarthScope Airborne LiDAR Data: Overview and Highlights. <b>Phillips, D.A., Jackson, M.E., and Meertens, C.M.</b>	Mobile Earthquake Recording in Marine Areas by Independent Divers. <b>Simons, F.J., Nolet, G., Georgief, P., Babcock, J.M., Regier, L.A., and Davis, R.E.</b>	Bayesian Model Assessment of Liquefaction-Induced Maximum Lateral Displacement. <b>Faris, A.T., and Kayen, R.E.</b>	Current Status of Earthquake Loss Estimates in Real-Time and Scenario Mode. <b>Wyss, M., Trendafiloski, G., and Rosset, P.</b>
2:30	Internet-Based Access to GeoEarthScope LiDAR Topography. <b>Crosby, C.J., Nandigam, V., Arrowsmith, J.R., and Baru, C.</b>	An Analysis of Noise Recorded at the Yellowknife Seismic Array. <b>Koper, K.D., and Benz, H.M.</b>	A Liquefaction and Lateral Spreading Case History in the Making: Moss Landing Woodward Marine Site. <b>Moss, R.E.S., and Fiegel, G.</b>	The USGS Pager System’s Contributions to Global Earthquake Loss Modeling. <b>Wald, D.J., Earle, P.S., Jaiswal, K., Allen, T.I., Lin, K., Marano, K., Hearne, M., and Porter, K.</b>
2:45	LiDAR-Based Mapping of the Northern San Andreas and Hayward Faults, California. <b>Whitehill, C.S., Prentice, C.S., and Mynatt, I.</b>	Superresolution with Seismic Arrays Using Empirical Matched Field Processing. <b>Harris, D.B., and Kvaerna, T.</b>	Landslides Triggered by the 16 July 2007 Mw 6.6 Niigata Chuetsu-Oki Japan Earthquake. <b>Collins, B.D., and Kayen, R.</b>	Stochastic Methods for the Estimation of Potential Seismic Damage: Application to Recent Earthquakes in Turkey. <b>Askan, A. and Yucemen, M.S.</b>

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
3:00	INVITED: Fault Zone Structure from Topography: Quantitative Analysis of LiDAR Data along the Creeping San Andreas Fault, California. <b>Delong, S.B.</b>	Probabilistic Seismic Network Completeness: Theory, Application, and Results. <b>Schorlemmer, D.</b>	Newly Discovered Faults Associated with Surficial Ground Cracks of the 1971 San Fernando Earthquake. <b>Schell, B.A.</b> , and Sexton, C.J.	INVITED: Developing Recommended Emergency Activation Levels Using USGS Products and HAZUS Loss Estimations. <b>Bausch, D.</b> , Wald, D.J., and Marano, K.
3:15	INVITED: Application of LiDAR and SRTM Data in the Analysis of Fault Zone Damage. <b>Wechsler, N.</b> , Rockwell, T.K., Ben-Zion, Y.	Optimizing Seismic Networks for Earthquake Early Warning—The Case of Istanbul. <b>Oth, A.</b> , Gottschaemmer, E., Boese, M., and Wenzel, F.	Empirical Magnitude-Fault Rupture Dimension Relationships: A Reevaluation. <b>Yunatci, A.A.</b> , and Cetin, K.O.	INVITED: Free, Open Source, End-to-End Seismic Risk Management Software. <b>Porter, K.A.</b> , Hellman, S., Wald, D.J., and Lin, K.W.
3:30	Dating Offset Alluvial Fans along the San Andreas Fault in the Santa Cruz Mountains Using LiDAR and Be-10 Geochronology. <b>Rood, D.H.</b> , Prentice, C.S., DeLong, S.B., Ritz, J.F.	Model Selection in Seismic Hazard Analysis: An Information-Theoretic Perspective. <b>Scherbaum, F.</b> , Delavaud, E., and Riggelsen, C.		Research on Probabilistic Seismic Risk Analysis for Buildings Subjected to Sequences of Large Earthquakes. <b>Luco, N.</b>
3:45	Break			
	<b>Applications of LiDAR Data to the Study of Active Faults</b> ( <i>continued</i> ) Session Chairs: Carol Prentice, Tim Dawson, and Ashley Streig	<b>New Views of the Earth's Interior from Array Analysis</b> Session Chairs: Miaki Ishii and Keith Koper (see page 306)	<b>Earthquake-induced Ground Failure and Site Response: Theory to Observations</b> ( <i>continued</i> ) Session Chairs: Laurie Baise and Keith Knudsen	<b>Earthquake Damage and Loss Assessment</b> ( <i>continued</i> ) Session Chairs: Paulo Bazzurro and David Wald
4:15	Paleoseismic Investigation of the Santa Cruz Mountains Section of the San Andreas Fault: LiDAR as a Tool to Improve Local Fault Mapping and Identify Future Investigation Sites. <b>Streig, A.R.</b> , Dawson, T.E., Fumal, T.E., Reidy, L., and Ticci, M.	Array Analysis of P-Wave Seismic Noise. <b>Zhang, J.</b> , Gerstoft, P., and Shearer, P.M.	Probabilistic Fault Displacement Hazard Mapping in Southern California. <b>Thomas, P.</b> , Wong, I., Zachariasen, J., and Olig, S.	Spatial Correlation of Ground Motions and Response Spectra in a Subduction Environment. <b>Goda, K.</b> , and Atkinson, G.M.
4:30	INVITED: Topographic Response to Active Deformation of Landforms of the Carrizo Plain and the Santa Cruz Mountains, Imaged Using High-Resolution Topographic Data. <b>Hilley, G. E.</b> , Arrowsmith, J. R., Bürgmann, R., Dumitru, T., Gudmundsdottir, M. H.	INVITED: Varying Strengths of Low Velocity Zones at the Base of the Mantle Imaged by P-Wave Double Array Stacking. <b>Hutko, A.R.</b> , Lay, T., and Revenaugh, J.	How Far from a Building Starts the Tremor Free-Field? <b>Castellaro, S.</b> , and Mulargia, F.	INVITED: Seismic Hazard Evaluation and Loss Assessment for Portfolios of Structures. <b>Bazzurro, P.</b> , Tothong, P., Park, J.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
4:45	Geomorphic Analysis of the Kern Canyon Fault Using LiDAR Data from Walker Basin to the Kings-Kern Divide, Tulare and Kern Counties, CA. <b>Kelson, K.I.</b> , Amos, C.B., Baldwin, J.N., Simpson, D.T., and Rose, R.S.	The MARS Experiment: Implications for Geometry and the Flow of Mantle around the Rivera and Cocos Plates. <b>Ni, J.</b> , Leon Soto, G., Grand, S. Guzman, M., Gomez Gonzalez, J.M., Yang, T., and Dominguez Reyes, T.	Possible Bias in Site Effect Estimates in Seismic Stations Sited on Unconsolidated Soils. <b>Castellaro, S.</b> , Mulargia, F.	INVITED: Expected Annual Losses in Memphis, TN for Five Candidate Seismic Design Alternatives. <b>Karaca, E.</b> , Luco, N., Milburn, T.
5:00	INVITED: The "Polaris Fault": A Previously Unmapped Fault Discovered Using LiDAR near Martis Creek Dam, Truckee, CA. <b>Hunter, L.E.</b> , Howle, J.F., Rose, R.S., and Bawden, G.W.	INVITED: The Moho and the Lithosphere-Asthenosphere Boundary under the Western U.S. From USArray PdS Receiver Functions. <b>Levander, A.</b> , Miller, M.S., and Niu, F.	A Comparison of Three Spatial Models for Site Response Estimation. <b>Thompson, E.M.</b> , Baise, L.G., Kayen, R.E., Tanaka, Y., and Tanaka, H.	Enhancing NEHRP Soil Classifications for HAZUS-MH Analysis and Mapping in Charleston SC. <b>Medves, J.J.</b> , Jaumé, S.C., and Levine, N.S.
5:15	Measuring Normal Fault Scarp Displacements and Rates of Extension along the Fish Lake Valley Fault Using High-Resolution Airborne LiDAR Data. <b>Ganev, P.N.</b> , Dolan, J.F., Frankel, K.L., Finkel, R.C.	Chemical Heterogeneity in the Lower Mantle from Array Observations of Short Period P and Pdiff Coda. Xu, Y., and <b>Koper, K.D.</b>	Seismic Hazard Assessment for Earthquake Resistant Design of Structures in Malaysia. <b>Adnan, A.B.</b> , Meldi, S. and Hendriyawan, A.	Seismic Vulnerability of Existing Buildings Using Ambient Vibrations in Moderate Seismic Prone Regions. Michel, C., and <b>Gueguen, P.</b>
5:30				INVITED: Disaggregation of the Seismic Risk in the State of California into Its Contribution by Various Seismic Sources. <b>Aslani, H.</b>

### Wednesday, 8 April—Morning Poster Sessions

#### Applications of LiDAR Data to the Study of Active Faults (see page 311)

- Evidence for Holocene Surface Ruptures on the Kern Canyon Fault: A Former Mesozoic Structure of the Southern Sierra Nevada, Kern County, California. **Kozaci, Ö.**, Lutz, A., Turner, R., Amos, C., Rose, R., Kelson, K., Baldwin, J., Simpson, D., Maat, P., Kozłowicz, B., Slack, C., Rugg, S., Sowers, J., Brossy, C., Ortiz, R., and Glidden, T.
- Preliminary Late Quaternary Slip-Rate Estimate for the Northern Kern Canyon Fault Zone, Tulare and Kern Counties, California. **Amos, C.B.**, Kelson, K.I., Rood, D.H., Simpson, D.T., Baldwin, J.N., and Rose, R.S.
- Detection of Small Tectonic-Geomorphic Features beneath Dense Vegetation Cover in Japanese Mountains

from High-Resolution LiDAR DEMs. **Lin, Z.**, Kaneda, H., Mukoyama, S., Asada, N., and Chiba, T.

- LiDAR-Assisted Study of Holocene Faulting on the Darrington-Devils Mountain Fault Zone, Western Washington. **Personius, S.F.**, Nelson, A.R., Briggs, R.W., Maharrey, J.Z., Schermer, E.R., and Bradley, L.-A.
- Collateral Damage: Capturing Slip Delocalization in Fracture Profiles. **Savage, H.S.**, and Brodsky, E.E.
- Measuring the Evolution of Slip Surface Roughness with LiDAR. **Gilchrist, J.J.**, Brodsky, E.E., Steffek, M., and Sagy, A.

#### Earthquake Damage and Loss Assessment (see page 312)

- An Atlas of Shakemaps and Population Exposure Catalog for Earthquake Loss Modeling. **Allen, T.I.**, Wald, D.J., Earle, P.S., Marano, K., Hotovec, A., Lin, K., and Hearne, M.

