Seismological Society of America

Abstracts Online

RECENT ADVANCES IN VOLCANO MONITORING AT THE MONTSERRAT VOLCANO OBSERVATORY, WEST INDIES

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The Montserrat Volcano Observatory (MVO) monitors the Soufriere Hills Volcano (SHV). Given that the current eruption of the SHV shows no sign of abating, and that the lava dome is now more voluminous than at any previous stage, its important that MVO continues to develop new and better methods of volcano monitoring to enable the people of Montserrat to live safely with their volcano. Recent advances in the gas, visual and seismic monitoring programs establish the MVO as a leading volcano observatory. A network of ultra-violet spectrometers in conjunction with acquisition software written by the MVO has made it possible to sample the sulphur dioxide flux with a time resolution of ~ 1 minute. For the first time it may be possible to recognize and detect characteristic degassing signals.

Photographic stations record high quality digital images of the volcano from multiple fixed positions every minute, day and night. These images, accessible in real-time over the internet, make it possible to determine the trajectory of a pyroclastic flow within seconds of receiving an alarm. A remarkable sequence of images shows how the lava dome has grown and collapsed since March 2002. The backbone of the MVO monitoring programme continues to be seismic monitoring. Volcano alarm messages tell staff the magnitude of significant seismic events, and are sent within minutes by email and cellphone. Web pages include near-real-time plots of multiple seismic parameters. Diagnostic alarm messages alert staff to problems with any part of the seismic monitoring system. Critical software auto-restarts and is backed-up by UPS and generator to ensure robustness. This paper outlines these recent advances in the monitoring of the SHV.

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SSA 2003
Program for the Annual Meeting
Caribe Hilton Hotel, San Juan, Puerto
30 April –2 May 2003 (Wednesday–Friday)

Presenter is indicated in **bold**. Invited talks are indicated by asterisks (*).

Program

Wednesday am, 30 April 2003—San Gerónimo B
Opening Plenary Session

8:00 *100 Years of Seismological Investigation in Puerto