20. Global Earthquake Casualty/Loss Estimation Models for the USGS PAGER System. **Jaiswal, K.S.**, Wald, D.J., Earle, P.S., Hearne, M., and Porter, K.A.
21. Invited: Comparisons of Probabilistic Seismic Risk Maps for HAZUS-Based and Building Code Fragility Models. **Ryu, H.**, and Luco, N.
22. PG&E Earthquake Bulletins: Reporting and Emergency Response for Hydroelectric Facilities. Steinberg, S.M., **Wooddell, K.E.**, and Hollfelder, J.C.
23. Invited: Uncertainty in Seismic Loss Estimation of Structures. **Shome, N.**
24. QLARM—A New Tool for Estimation of Losses Due to Earthquakes Worldwide. Trendafiloski, G., Rosset, P., **Wyss, M.**, Bonjour, C., Wiemer, S., and Hurter, S.
25. Incorporate ShakeMap and User-Defined Metrics for Lifeline Post-Earthquake Damage Assessment Using ShakeCast. **Lin, K.**, Wald, D.J., and Turner, L.L.
26. Systematic Integration of Macroseismic and Strong-Motion Data in ShakeMap for Real-Time and Loss-Modeling Applications. **Worden, C. B.**, Wald, D. J., Lin, K., and Cua, G.
27. A Review of Instrumental and Macroseismic Ground-Motion Prediction Techniques for Use in Global ShakeMap. **Allen, T.I.**, and Wald, D.J.
28. Ground-Motion Model Selection Based on Response Spectra and Macroseismic Intensities: A Case Study Using Californian Data. **Delavaud, E.**, Scherbaum, F., and Riggelsen, C.
29. Test of the Applicability of NGA Models to the Strong Ground-Motion Data in the Iranian Plateau. **Shoja-Taheri, J.**, Naserieh, S., Ghofrani, H., and Gholipoor, Y.
30. Extending and Testing GK-07 Ground Motion Attenuation Model Based on Atlas Global Database. **Graizer, V.**, Kalkan, E., and Lin, K.
31. Peak Exceedance Spectra or “n-Spectra.” **Graf, W.P.**, and Lee, J.
37. East of Eden: Site Response Studies along the Fraser River Valley, Southwest British Columbia. Al-Khoubbi, I.A., and **Cassidy, J.F.**
38. Sensitivity of Seismic Hazard Estimates to Earthquake and Site-Parameters Investigated by Bayesian Networks. Kuehn, N.M., Riggelsen, C., **Scherbaum, F.**
39. Rayleigh Wave Ellipticity Estimation by Using the Random Decrement Technique (raydec). **Hobiger, M.**, Bard, P.-Y., Cornou, C., Le Bihan, N., Endrun, B., Ohrnberger, M., and Renalier, F.
40. A Deformation-Based Approach to Mapping Liquefaction Hazard. **Real, C.R.**, Woods, M.O., and Knudsen, K.L.
41. Towards the Compilation of a Liquefaction Susceptibility Map of Greece. **Papathanasiou, G.**, Pavlides, Sp., Valkaniotis, S., Chatzipetros, Al.

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**New Views of the Earth’s Interior from Array Analysis** (see page 316)

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50. Experience with Regional Gradiometric Arrays. **Langston, C.A.**, and Horton, S. P.
51. Computing Green’s Functions from Ambient Noise Recorded by Narrow-Band Seismometers, Accelerometers, and Analog Seismometers. **Von Seggern, D.H.**, Tibuleac, I.M., and Louie, J.N.
52. Identifying Far-Regional P-Coda Arrivals Using Phase-Weighted Stacking at Regional Arrays. **Ferris, A.**, and Reiter, D.T.

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**Wave Propagation** (see page 317)

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53. Variations and Sources of Crustal Anisotropy in Southwest British Columbia. **Balfour, N.J.**, Cassidy, J., and Dosso, S.
54. A 3D Hybrid Fd-Fe Method for Viscoelastic Modeling of Seismic Wave Propagation and Earthquake Motion. **Moczo, P.**, Galis, M., Kristek, J., and Balazovjeh, M.
55. An Evaluation of Eastern North America Ground Motion Scaling Relations Using Data from Southeastern Canada Earthquakes. **Herrmann, R. B.**
56. The Multi-Axial Perfectly Matched Layer for Isotropic Elastic Media with Damping Coefficients of Any Positive Value: Stability and Applications. **Meza-Fajardo, K.C.**, and Papageorgiou, A.S.
57. Implementation of a Surface Wave Back-Propagation Method for near Real-Time Determination of Earthquake Locations and Magnitudes. **Polet, J.**, Thio, H.K., and Earle, P.S.
58. Using Fréchet Kernels to Investigate 3D Wave Excitation and Propagation in Southern California. **Allam, A.A.**, Jordan, T.H., and Chen, P.

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**Earthquake-induced Ground Failure and Site Response: Theory to Observations** (see page 315)

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35. Basin Surface Waves and Ground-Motion Amplification in the San Leandro and Livermore Basins, California: Implications for Seismic Hazard. **Frankel, A.D.** and Carver, D.L.
36. Seismic Response and Wavefield Characterization Using a Very Dense 2D Seismic Array on an Active Landslide (Cavola, Italy). Bordononi, P., **Cara, F.**, Di Giulio, G., Haines, A.J., Milana, G., Rovelli, A.

## Wednesday, 8 April—Afternoon Poster Sessions

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### Deterministic Simulated Ground Motion Records Under ASCE/SEI 7-05: Guidance for the Geotechnical Industry (see page 318)

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7. Smooth Synthesizing of Ground Motion from Real Record. **Shahbazian, A.**, and Pezeshk, S.
8. Site Specific Investigation for Three Large Landslides in Santa Barbara County, California. **Bykovtsev, A.S.**, Beard, R.M., Tranby, T., and Gurrola, L.D.
9. Site Specific Investigation for National Bank of Uzbekistan with Time History Analyses of Simulated Ground Motion. **Bykovtsev, A.S.**, Kasimov, M.M.
10. Quantifying Heterogeneity of Active Fault Zones using Fault Trace Data. **Wechsler, N.** and Ben-Zion, Y.
11. Characterization of Pulverized Granite from a Traverse and a Shallow Drill along the San Andreas Fault, Little Rock, CA. **Wechsler, N.**, Allen, E. E., Rockwell, T. K., Chester, J., and Ben-Zion, Y.
12. Reliability Test of Kinematic Source Inversion Using Spatial Coherence of Source Parameters. **Song, S.**, Pitarka, A., and Somerville, P.
13. Effects of Realistic Topography on Seismic Wave Propagation: Large- and Small-Scale Topography Effects in Northern Taiwan. **Lee, S.-J.**, Komatitsch, D., Chan, Y.C., Huang, B.S., and Tromp, J.
14. Identifying Surface Rupture Hazard at Caltrans Bridges. **Merriam, M.**
15. Three-Dimensional Modeling of Earthquake Ground Motion Including Nonlinear Wave Propagation in Soils. **Taborda, R.**, and Bielak, J.
16. The SCEC-USGS Rupture Dynamics Code Comparison Exercise. **Harris, R.A.**, Barall, M., Archuleta, R., Aagaard, B., Ampuero, J., Andrews, D.J., Cruz-Atienza, V., Dalguer, L., Day, S., Duan, B., Dunham, E., Ely, G., Kaneko, Y., Kase, Y., Lapusta, N., Liu, Y., Ma, S., Oglesby, D., Olsen, K., Pitarka, A., Song, S., and Templeton, E.
17. Dynamic Rupture Simulations of a Non-Vertical Fault in a Heterogeneous Medium Using Finite Element Method. **Liu, Q.**, and Archuleta, R.J.
18. A Finite Fault Study of the 29 July 2008 Mw5.4 Chino Hills Earthquake. **Shao, G.**, Ji, C., and Hauksson, E.

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### Earthquake Source Mechanics (see page 321)

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32. Moment Tensor Solutions of Recent Earthquakes in the Messina Straits Area, Southern Italy. **D'Amico, S.**, Orecchio, B., Presti, D., Zhu, L., Herrmann, R.B., and Neri, G.
33. Dynamic Rupture Stress Glut Method Using Finite Elements: Planar and Curved Faults. **Ramirez-Guzman, L.**, and Bielak, J.
34. Transitions to Chaos in Dieterich Ruina Friction. **Erickson, B.A.**, Lavallee, D., Birnir, B., and Madariaga, R.

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### Global Seismotectonics (see page 321)

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42. Segmentation of the Vienna Basin Fault System. **Beidinger, A.**, Decker, K., Salcher, B., Hinsch, R., and Monika, H.
43. Historic Seismographic Data at the U.S. Geological Survey, Colorado. **Dewey, J.W.**, McCann, W.R., and Morton, S.S.
44. Present-Day Motion of the Arabian Plate: Geodetic Constraints on Continental Rifting along the Red Sea and Gulf of Aden. **Sholan, J.**, Arrajehi, A., Reilinger, R., McClusky, S., Mahmoud, S., Rayan, A., Ogubazghi, G., Bou-Rabee, F.
45. Paleoseismologic and Structural Characterization of Shallow, Subsurface Folding above Segmented Blind-Thrust Systems: Results from the Puente Hills Thrust and Compton Fault, Los Angeles, California. **Leon, L.A.**, Dolan, J.F., Shaw, J.H., and Pratt, T.L.
46. Broadband Seismic Study of Western Iberia and Offshore Atlantic. **Custodio, S.** and Fonseca, J.F.B.D.
47. Identification and Frequency of Holocene Earthquakes from the Laminated Sedimentary Record of Effingham Inlet, Pacific Coast, Vancouver Island, British Columbia. Dallimore, A., Enkin, R.J., Baker, J., **Rogers, G.C.**
48. Active Crustal-Scale Pure Shear Foreland Deformation of Western Argentina. **Meigs, A.J.**, Schiffman, C.R., Nabelek, J.
49. Surface and Modeled Earthquake Slip: Is There a Relationship? Case Studies from the Broader Aegean Region (SE Europe). **Chatzipetros, A.**, Pavlides, S., and Papathanasiou, G.

## Thursday, 9 April—Concurrent SSA Oral Sessions

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
	<b>Central California Coast Earthquake Hazards</b> Session Chairs: Stu Nishenko and Jeanne Hardebeck (see page 323)	<b>Statistics of Earthquakes</b> Session Chairs: Donald Turcotte and John Rundle (see page 325)	<b>Deterministic Simulated Ground Motion Records Under ASCE/SEI 7-05: Guidance for the Geotechnical Industry</b> Session Chairs: Alexander Bykovtsev and Vladimir Graizer (see page 327)	<b>Seismological Field Work: The Good, Bad, and Ugly</b> Session Chairs: Jessie Bonner and Noel Barstow (see page 331)
8:30	INVITED: Quaternary Tectonic Setting of South-Central Coastal California. <b>Lettis, W.R.</b> , and Unruh, J.R., Hanson, K.L.	The Magnitude-Frequency Distribution on the Southern San Andreas Fault: Reconciling Instrumental, Historic, and Paleoseismic Catalogs. <b>Page, M.T.</b> , Felzer, K.R., Weldon, R.J., and Biasi, G.	INVITED: Simulated Deformations of Seattle High-Rise Buildings from a Hypothetical Giant Cascadian Earthquake. <b>Heaton, T.</b> , and Yang, J.	INVITED: The High Lava Plains Seismic Experiment: Lessons from a Major Broadband Deployment. <b>James, D.E.</b> , and Fouch, M.J.
8:45	From Monterey to Maricopa: A Seamless Digital Geologic Map Database for the Central California Coast. <b>Rosenberg, L.I.</b> , and Graymer, R.W.	The Role of Asperities in Decoupling Fault Segments: A Virtual California Simulation of Cyclic Earthquakes. <b>Yikilmaz, M.B.</b> , Turcotte, D.L., Yakovlev, G., Rundle, J.B., Kellogg, L.H., and Holliday, J.R.	INVITED: Broadband Strong Ground Motion Simulation Procedure Using a Composite Source Model. <b>Zeng, Y.</b>	INVITED: Deployment of Large 2-D Arrays in Continental Plateaus: Stories from the Tibetan and Andean Plateaus. <b>Sandvol, E.</b> , Kay, S.M., Chen, J., Ni, J., Heit, B., Yuan, X., and Hearn, T.
9:00	Constraints on 3-Dimensional Structure of the Central California Coast Ranges from Gravity and Magnetic Data. <b>Langenheim, V.E.</b> , Jachens, R.C., Graymer, R.W., Wentworth, C.M.	Comparing 3D Heterogeneous Stress/Rate-State Friction Models of Aftershock Sequences with Major Events. <b>Smith, D.E.</b> , and Dieterich, J.H.	INVITED: Identifying and Predicting Near-Source Ground Motion Phenomena Using Numerical Earthquake Physics Models. <b>Dalguer, L.A.</b> , Day, S.M., and Mai, M.	INVITED: How to (Mostly) Avoid the Bad. <b>Shore, P.J.</b>
9:15	Geophysical Characterization of the Hosgri Fault Zone, Central California. <b>Watt, J.T.</b> , Johnson, S.Y., Hardebeck, J.L., Scheirer, D.S., Fisher, M.A., Sliter, R.W., Hart, P.E.	A Test of Earthquake Forecasting with Numerical Earthquake Simulators: Do Similar Pasts in Simulation Data Imply Similar Futures? <b>Rundle, J.B.</b> , Van Aalsburg, J., Holliday, J.R. Turcotte, D.L., Donnellan, A., Grant-Ludwig, L., and Tiampo, K.F.	INVITED: Site Response during Earthquakes. <b>Trifunac, M.D.</b>	INVITED: If Seismograms Could Talk: The True Story behind How That Wiggle Came to Be. <b>Alvarez, M.G.</b> , Fowler, J., and Beaudoin, B.
9:30	High Resolution, Seismic-Reflection Survey Offshore Central California Will Help Refine Regional Seismic Hazard Assessment. <b>Johnson, S.Y.</b> , Hart, P. E., Watt, J.T., and Sliter, R.W.	The Comparison of B-Values Using Computer Intensive Tests. <b>Amorese, D.</b> , Rydelek, P. A., and Grasso J.-R.	INVITED: Rupture Process and Initiation of Rupture of the Mw 7.8 Tocopilla Earthquake of 14 November 14, 2007 and Several of Its Major Aftershocks. Peyrat, S., <b>Madariaga, R.</b> , Ruiz, S., and Campos, J.	INVITED: The Challenges of Land-Based Active-Source Seismic Field Work. <b>Fuis, G.S.</b> , Catchings, R.D., and Rymer, M.J.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
9:45	Seismotectonics and Fault Structure of the California Central Coast. <b>Hardebeck, J. L.</b>	Southern Red Sea Gulf of Aden Recent Seismicity Files Observed by Local Network with Concentration on Jabal Al Tair Volcanic Eruption. <b>Sholan, J.M.</b>	INVITED: Deterministic Simulated Ground Motion Records under ASCE/SEI 7-05: Guidance for the Geotechnical Industry. <b>Bykovtsev, A.S.</b>	INVITED: Large-Scale Controlled-Source Seismic Experiments: Some Reflections and Refractions. <b>Keller, G. R.</b>
10:00	Break			
	<b>Central California Coast Earthquake Hazards</b> ( <i>continued</i> ) Session Chairs: Jeanne Hardebeck and Stu Nishenko	<b>Statistics of Earthquakes</b> ( <i>continued</i> ) Session Chairs: John Rundle and Donald Turcotte	<b>Deterministic Simulated Ground Motion Records Under ASCE/SEI 7-05: Guidance for the Geotechnical Industry</b> ( <i>continued</i> ) Session Chairs: Alexander Bykovtsev and Vladimir Graizer	<b>Seismological Field Work: The Good, Bad, and Ugly</b> ( <i>continued</i> ) Session Chairs: Jessie Bonner and Noel Barstow
10:30	Construction of a Three-Dimensional Geologic, Tectonic, Kinematic Crustal Model of Coastal Central California. Jachens, R.C., <b>Simpson, R.W.</b> , Graymer, R.W., Langenheim, V.E., Wentworth, C.M., Stanley, R.G., and Colgan, J.P.	Record-Breaking Earthquakes, Forward and Backward. <b>Turcotte, Donald L.</b> , and Van Aalsburg, Jordan D., and Rundle, John B., and Newman, William I.	INVITED: Ground Motion Modeling Using WPP. <b>Petersson, N. A.</b> , and Rodgers, A.	A PASSCAL Instrument Center Perspective on Time Management for Seismological Fieldwork. Miller, P.E., <b>Thomas, D.E.</b> , Greschke, R.W., Ingate, S., Fort, M.D.
10:45	INSAR Deformation Patterns for the 22-December-2003 Moment Magnitude (Mw) 6.5 San Simeon Earthquake, Central California. <b>Bawden, G.W.</b> , Wicks, C., McLaren, M.K., Hardebeck, J.L.	Statistics and Correlations of Seismic and Tectonic Moment Rate in California and the Great Basin. <b>Kreemer, C.</b> , Torres, R., Zaliapin, I., Pancha, A., and Anderson, J.G.	INVITED: A Hybrid Approach to Broadband Ground Motion Simulations. <b>Graves, R.W.</b> , and Pitarka, A.	INVITED: Scaling a Monster: Perspectives in Planning Very Large Arrays from EarthScope's Transportable Array. <b>Busby, R.W.</b> , Hafner, K., and Woodward, B.
11:00	Complex Rupture during and after the 2003 San Simeon Earthquake Determined from Multiple SAR Interferograms. <b>Johanson, I. A.</b> , and Bürgmann, R.	A New Probability-Based Monitoring System for Induced Seismicity: Insights from the 2006–2007 Basel Earthquake Sequence. <b>Bachmann, C.E.</b> , Wiemer, S., and Woessner, J.	INVITED: Dynamic Modeling of a Hypothetical Mw 7.0 Earthquake on the Sierra Madre Fault System and Resultant Strong Ground Motions in Greater Los Angeles. <b>Ma, S.</b> and Beroza, G.C.	INVITED: Ocean Bottom Seismology: Field Work for the Foolish or the Adventurous? <b>Collins, J. A.</b>
11:15	Probabilistic Tsunami Inundation Maps for California. <b>Thio, H.K.</b> , Somerville, P., and Polet, J.	Systematic Variations of Non-Zero C-Value. <b>Shebalin, P.</b> , Narteau, C., Holschneider, M., and Schorlemmer, D.	INVITED: Important Features of Ground Motion Simulations: A Case Study Using Scenario Earthquake Ruptures of the Hayward Fault. <b>Aagaard, B.</b> , and Graves, R.	INVITED: Extreme Seismology: How to Record Continuously through the Cold, Dark Austral Winter on the Antarctic Plateau. <b>Beaudoin, B.C.</b> , Parker, T., Bonnett, B., and Tytgat, G.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
11:30	Central California Coast Tsunami Hazards. <b>Nishenko, S.P.</b> , Abrahamson, N., Hanson, K., Thio, H.K., Greene, H.G.	The bAss Model. Van Aalsburg, J.D., <b>Turcotte, D.L.</b> , Rundle, J.B., and Newman, W.I.	INVITED: Factors Controlling Long-Period Deterministic Ground Motion Synthetics. <b>Olsen, K.B.</b>	INVITED: Field Experiments as Teaching Experiences in Graduate and Undergraduate Education. <b>Stump, B.</b>
11:45	Site-Specific Seismic Hazard Analyses for the Monterey Peninsula. <b>Knudsen, K.L.</b> , Terra, F., and Wong, I.G.	QuakeML: Recent Developments and First Applications of the Community-Created Seismological Data Exchange Standard. <b>Euchner, F.</b> , Schorlemmer, D., Kästli, P., and the QuakeML Working Group.	INVITED: Estimation of the Breakdown Slip Directly from Near-Fault Strong Motion Seismograms? Insights from Numerical Experiments. <b>Cruz-Atienza, V. M.</b> , Olsen, K. B., Dalguer, L. A.	Lesson Re-Learned: Be Aware of Potential Problems in Field Data. <b>Barstow, N.</b> , Lees, J., Fowler, J.
12:00	Lunch			
	<b>Advances in Science, Engineering, Public Policy, and Hazard Mitigation as a Result of the 1989 Loma Prieta Earthquake</b> Session Chairs: Ivan Wong, Chris Poland, and Tom Holzer (see page 333)	<b>Earthquake Source Scaling: Advances, Applications, and Outstanding Issues</b> Session Chairs: William Walter, Luca Malagnini, and Kevin Mayeda (see page 335)	<b>Deterministic Simulated Ground Motion Records Under ASCE/SEI 7-05: Guidance for the Geotechnical Industry</b> (continued) Session Chairs: Alexander Bykovtsev and Vladimir Graizer	<b>Volcano Monitoring Using Seismology and Complementary Methods</b> Session Chairs: Seth Moran and Charlotte Rowe (see page 339)
1:30	INVITED: The National and Scientific Legacies of the 1989 Loma Prieta Earthquake. <b>Holzer, T.L.</b> , and Wesson, R.L.	How Much of the Variability in Earthquake Scaling Comes from the Variability in Methods? <b>Abercrombie, R. E.</b> , Gök, R., and Walter, W. R.	INVITED: Verification of Methodology for Predicting Strong Ground Motion Based on Characterized Source Model—Learning from Recent Disastrous Earthquakes in Japan. <b>Kojiro, I.</b> , Katsuhiko, K., Ken, M., and Susumu, K.	INVITED: Seismicity and Fluid Geochemistry at Lassen Volcanic National Park, California: Evidence for Two Circulation Cells in the Hydrothermal System. <b>McLaren, M.K.</b> , and Janik, C.J.
1:45	INVITED: The National and Scientific Legacies of the 1989 Loma Prieta Earthquake. <b>Holzer, T.L.</b> , and Wesson, R.L. (continued)	Quantifying Various Effects on Uncertainties in Source Parameter Estimates. <b>Kane, D.L.</b> , Prieto, G.A., Vernon, F.L., and Shearer, P.M.	INVITED: Rock Mechanical and Slope Stability Analysis of the BSL-3 Facility Undergoing a Magnitude 6.7 Earthquake on the Pajarito Fault. <b>Bradley, C. R.</b> , Pineda-Porras, O., Steedman, D. W., Lee, R. C., Roberts, P. M., Coblentz, D. D., and Lewis, C. L., and Houston, T. W.	INVITED: Alaskan Volcano Seismicity and Structure from Sparse Datasets. <b>Thurber, C.H.</b>
2:00	INVITED: Fire following Earthquake: The 1989 Loma Prieta Earthquake and Subsequent Developments. <b>Scawthorn, C.</b>	Apparent Stress from Coda-Derived Source Ratios: Regional Variations, Similarities, and Differences. <b>Mayeda, K.</b> , Malagnini, L.	INVITED: Variations in Near-Source Ground Motions Due to Rupture Heterogeneity. <b>Rowshandel, B.</b>	The 2008 Halemaumau Eruption at Kilauea Volcano, Hawai`i: A Return to Jaggar's Volcano Laboratory. <b>Okubo, P.G.</b> , Poland, M.P., and Sutton, A.J.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
2:15	INVITED: Fire following Earthquake Loss Estimation Using Simulation Techniques. <b>Singhal, A.</b> , Mortgat, C.P., Mohindra, R., Vyas, V., Bhattacharyya, S., Vojjala, R., Malakan, A.	Computing Dynamic Friction on Faults: Self-Similarity as an Indication of Fault Maturity? <b>Malagnini, L.</b> , Nielsen, S., and Mayeda, K.	Toward Quantification of Rupture-Model Variability—Moment Rate Function as Another Metric for Source Model Comparison. <b>Mak, S.</b> , Mai, P. M., Schorlemmer, D., Koketsu, K.	Source Properties and Deformation Analysis of the 2008-2009 Yellowstone Lake Earthquake Swarm. <b>Farrell, J.F.</b> , Smith, R.B., Taira, T., Puskas, C.M., Burlacu, R., Pechmann, J., Heasler, H., and Lowenstern, J.
2:30	INVITED: Engineering and Local Policy Legacies of the Loma Prieta Earthquake. <b>Poland, C.D.</b>	Finite-Source Models and Scaling of Parkfield Seismicity. <b>Dreger, D.S.</b> , Nadeau, R.M., Chung, A.	Ground Motion Prediction Models for Rock Sites in Australia. <b>Somerville, P.G.</b> , Graves, R.W., Collins, N., Song, S.G., Ni, S., and Cummins, P.R.	PBO Integrated Observing Sites at the Yellowstone Caldera and Mt St Helens. <b>Mencin, D.</b> , Jackson, M., Johnson, W., Gottlieb, M., and Vanboskirk, L.
2:45	INVITED: San Francisco's Community Action Plan for Seismic Safety (CAPSS). Kornfield, L., and <b>Walker, D.</b>	Self-Similarity of Earthquake Rupture Growth in Parkfield Area. <b>Uchide, T.</b> , and Ide, S.	Effective Earthquake Source Characterization, Modeling, and Ground Motion Simulation with Geostatistics. <b>Song, S.</b> , Pitarka, A. Somerville, P.	
3:00	Break			
	<b>Advances in Science, Engineering, Public Policy, and Hazard Mitigation as a Result of the 1989 Loma Prieta Earthquake</b> ( <i>continued</i> ) Session Chairs: Ivan Wong, Chris Poland, and Tom Holzer	<b>Earthquake Source Scaling: Advances, Applications, and Outstanding Issues</b> ( <i>continued</i> ) Session Chairs: William Walter, Luca Malagnini, and Kevin Mayeda	<b>Maximum Earthquake Magnitudes for Seismic Hazard Analyses</b> Session Chair: John E. Ebel and Mark Petersen (see page 343)	<b>Volcano Monitoring Using Seismology and Complementary Methods</b> ( <i>continued</i> ) Session Chairs: Seth Moran and Charlotte Rowe
3:30	INVITED: Advances in Preparing Utilities and Transportation Systems for Earthquakes—20 Years of Lifelines-Led Progress. <b>Savage, W. U.</b> , Honegger, D. G., Nishenko, S. P.	What Is the Stress Drop of Mid-Size Apennines Earthquakes? Calderoni, G., <b>Rovelli, A.</b> , Milana, G., and Valensise, G.	The Influence of Maximum Magnitude on Seismic Hazard Estimates in the Central and Eastern United States. <b>Mueller, C.S.</b>	Self-Scanning Event Detection in Volcanic Swarms. <b>Resor, M.E.</b> , Carr, D.B., Procopio, M. J., Young, C.J., and Rowe, C.
3:45	INVITED: Incorporating Research Data, Models, and Methodologies in Corporate Earthquake Risk Management Programs. <b>K.S. Ferre.</b>	Rupture Variations for Central American Earthquakes. <b>Bilek, S.L.</b> , and Stankova-Pursley, J.	Maximum Magnitudes for PSHA in Central and Eastern North America: Are we being realistic in our estimates of uncertainty? <b>Ake, J.P.</b>	INVITED: Real Time Earthquake Processing at Volcanoes: What Is and Isn't Feasible. <b>West, M.E.</b>
4:00	INVITED: Lessons Learned from the Ground Motions of the 1989 Loma Prieta Earthquake. <b>Abrahamson, N. A.</b>	Fault Zone Dilatational Process Observed in Taiwan Chelungpu-Fault Borehole Seismometers. <b>Ma, K.-F.</b> , Lin, Y.-Y., Lee, S.-J., and Tanaka, H.	Contributions of Paleoseismology to Estimates of Maximum Earthquake Magnitude. <b>Tuttle, M.P.</b> , and Atkinson, G.M.	A Physical Model for Volcanic Tremor and Its Application to Study Volcano Seismicity at Stromboli (Italy). Agrusta, R., <b>Battaglia, M.</b> , Sgroi, T., Favale, P.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
4:15	INVITED: Re-Examination of the Monterey Bay Tsunami Triggered by the 1989 Loma Prieta Earthquake. <b>Geist, E.L.</b> , Lynett, P.J., and Xu, J.	Guidance from Laboratory Experiments Concerning Earthquake Source Processes. <b>McGarr, A.</b> , Fletcher, J. B., Boatwright, J., Beeler, N.	Maximum Magnitudes of Charleston, South Carolina Earthquakes from in Situ Geotechnical Data. <b>Talwani, P.</b> , Gassman, S.L. and Hasek, M.J.	A Mechanism for Energetic, Prolonged Tremor Heraldng the 2004–2008 Dome Extrusion at Mount St. Helens, Washington. <b>Denlinger, R.P.</b> , Moran, S.C., and Leveque, R.J.
4:30	INVITED: A Post-Loma Prieta Progress Report on Earthquake Triggering by a Continuum of Deformations. <b>Gomberg, J.</b>	Scaling and Statistics of Moment Rate Functions of Slow Earthquakes. <b>Ide, S.</b>	Maximum Credible Earthquake (MCE) Assessments for Fault Segments of the Vienna Basin Fault System, Austria. <b>Decker, K.</b> , Beidinger, A., Salcher, B., and Hinsch, R.	Multichannel Reflection Imaging of Deep Magma with Unconventional Sources. <b>Brown, L.D.</b> , and Byerly, K. M.
4:45	INVITED: Recurrence Implications of the 1989 Loma Prieta Earthquake. <b>Jackson, D.D.</b>	Mw-MI Scaling Relations for Earthquake Sequences in Switzerland. <b>Bethmann, F.</b> , Deichmann, N., Allmann, B., Giardini, D., and Mai, P. M.	Estimation of Magnitudes and Locations of Historical Earthquakes in Ecuador. <b>Beauval, C.</b> , Yepes, H., Bakun, W., Egred, J., and Alvarado, A.	
5:15	JOYNER LECTURE: Earthquakes, Seismic Hazard, and Performance-Based Design, <b>McGuire, R.K.</b>			

#### Thursday, 9 April—Morning Poster Sessions

##### Earthquake Source Scaling: Advances, Applications, and Outstanding Issues (see page 341)

1. Estimation of Scaled Seismic Energy by Empirical Green's Function Analysis. **Baltay, A.S.**, Prieto, G.A., Beroza, G.C.
2. Earthquake Scaling and Lateral Variations of Stress Drop in Switzerland. **Allmann, B.P.**, Deichmann, N., Bethmann, F., Mai, P.M., and Giardini, D.
3. Observation and Scaling of Microevents from TCDP Borehole Seismometers. **Lin, Y.Y.**, Ma, K.F., Oye, V., Tanaka, H.
4. Dependency of Near-Field Ground Motions on the Structural Maturity of the Ruptured Faults. Radiguet, M., **Cotton, F.**, Manighetti, I., Campillo, M., and Douglas, J.
5. Earthquake Source Quantities Derived from Spectra of P and S Waves Generated by Aftershocks around the Karadere-Düzce Branch of the North Anatolian Fault. **Yang, W.**, Peng Z., and Ben-Zion, Y.
6. Earthquake Source Parameters in the Northeastern United States. **Viegas, G.**, Abercrombie, R.E., Mayeda, K., and Kim, W.
7. Earthquake Stress Drops and Inferred Fault Strength on the Hayward Fault, East San Francisco Bay, California. **Hardebeck, J. L.**, and Aron, A.

8. Apparent Stress Variations in Japan and Correlation to Average Rupture Velocity. **Mayeda, K.**, and Malagnini, L.
9. Regional Seismic Amplitude Tomography and Earthquake Scaling in the Middle East. **Walter, W.R.**, Pasyanos, M.E., Matzel, E., and Rodgers, A.J.
10. Source Spectral Parameters of Aftershocks of the Great 2008 Wenchuan Earthquake. **Phillips, W.S.**, and Stead, R.J.
11. Source Scaling Relationship for M4.6–M8.9 Earthquakes: Specifically for Earthquakes in the Collision Zone. **Yen, Y.T.**, and Ma, K.F.

##### Maximum Earthquake Magnitudes for Seismic Hazard Analyses (see page 343)

18. Determination of the Maximum Earthquake Magnitude for Seismic Hazard Assessment in the Central and Eastern United States. **Wang, Z.**
19. On the Magnitude of the 1663 Charlevoix, Quebec Earthquake. **Ebel, J.E.**
20.  $M_{\max}$  and Lithospheric Structure in Central and Eastern North America. **Mooney, W.D.**, and Ritsema, J.
21.  $M_{\max}$  estimated from palaeoseismic fault scarps in SW Australia. **Leonard, M.**, and Clark, D.

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## New Developments in Seismic and Acoustic Monitoring of Earthquakes and Explosions

Session Chair: Shane Detweiler (see page 344)

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27. On the Sensitivity of a High-Frequency Acoustic Emission Network. **Plenkens, K.**, and Kwiatak, G.
28. The International Seismological Centre (ISC): Providing Datasets for Monitoring Research. **Storchak, D.A.**, Bondár, I.K., Harris, J., Gaspà, O., Benjumea, J.M., and Vera, B.E.
29. Seismic Capabilities of an International Caribbean Tsunami Warning System. **McNamara, D.E.**, Von Hillebrandt-Andrade, C., Earle, P., Buland, R.P.
30. Continuous Seismic Scanning in the Region of the Mendocino Triple Junction, California. **Guilhem, A.**, and Dreger, D.S.
31. The Seismo-Acoustic Wavefield from the Wells, Nevada, Earthquake Sequence: What Are the Causes of Infrasonic Signals? **Burlacu, R.**, and Arrowsmith, S.J.
32. Seismo-Acoustic Analysis for Identification of Infrasound Signal Sources on the IMS Network. **Nava, S.**, Read, R., and Brachet, N.
33. Source Mechanisms of Explosions Using Near-Source Data from New England Damage Experiment. **Stroujkova, A.**, Bonner, J., and Boyd, P.
34. A Review of the Haskell Explosion Source Theory with New Applications to Small Explosions. **Harkrider, D.**, and Bonner, J. L.
35. Non-Double-Couple Earthquakes in the Middle East: Real or Artifacts? **Templeton, D.C.**, and Rodgers, A.J.
36. Lg Attenuation in Northeast China Abutting the Korean Peninsula. **Chun, K.-Y.**, Henderson, G. A., and Wu Y.
37. Lg Attenuation in Western Turkey and the Surrounding Regions. **Sahin, S.**, Xueyang, B., Turkelli, N., Sandvol, E., Teoman, U., Kahraman, M.
38. Improving Ms(VMAX) Estimates in the Middle East Using Rayleigh and Love Waves. **Stroujkova, A.**, and Bonner, J.
39. Attenuation of High Frequency P and S Waves in Khorasan Province Iniran. **Shoja-Taheri, J.**, and Farrokhi, M.
40. Regional Seismic Attenuation Tomography in Northern Middle East and Northern and Central Tibet Plateau. **Bao, X.**, Sandvol, E.A., Sahin, S., Gasanov, A.H., Yetirmishli, G., and Chen, J.
41. Shear Wave Velocity Structure beneath Northern Tibet. **Ceylan, S.**, Chen, J., Ni, J., and Sandvol, E.
42. Three Dimensional S-Wave Velocity Structure of the Caucasus Region. **Skobeltsyn, G.A.**, Mellors, R., Turkelli, N., Yetirmishli, G., and Sandvol, E.
43. Evaluation of Regional Travel-Time and Location Improvement along the Tethyan Margin Using a New Three-Dimensional Velocity Model. **Flanagan, M. P.**, Van der Lee, S., Chang, S. J., Myers, S. C., Matzel, E. M., and Pasyanos, M. E.
44. Influence of Anisotropy on the Determination of Accuracy of Microseismic Event Locations. **Chesnokov, E.**, Ammerman M., and Krasnova, M.A.
45. Challenges in Applying 3-Channel Coherence. **Merchant, B.J.**, Hart, D.M., and Chael, E.P.
46. An Algorithm for Detecting Clipped Waveforms and Suggested Correction Procedures. **Yang, W.**, and Ben-Zion Y.
47. Evaluation of Empirical Mode Decomposition and Chirplet Transform for Regional Seismic Phase Detection and Identification. **Meyer, F.G.**, Taylor, K.M., Kaslovsky, D., Procopio M.J., and Young C.J.
48. Use of the Cepstral Stacking Method (CSM) to Confirm Conventional Hypocentral Depths and to Determine Accurate Depths for Smaller Earthquakes Observed at Only a Few Regional Stations in the Western Washington Area. **Cakir, R.**, Alexander, S.S., Dragovich, J.D., and Walsh, T.J.
49. Evaluation of DAC as Test Site for Broadband Seismometers. **Hart, D.M.**, Abbott, R.E., Kromer, R.P., White, R.L., and Emmitt, R.F.
50. Seismic Detection of CO<sub>2</sub> Leakage along Monitoring Wellbores. **Bohnhoff, M.**, Zoback, M.D., Chiaramonte, L., Gerst, J., and Gupka, N.
51. Estimating the Information Carrying Capacity of Seismic Waves. **Harris, D.B.**

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## Volcano Monitoring Using Seismology and Complementary Methods (see page 348)

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72. Unsupervised Clustering of Seismic Signals. **Giudicepietro, F.**, Esposito, A. M., Martini, M., and D'Auria, L., Cerra, D., and Dactu, M.
73. Using Wavelet Transforms for Automatic Classification of Seismic Events Recorded by Sparse Networks: Application to Mount St. Helens, Washington. **Jones, A.C.**, and Moran, S.
74. Multiparametric Monitoring System of Stromboli Volcano (Italy). Martini, M., **De Cesare, W.**, Orazi, M., Peluso, R., Scarpato G., Caputo, A., D'auria, L., Giudicepietro, F., Esposito, A. M., Caputo, T., Capello, M., Buonocunto, C., Scarpa, R., Sacks, I. S., Linde, A. T.
75. Partial Green's Functions from Autocorrelations of Strombolian Eruption Coda on Mt Erebus Volcano, Antarctica. **Chaput, J. A.**, Knox, H. A., Aster, R. C., and Kyle, P. R.

76. Anomalous Character of the Coda Envelopes on Mt. Vesuvius: Coda Localization? **Tramelli, A.**, Del Pezzo, E., Galluzzo, D., and Fehler, M.C.
77. Moment Tensors for Very Long Period Events at Etna Volcano, Italy. **Hellweg, M.**, Cannata, A., Gresta, S., Ford, S., Di Grazia, G.
78. Deep, Long-Period Earthquakes in and around Craters of the Moon National Monument, Idaho. **Carpenter, N.S.**, and Payne, S.J.
79. Time-Varying Lags Between Short-Period and Very Long Period Strombolian Eruption Seismic Signals at Erebus Volcano, Antarctica. **Knox, H. A.**, Chaput, J. A., Aster, R.C., Kyle, P.R.
80. Can Directional Resonances Be Used to Map Intensely Deformed Fault Zones of Mt. Etna Volcano? Cara, F., **Di Giulio, G.**, Giammanco, S., Lombardo, G., Milana, G., Neri, M., Rigano, R., Rovelli, A., Voltattorni, N.
81. Cyclic Surface Deformation from GPS Geodesy at Soufriere Hills Volcano, Montserrat, WI Between 1995–2007: Constraints on Magmatic Fluxes and the Plumbing System of an Erupting Arc Volcano. **Mattioli, G.S.**, Elsworth, D.E., Taron, J., Voight, B., and Herd, R.
23. Before Things Go BOOM: Planning Explosion Experiments. **Bonner, J.L.**, Leidig, M.R.
24. Subduction Zone Seismic Experiment in Peru: Results from a Wireless Seismic Network. **Stubailo, I.**, Guy, R., Lukac, M., Husker, A., Foote, E., Davis, P., Skinner, S., Phillips, K., Clayton, R., Aguilar, V., Tavera, H., Audin, L.
25. REF TEK Broadband Seismometer: Advanced Features and Test Results. Passmore, P., **Zimakov, L.**, and Raczka, J.
26. New Approaches to Fieldworthiness. **Rademacher, H.**, and Guralp, C.

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#### Site Effects: Vs30 and Beyond? (see page 353)

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52. Soil-Site and Long-Period Hazard Deaggregation. **Harmsen, S.C.**
53. Near Surface Geophysical Methods for Microzonation Studies in the City of Ottawa, Canada. **Motazedian, D.**, Hunter, J.A., Pugin, A., Khaheshi Banab, K., and Crow, H.
54. Estimating Rayleigh Wave Particle Motion from Three-Component Array Analysis of Ambient Vibrations and Its Application to Seismic Local Response Analysis. **Poggi, V.**, Faeh, D.
55. Amplification and Attenuation of Ground Motions Using the Ambient Seismic Field. **Prieto, G.A.**, Lawrence, J.F., and Beroza, G.C.
56. The Effect of Velocity Inversions on H/V. **Castellaro, S.**, and Mulargia, F.
57. Seismic Hazard Mapping of California Incorporating Statewide Vs30 Map. **Kalkan, E.**, Wills, C.J., and Branum D.
58. Robustness of Vs30 Determined Using the Remi Technique. **Pancha, A.**, Pullammanappallil, S.,
59. Variability Analysis of Shallow Shear Wave Velocity Profiles Obtained from Dispersion Curve Inversion considering Multiple Model Parametrizations. Savvaidis, A.L., Ohrnberger, M., Wathelet, M., **Cornou, C.**, Bard, P.-Y., Theodulidis, N.
60. Empirical and Numerical Evidence of Vs30 Limitations in Site Response Studies. **Bonilla, L.F.**, Gelis, C., and Regnier, J.
61. Input Ground Motion Variability for Site Specific PSHA: Results from KiK-net Data Analysis. **Cotton, F.**, and Bonilla, F.
62. Investigation of Ground Acceleration during the 2004 M6.0 Parkfield, California, Earthquake Based on Isochrones. **Custodio, S.**, Schmedes, J., and Archuleta, R.J.

#### Thursday, 9 April—Afternoon Poster Sessions

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##### Central California Coast Earthquake Hazards (see page 350)

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12. GPS Measurement of Crustal Deformation in the Central California Coast Region. **Murray-Moraleda, J.**, Svarc, J., Bawden, G.W., Nishenko, S.
13. Pre-Stack Depth-Migrated Reflection Images of the Central California Coast Ranges: Profile SJ-6. **Catchings, R.D.**, Fuis, G.S., Goldman, M.R., and Rymer, M.J.
14. Structure and Behavior of the San Gregorio Fault Offshore of Half Moon Bay, California. **Ross, S.L.**, Conrad, J.E., Ryan, H.F., Chin, J.L., Dartnell, P., Edwards, B.D., Phillips, E.L., Sliter, R.W., and Wong, F.L.
15. Finding Fault Facts—The Monterey Bay Area Quaternary Fault Database. **Rosenberg, L.I.**
16. An Educational Video to Promote Tsunami Preparedness in California. **Loeffler, K.**, Gesell, J., and Mooney, W. D.
17. Seismicity Rate Changes along the Central California Coast Due to Stress Changes from the 2003 M6.5 San Simeon and 2004 M6.0 Parkfield Earthquakes. **Hardebeck, J. L.**, and Aron, A.

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##### Seismological Field Work: The Good, Bad, and Ugly (see page 352)

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22. Invited: How I Spent My Summer Vacations Doing Field Work, **Baker, D.F.**

63. A New Site Classification Scheme for Italian Accelerometric Stations. **Di Alessandro, C.**, Rovelli, A., Milana, G., Marcucci, A., Bonilla, F., Boore, D.M.
64. Site Response from Recordings of Small Earthquakes: Application to the Swiss Digital Seismic Network. **Edwards, B.**, Fäh, D., and Stamm, G.
65. Boundary Element Simulation of the Seismic Response of Sedimentary Basins with Vertical Constant-Gradient Velocity over Half-Space with Topography. **Zengxi, G.**, Xueqing, G., and Xiaofei, C.
66. Assessing Attenuation of Seismic Waves in Sediments Using Ambient Vibrations. **Gueguen, P.**
67. Characterization of Italian Strong-Motion Recording Sites in the Perspective of a New Soil Classification. Luzi, L., Bindi, D., Pacor, F., **Mucciarelli, M.**, Gallipoli, M.R., Parolai, S., and Paolucci, R.
68. Simplified Techniques for the Estimate of Seismic Site Amplification in Italy. **Mucciarelli, M.**, and Gallipoli, M. R.
69. Comparison of Dispersion Curves Derived from Multichannel Analysis of Surface Waves and Array Analysis of Ambient Vibrations for 20 European Sites. **Renalier, F.**, Endrun, B., Cornou, C., Ohrnberger, M., Wathelet, M., Bard, P.-Y., and NERIES JRA4 team
70. Modeling the Site Response Transfer Function at 13 KiK-net Sites Throughout Japan. **Thompson, E.M.**, Baise, Kayen, R.E., and Guzina, B.B.
71. A Study of Site Responses in the San Francisco Bay Area Using Strong Ground Motion Records from the M5.4 Alum Rock Earthquake. **Tsai, Y.B.**, Abrahamson, N.A., and McLaren, M.K.

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**Statistics of Earthquakes** (see page 356)

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82. Repeating Earthquakes in the Vrancea Area, Romania, and Implications on Seismic Cycle Behavior. **Radulian, M.**, Popa, M., Grecu, B., Borleanu, F., Neagoe, C., Zaharia, B.
83. Specific Recurrence Process of Earthquakes at Intermediate Depths in an Isolated Intracontinental Seismic Area, Vrancea (Romania). **Popa, M.**, Radulian, M., Grecu, B., Rogozea, M.
84. Development of a Simple Step-By-Step Method for Determining the Effectiveness of an Interactive Classroom Laboratory Demonstration. **Glesener, G. B.**, Stamps, D.S., and Smalley, R.

**Friday, 10 April—Concurrent SSA Oral Sessions**

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
	<b>Great Surface Ruptures</b> Session Chairs: Tom Rockwell and David P. Schwartz (see page 357)	<b>Seismic Imaging: Recent Advancement and Future Directions</b> Session Chairs: Monica Maceira and Warren Caldwell (see page 360)	<b>Non-Volcanic Tremor</b> Dave Hill and Dave Shelley (see page 362)	<b>Ground Motions/ Earthquake Hazards</b> Session Chairs: Joe Andrews and Melanie Walling (see page 366)
8:30	INVITED: San Andreas Fault Slip in the Great 1857 Earthquake from “B4” LiDAR High Resolution Topographic Data. <b>Arrowsmith, J. R.</b> , and Zielke, O.	INVITED: Plume vs. Plate: Imaging Geological Interactions beneath North America. <b>Allen, R.M.</b> , and Xue, M.	Precise Hypocenter Distribution of Deep Low-Frequency Earthquakes and Its Relationship to the Local Geometry of the Subducting Plate in Nankai Subduction Zone, Japan. <b>Ohta, K.</b> , and Ide, S.	Update on the Center for Engineering Strong-Motion Data (CESMD). <b>Haddadi, H.</b> , Shakal, A., Stephens, C., Huang, M., Savage, W., Leith, W., and Parrish, J.
8:45	The July 23, 1905 Bulnay Fault, Mongolia Surface Rupture. <b>Schwartz, D.P.</b> , Hecker, S., Ponti, D., Stenner, H.D., Lund, W., and Bayasgalan, A.	INVITED: Finite-Frequency Seismic Tomography for Regional Elastic and Anelastic Structures. <b>Zhao, L.</b> , Chen, P., Gaherty, J. B., and Chen, Q.-F.	Tremor and Low Frequency Earthquake Behavior at Three Subduction Zones. <b>Brown, J.R.</b> , Beroza, G.C., Ide, S., Ohta, K., Kao, H., Schwartz, S.Y., and Shelly, D.R.	PEER Probabilistic Seismic Hazard Analysis Software Validation. <b>Thomas, P.</b> , Wong, I., and Abrahamson, N.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
9:00	INVITED: A Unified Source Model for the 1906 San Francisco Earthquake. <b>Song, S.</b> , Beroza, G.C., and Segall, P.	INVITED: Developments in Regional Phase Amplitude Tomography. <b>Phillips, W.S.</b> , Mayeda, K.M., Malagnini, L., and Rowe, C.A.	Surface Wave Potential for Triggering Non-Volcanic Tremor. <b>Hill, David P.</b>	Non-Ergodic Probabilistic Seismic Hazard Analysis. <b>Walling, M.A.</b> , and Abrahamson, N.A.
9:15	INVITED: Fault Segmentation of the 1931 Fuyun Surface Rupture, Northwest China. <b>Awata, Y.</b> , Fu, B., and Zhang, Z.	INVITED: Tera3d: Full-3D Waveform Tomography and Near-Real-Time Seismic Source Inversion in Southern California. <b>Chen, P.</b> , Jordan, T.H., Callaghan, S., and Maechling, P.	Evolution of Non-Volcanic Tremor beneath the San Andreas Fault at Monarch Peak, CA. <b>Nadeau, R.M.</b> , and Guilhem, A.	New National Seismic Hazard Model for New Zealand. <b>Stirling, M.W.</b> , Litchfield, N.J., Gerstenberger, M., Langridge, R.M., Berryman, K.R., Van Dissen, R.J., Villamor, P.V., Nicol, A., McVerry, G.H., Wilson, K., Barnes, P., Lamarche, G., and Nodder, S.
9:30	INVITED: Characteristic and Non-Characteristic Behavior on the North Anatolian Fault System, Turkey. <b>H. Kondo, A.</b> , Kurcer, S. Ozalp, and O. Emre.	INVITED: Automatic, Correlation-Based Picking for Iterative Refining of Tomographic Images. Satriano, C., Zollo, A., <b>Rowe, C.A.</b>	Variations in Occurrence of Seismic Tremor near Parkfield, California from 2001–2008 and Implications for Deformation on the Deep Extension of the San Andreas Fault. <b>Shelly, D.R.</b>	Impact of Time Dependent Recurrence Modeling on Seismic Risk Assessment: California Case Study. <b>Williams, C.R.</b> , Aslani, H., Molas, G., Seneviratna, P., Rahnama, M., and Windeler, D.S.
9:45	INVITED: Age and Slip Distribution of past Earthquakes along the Bogd Fault (Mongolia). <b>Rizza, M.</b> , Ritz, J.-F., Prentice, C., Schwartz, D., Braucher, R., Vassallo, R., Marco, S., Mahan, S., Ulzibaat, M., Todbileg, M., Michelot, J.-L., and Massault, M.	INVITED: High-Resolution Lithospheric Structure of the Caucasus-Caspian-Eastern Turkey Region. <b>Gök, R.</b> , Pasyanos, M.E., Mellors, R., Sandvol, E., Teoman, U., Turkelli, N., Godoladze, T., Yetirmishli, G.	Systematic Search for Non-Volcanic Tremor in Southern California. <b>Hillers, G.</b> , and Ampuero, J.-P.	
10:00	Break			
	<b>Great Surface Ruptures</b> ( <i>continued</i> ) Session Chairs: David P. Schwartz and Tom Rockwell	<b>Seismic Imaging: Recent Advancement and Future Directions</b> ( <i>continued</i> ) Session Chairs: Youshun Sun and Igor Stubbailo	<b>Site Effects: Vs30 and Beyond?</b> Alan Yong and Dominic Assimakis (see page 363)	<b>Ground Motions/ Earthquake Hazards</b> ( <i>continued</i> ) Session Chairs: Hamid Haddadi and Tony Shakal
10:30	INVITED: The Düzce Segment of the North Anatolian Fault Zone (Turkey): Understanding Its Seismogenic Behavior through Earthquake Geology and Tectonic Geomorphology. <b>Pucci, S.</b> , Pantosti, D., and De Martini P.M.	Recovery of True-Reflectivity from Seismic Imaging with Finite Data Aperture. <b>Wu, R.-S.</b> and Cao, J.	INVITED: The Use and Misuse of Vs30. <b>Abrahamson, N.A.</b>	Procedures for Developing the Design Spectra for the Vertical Ground Motion Component. <b>Yilmaz, Z.</b> , and Abrahamson, N.A.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
10:45	INVITED: The Slip Distribution of the 2002 Denali Fault Earthquake, Alaska: Clues to Pulses of Moment Release, Long-Term Slip Rate, and Slip beneath the Seismogenic Layer. <b>Haessler, P.J.</b> , Schwartz, D.P., Dawson, T.E., Stenner, H.D., Crone, A.J., Personius, S.F., Burns, P.A., and Sherrod, B.	Apparent Diffuse-Like Feature of the Seismic Noise Wavefield. <b>Mulargia, F.</b> , and Castellaro, S.	INVITED: Use of Vs30 to Represent Effects of Local Site Conditions on Earthquake Ground Motions. <b>Idriss, I.M.</b>	Compaction Can Limit Peak Vertical Velocity at Yucca Mountain. <b>Andrews, D.J.</b> , Lockner, D., and Morrow, C.
11:00	Coseismic Slip Model of the M7.9 Sichuan Earthquake Derived from Joint Inversion of INSAR and GPS Data: Prevalence of Shallow Slip and Slip Partitioning Between Parallel Fault Strands. <b>Tong, X.</b> , Sandwell, D. T., and Fialko Y.	Diffuse Seismic Fields and Site Effects. <b>Sanchez-Sesma, F.J.</b> , Rodriguez, M., Suarez, M., Perton, M., Luzon, F., and Rodriguez-Castellanos, A.	INVITED: Vs30 Based Amplification Functions for Large Scale Ground Motion Simulations. <b>Graves, R. W.</b>	Observations on Regional Variability in Ground-Motion Amplitudes for Small-to-Moderate Earthquakes in North America. <b>Atkinson, G.M.</b>
11:15	When Surface Observations and Seismological Modeling Disagree: The June 2008 NW Peloponnese (Greece) Earthquake. <b>Chatzipetros, A.</b> , Papathanasiou, G., Valkaniotis, S., Pavlides, S.P.	INVITED: Topographic Effects on the Strong Ground Motion of Ms8.0 Wenchuan Earthquake of 12 May 2008. <b>Chen, X.F.</b> , Zhang, W. and Shen, Y.	Nonlinear Site Response Models in “Rupture-to-Rafters” Ground Motion Simulations and the Role of Vs30. <b>Assimaki, D.</b> , and Li, W.	The Effect of a Single Station Mis-Location on the Perceived Distribution of Earthquake Locations and Associated Stress Release in the Queen Charlotte Islands Region, British Columbia. <b>Bird, A.L.</b> , and Baldwin, R.E.
11:30	INVITED: Great Earthquakes Observed from Paleoseismology along the Himalayan Frontal Thrust and Seismic Hazard in India. <b>Wesnousky, S. G.</b> , Kumar, S., Jayangodaperumal, R., Thakur, V., Briggs, R. W., Rockwell, T.K., Seitz, G. G., Nakata, T., and Kumahara, Y.	INVITED: Imaging Sediment Layer with Converted Arrivals Recorded by Borehole Seismometers. Luo, Y., <b>Ni, S.D.</b> , and Chong, J.J.	INVITED: Site Effects and Seismic Hazard: Impact of Site Response versus Vs30 Models on Hazard Curves. <b>Goulet, C.A.</b> and Stewart, J.P.	Combined Probability-Based Magnitude of Completeness (PMC) for Northern and Southern California Seismic Networks. <b>Lewis, M.A.</b> , Schorlemmer, D., and Euchner, F.
11:45	Great Thrust Ruptures in the Himalaya and Baluchistan—Physics vs. Reality. <b>Bilham, R.</b>	INVITED: Deformation Changes of the Longmenshan Thrust Nappe Zone before and after the Wenchuan M8.0 Earthquake Imaged by Relocated Microseismicity and Surface Rupture. <b>Zhu, A.L.</b> , Xu, X.W., and Diao, G.L.	Assessment of Site Parameters as Predictors of Site Amplification. <b>Rathje, E.M.</b> , and Navidi, S.	
12:00	Lunch			

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
	<b>Seismotectonics and Geologic Hazards along the Basin and Range-Colorado Plateau Transition</b> Session Chairs: John H. McBride and William J. Stephenson (see page 368)	<b>Imaging and Discovery from USArray and EarthScope</b> Session Chair: Richard Aster and Robert Woodward (see page 370)	<b>Site Effects: Vs30 and Beyond?</b> ( <i>continued</i> ) Alan Yong and Dominic Assimaki	<b>Global Collaborative Earthquake Predictability Research</b> Session Chairs: Danijel Schorlemmer, Jeremy Zechar, and Matt Gerstenberger (see page 373)
1:30	The Wasatch Front, Utah, Community Seismic Velocity Model. <b>Magistrale, H.</b> , Pechmann, J.C., and Olsen, K.B.	INVITED: Evolution and Effects on the Western U.S. Of the Yellowstone Hotspot and Mantle Plume. <b>Smith, R.B.</b> , Puskas, C., Farrell, J., Chang, W., Jordan, M., Steinberger, B., Husen, S., Waite, G., O'Connell, R.O.	Of Soil and Rock: The Importance of Ground-Truthing for Earthquake Site Response. <b>Cassidy, J.F.</b> , and Mucciarelli, M.	New Forecast Model Based on the Statistics of Early Aftershocks. <b>Shebalin, P.</b> , Narteau, C., Holschneider, M., and Schorlemmer, D.
1:45	3-D Ground Motion Modeling for M7 Dynamic Rupture Earthquake Scenarios on the Wasatch Fault, Utah. <b>Roten, D.</b> , Olsen, K.B., Magistrale, H., Pechmann, J.C., and Cruz-Atienza, V.C.	S-Wave Receiver Function Images of the Lithosphere and Upper Mantle beneath the Western U.S Using USArray Data. <b>Miller, M.S.</b> , and Levander, A.	One Step beyond Vs30: Shallow Velocity and Fundamental Frequency. A Proposition Calibrated on the KiK-net Strong Motion Data Set. Cadet, H., <b>Bard, P.-Y.</b> , and Duval, A.-M.	INVITED: Testing the National Seismic Hazard Maps and Working Group on California Earthquake Probabilities Report. <b>Felzer, K. R.</b>
2:00	Characterization of S-Wave Velocities to Depths Greater than 100 m in Salt Lake and Utah Valleys, Utah, from Spatial Autocorrelation (SPAC) Analysis. <b>Stephenson, W.J.</b> , Odum, J.K., Williams, R.A., and Worley, D.M.	EarthScope Gradiometry. <b>Langston, C.A.</b> , Liang, C., and Grant, E.	Quantifying Measurement Uncertainty of Thirty Meter Shear Wave Velocity (Vs30). <b>Moss, R.E.S.</b>	Detecting Aseismic Transients in Space and Time from Seismicity Data. <b>Llenos, A.L.</b> , McGuire, J.J., and Ogata, Y.
2:15	Shallow Subsurface Structure of the Wasatch Fault Zone from Compressional- and Shear-Wave Seismic Reflection Profiles with Implications for Fault Structure and Hazard. <b>McBride, J. H.</b>	Imaging Lithospheric Structure in the Pacific Northwest with Ambient Noise Tomography. <b>Porritt, R.W.</b> , Allen, R.M., Brudzinski, M.R., Boyarko, D.C., Hinojosa, H.R., Moschetti, M.P., Lin, F., Ritzwoller, M.H., and Shapiro, N.M.	Geologic Models for Site-Response Analysis Based on Geologic, Geophysical and Geotechnical Data. <b>Creed, R.J., Jr.</b>	INVITED: Earthquake Prediction in China: Themes and Variations. Jiang, C. S., Liu, G. P., Ma, H. S., <b>Wu, Z. L.</b> , and Zhang, G. M.
2:30	Constraints from GPS and Earthquake Focal Mechanisms on the Active Deformation near the Colorado Plateau/Basin and Range Transition. <b>Kreemer, C.</b> , Blewitt, G., Hammond, W.C., Bennett, R.A.	Wave Field Imaging of the Upper Mantle Transition Zone across USArray. <b>Stachnik, J.C.</b> , and Dueker, K.	Seismic Soil Classification with Flexible Boundaries. <b>Mulargia, F.</b> , and Castellaro, S.	A Relatively Simple, Objective, and Extensible Methodology for Developing Probabilistic Earthquake Rupture Models for a Fault or Fault System. <b>Field, E.H.</b> , and Page, M.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
2:45	Seismicity and Seismotectonic Issues of Western Utah. <b>Pankow, K.L.</b> , Burlacu, R., and Arabasz, W.J.	Spatiotemporal Variation in Seismic Noise across Western North America Apparent in Visualizations of USAarray Data. <b>Woodward, R.</b> , Simpson, D., and Busby, R.	Statistical Analysis of the Fa-Vs30 Relation. <b>Castellaro, S.</b> , and Mulargia, F.	INVITED: GEM, the Global Earthquake Model: An Independent Standard to Calculate and Communicate Earthquake Risk, Raise Awareness, and Promote Mitigation. <b>Stillwell, K.</b>
3:00	Break			
	<b>Seismotectonics and Geologic Hazards along the Basin and Range-Colorado Plateau Transition</b> ( <i>continued</i> ) Session Chairs: John H. McBride and William J. Stephenson	<b>Imaging and Discovery from USArray and EarthScope</b> ( <i>continued</i> ) Session Chair: Richard Aster and Robert Woodward	<b>Site Effects: Vs30 and Beyond?</b> ( <i>continued</i> ) Alan Yong and Dominic Assimaki	<b>Global Collaborative Earthquake Predictability Research</b> ( <i>continued</i> ) Session Chairs: Danijel Schorlemmer, Jeremy Zechar, and Matt Gerstenberger
3:30	Paleoseismic Observations along US Highway 50: An Estimate of Net Long-Term Extension across the Basin and Range, Nevada. <b>Koehler, R.D.</b> , and Wesnousky, S.G.	Mapping Sedimentary Basins across Canada Using Receiver Function Analysis. <b>Cassidy, J.F.</b> , Kao, H., Al-Khoubbi, I., Halliday, J., Kim, H., Dosso, S., and Dehler, S.	INVITED: NEHRP Site Class Amplification vs. Site Profile Amplification in the CUS. <b>Cramer, C.H.</b>	INVITED: Japanese CSEP Earthquake Forecast Testing Center. <b>Hirata, N.</b> , Tsuruoka, H., Nanjo, K., Schorlemmer, D., Euchner, F., and Jordan, T.H.
3:45	Influence of Rugged Topography on Normal-Faulting Near-Fault Peak Horizontal Accelerations and Velocities. <b>O'Connell, D.R.H.</b> , and Liu, P.	Structure of the Andean Lithosphere from USArray Recordings of Depth Phase Precursors: Seismic Reflection Profiling Upside Down. McGlashan, N.M., <b>Brown, L.D.</b> , and Kay, S.M.	Site Response of Newly Installed ANSS Sites of the Anchorage Basin, Alaska. <b>Dutta, U.</b>	Comments on Forecast Validation and Verification for Earthquakes, Weather and Finance. <b>Rundle, J.B.</b> , Holliday, J.R., Turcotte, D.L., Tiampo, K.F.
4:00	Exceptional Ground Motions Recorded during the 26 April 2008, Mw=5.0 Earthquake in Mogul, Nevada. <b>Anderson, J. G.</b> , Tibuleac, I., Anooshehpour, A., Biasi, G., Smith, K., Von Seggern, D.	A Novel Downhole Sensor at SAFOD. <b>Rademacher, H.</b> , Guralp, C., and McGowan, M.	Investigation of Geographic Rules for Improving Site-Conditions Mapping. <b>Wills, C.J.</b> , and Gutierrez, C.	INVITED: Goodness-of-Fit Tests for Point Process Models for Forecasting Earthquakes. <b>Schoenberg, F. P.</b>
4:15	Problems in Integrating Neotectonics and Geodesy to Assess Seismic Hazard in the Northern Walker Lane. <b>Wesnousky, S. G.</b> , Bormann, J. M., Kreemer, C. W., Hammond, W. C., and Brune, J.N.	Imaging the Rupture of the M8.0 Pisco Earthquake of 2007 by Backprojecting Teleseismic P Waves. <b>Sufri, O.</b> , Xu, Y., and Koper, K.D.	Terrain-Based Classification of $V_{SUB}30$ for California. <b>Yong, A.</b> , Iwahashi, J., and Hough, S.E.	Short-Term Earthquake Probabilities Based on Long-Term Probability Models. <b>Michael, A.J.</b> , and Field, E.H.

<i>Time</i>	<i>DeAnza Ballroom 1</i>	<i>DeAnza Ballroom 2</i>	<i>DeAnza Ballroom 3</i>	<i>Bonsai Room</i>
4:30	Geologic Data Fail to Confirm the Presence of the GPS Derived Eastern Idaho Centennial Shear Zone. <b>Creed, R.J. Jr.</b>	Observations Using PDF Analysis of Ambient Noise across USArray in Western Washington. <b>Alvarez, M.G.</b> , Woodward, R., Anderson, K., Busby, R., and Boaz, R.	Weights-of-Evidence Modeling of Site Conditions in Sedimentary Basins. <b>Abbott, R.E.</b> , Pancha, A., and Pullammanappallil, S.	INVITED: Quantifying Dynamic Earthquake Triggering in the near and Far-Field. <b>Van der Elst, N.J.</b> , and Brodsky, E.E.
4:45	Geologic Evidence of High Stress Drop on Low-Throw Faults: Implications for Seismic Hazard on the Eastern Margin of the Basin and Range. <b>Hecker, S.</b> , Dawson, T.E., and Schwartz, D.P.	2008 Bilateral Workshop under the Sino-US Earthquake Studies Protocol. <b>Engdahl, E. R.</b> , Mooney, W.D., and Zhongliang, W.	Spatial Self-Similarity in Estimates of Geotechnical Velocity Between Measured Sites in Southern California. <b>Thompson, M.</b> , Dhar, M., Louie, J.N., and Yong, Alan	The Prediction of the Mainshock from the Algorithm FORMA: Results from Greece and Prospects for International Testing. <b>Papadopoulos, G.A.</b> , Minadakis, G., and Orfanogiannaki, K.

### Friday, 10 April—Morning Poster Sessions

#### Active-Source Seismic Imaging—Characterizing the Subsurface

Session Chairs: Michael Rymer and Rufus Catchings (see page 375)

1. Subsurface Geophysical Investigations to Study the Active Vuache Fault, France. **Gelis, C.**, Baize, S., and Texier, D.
2. The Silver Creek Fault in Downtown San Jose, Santa Clara County, California. **Catchings, R.D.**, Rymer, M.J., and Goldman, M.R.
3. Fault Delineation in the Lower Mississippi River Embayment Using near Surface Geophysics. **Al Kadi, O.**, Mahdi, H., Al-Shukri, H., Tuttle, M., M.
4. High-Resolution, Shallow Seismic Imaging of the Brawley Seismic Zone near Obsidian Butte, Imperial County, California. **Rymer, M.J.**, Goldman, M.R., Catchings, R.D., Sickler, R.R., Criley, C.J., Kass, J.B., Knepprath, N.
5. Characterization of Large Shaker Source for USArray Imaging of the San Andreas Fault. **Nigbor, R.**, Chui, P., Kang, S., Keowen, S., Salamanca, A.
6. The Feasibility of Using an Eccentric-Mass Shaker for Time-Lapse Seismic Imaging. **Silver, P.G.**, Niu, F., Wang, B., and Nigbor, R.
7. Is Downtown Seattle, Washington State, on the Hanging Wall of the Seattle Fault? **Pratt, T.L.**, and Troost, K.G.

#### Global Collaborative Earthquake Predictability Research (see page 376)

16. A Precursor to the 2004 Parkfield Earthquake. **Chun, K.-Y.**, Yuan, Q.-Y., and Henderson, G. A.

17. Global Earthquake Forecasts. **Kagan, Y. Y.**, and Jackson, D. D.
18. Quantifying the Interaction Between Small Repeating Earthquake Sequences. **Chen, K. H.**, Bürgmann, R., Nadeau, R. M.
19. Seismicity Patterns Discussed in China: An Incomplete Review. Jiang, C. S., Liu, G. P., Ma, H. S., **Wu, Z. L.**, Zhang, G. M.
20. Historical and Modern Seismic Activities before the M8.0 Wenchuan, China, Earthquake of 2008. **Wen, X.-Z.**, Fang, D., Feng, L., and Pei-Zhen, Z.
21. First Results of the Regional Earthquake Likelihood Models Experiment. **Zechar, J.D.**, Schorlemmer, D., Werner, M.J., Field, E.H., Jackson, D.D., and Jordan, T.H.
22. Predictability Experiments with Repeating Microearthquakes. **Zechar, J.D.**, and Nadeau, R.M.
23. Results from Earthquake Forecast Testing in the Collaboratory for the Study of Earthquake Predictability. **Schorlemmer, D.**, Zechar, J.D., Gerstenberger, M.C., Hirata, N., and Jordan T.H.
24. The CSEP EU Testing Center. Wiemer, S., **Woessner, J.**, Marzocchi, W., Schorlemmer, D., and Euchner, F.
25. The New Zealand Earthquake Forecast Testing Center: Update and Retrospective Testing. **Gerstenberger, M.C.**, Rhoades, D.A., Christophersen, A.
26. Aftershock Abundance in Earthquake Forecasting. **Christophersen, A.**, Gerstenberger, M.C., and Wiemer, S.
27. The Near-Fault Spatial Distribution of Aftershocks. **Powers, P.M.**, and Jordan, T.H.
28. Development of a Robust, Flexible, and Extensible Earthquake Forecast Testing Center: The SCEC Collaboratory for the Study of Earthquake Predictability

Software System. **Maechling, P.J.**, Liukis, M., Yu, J., Schorlemmer, D., Jordan, T.J., Zechar, J.D., Euchner, F.

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### Seismotectonics and Geologic Hazards along the Basin and Range-Colorado Plateau Transition (see page 379)

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40. Evaluation of the past Seismic Activity at Yucca Mountain, Nevada, Based on the Rate of Landscape Evolution Determined with Cosmogenic Cl-36 and Ne-21 in Feldspar Mineral Separates. **Rood, D.H.**, Finkel, R.C., and Balco, G.
41. The University of Nevada Seismological Laboratory Archive of Precariously Balanced Rocks: Description and Potential for Constraining Earthquake Hazard. **Brune, J.N.**, Brune, R., Miyata, Y., Purvance, M.D., Anooshehpour, A., and Anderson, J.G.
42. Strain for Arizona and the Colorado Plateau Determined from Campaign and Continuous GPS Velocities. **Holland, A.H.**, and Bennett, R.A.
43. Timing of the Most-Recent Surface-Faulting Earthquake on the Brigham City Segment, Wasatch Fault Zone, Utah. **DuRoss, C.B.**, Personius, S.F., Crone, A.J., McDonald, G.N., and Briggs, R.W.
44. Re-Analysis of the Sevier Desert Reflection: Implications for the Tectonics of the Eastern Basin and Range, USA. **McBride, J. H.**, and McBride, E. I. P.

### Friday, 10 April—Afternoon Poster Sessions

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#### Great Surface Ruptures (see page 380)

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8. Slip Distribution and Rupture Characteristics of the 9 August 1912 Murefte Earthquake ( $M_s=7.3$ ) along the Ganos Segment of the North Anatolian Fault (Turkey). **Aksoy, M.E.**, Meghraoui, M., Ferry, M., Çakir, Z., Akyüz, S., and Altunel, E.
9. Invited: Revisited Slip Distribution Associated with Large Earthquakes in the 20th Century along the Central and Eastern Part of the North Anatolian Fault System. **Emre, O.**, Kondo, H., Ozalp, S., and Kurcer, A.
10. Paleoclimate Constraints on Earthquake Rupture Surface Slip for the San Andreas Fault in the Carrizo Plain. **Grant Ludwig, L.**, Noriega, G. R., and Akciz, S. O., and Arrowsmith, J. R.
11. Invited: Paleoseismological Findings and Surface Rupture Associated with the 2005 Kashmir Earthquake in Pakistan. **H. Kondo, T.** Nakata, S. Akhtar, S. Wesnousky, N. Sugito, H. Kaneda, H. Tsutsumi, A. Khan, W. Khattak, and A. Kausar
12. Surface Deformations Associated with Large Blind Thrust Earthquakes in Argentina: Small Signals for Big Earthquakes. **Rockwell, T.K.**, Meigs, A., Ragona, D., Costa, C., Gardini, C.
13. Along-Strike Variation of Seismicity in a Major Strike-Slip Fault Zone, the Alpine Fault, New Zealand. **Bannister, S.C.**, Ristau, J., Eberhart-Phillips, D., and Bourguignon, S.
14. Estimating the Magnitude-Frequency Distribution for the Southern San Andreas Fault from Paleoseismic Data. **Biasi, G.P.**, and Weldon, R.J.
15. Coseismic Surface Deformation Accompanying Aftershocks to the October 8, 2005 (Mw 7.6) Kashmir Earthquake. **Sayab, M.**, Khan, M. A., Meigs, A. J., Yule, J. D.

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#### Ground Motions/Earthquake Hazards (see page 382)

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29. Seismic Hazard Prediction and Earthquake Risk Assessment. **Babazade, O.**, and Babazade, N.
30. PG&E's Diverse Seismic Instrumentation Program. **Stanton, M.A.**, Cullen, J.H., and McLaren, M.K.
31. Probabilistic Fault Displacement Hazard Map along Hayward Fault near Hayward, California. **Chen, R.**, Dawson, T., Wills, C.J., Bryant, W.A., and Petersen, M.D.
32. Impact Patterns of Toppled Walls. **Hinzen, K.-G.**
33. A Global Probability-Based Magnitude of Completeness (PMC) Study of the NEIC Network. **Lewis, M.A.**, Schorlemmer, D., and Euchner, F.
34. Probabilities of Significant Earthquake Shaking in San Francisco Bay Area Communities. **Seemann, M.R.**, and Onur, T.
35. A New Earthquake Risk Model for Western Canada. **Nyst, M.**, Aslani, H., Baca, A., Molas, G., Seneviratna, P., and Williams, C.
36. Smoothed Particle Hydrodynamics (SPH) Simulations of Landslide-Generated Tsunamis. **Basu, B.**, Janetzke, R., Das, K., Green, S., and **Stamatakos, J.A.**
37. A Comparative Study of Genetic Algorithm and Least Squares Method Applied to Deduce PGA Attenuation Relations. **Yeh, Y. T.**, and Kao, C. Y.
38. Empirical-Stochastic Ground-Motion Prediction for Taiwan. **D'Amico, S.**, Malagnini, L., Akinci, A., Herrmann, R.B., and Mayeda, K.
39. Constraints on Ground Accelerations Inferred from Unfractured Hoodoos near the Garlock Fault, Southern California. **Anooshehpour, R.**, Purvance, M.D., Brune, J.N., and Daemen, J.K.

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**Seismic Imaging: Recent Advancement and Future Directions** (see page 384)

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45. Microseismicity at the North Anatolian Fault in the Sea of Marmara Offshore Istanbul, NW Turkey. **Bulut, F.**, Bohnhoff M., Ellsworth, W. L., Aktar, M., and Dresen G.
46. The Delay-Time Azimuth Curves of Tele-Seismic Body Waves. Calculation Technology and Possible Usage. **Yakupov, O.T.**
47. The Effects of Crustal Heterogeneity on Ray-Based Teleseismic Imaging. **Poppeliers, C.**, and Datta, T.
48. Simultaneous Joint Inversion of Multiple Geophysical Data Sets and 3D Tomography. **Maceira, M.**, Rowe, C.A., and Steck, L.K.
49. Global 3D Seismic Tomography Using Multi-Core Distributed Memory Parallel Computers. **Hipp, J.R.**, Young, C.J., Ballard, S., Chang, M.C., and Gonzales, M.A.
50. Multi-Resolution Seismic Tomography of Regional and Mantle Scale Structures Using Tessellation-Based Node Definitions. **Simmons, N.A.**, Myers, S.C., and Ramirez, A.L.
51. Imaging the Himalayan Megathrust in Northwest India with Wave Equation Migration. **Caldwell, W.B.**, Ashish, Shragge, J.C., and Rai, S.S.
52. Importance of Data Quality and Assessment of Solution Quality in Local Earthquake Tomography: Application to the Alpine Region. **Husen, S.**, Diehl, T., and Kissling, E.
53. Joint-Inversion of Rayleigh Waves for Crustal S-Wave Velocity Structure. Yano, T.E., and **Tanimoto, T.**
54. Identifying the Upper Part of the Slab in Mexico Using Rayleigh Wave Dispersion. **Stubailo, I.**, Beghein, C., and Davis, P.
55. Relocation of Earthquakes and Lithospheric Structure in Iran. **Zeng, X.**, Sun, Y., Toksoz, M.N., and Ni, S.
56. The Crustal Velocity Structure in Central Asia from 3D Traveltime Tomography. **Zeng, X.**, Sun, Y., Toksoz, M.N., and Ni, S.
57. Pn Tomography in Iran. Lu, Y., **Sun, Y.**, Pei, S., Toksoz, M.N., and Ni, S.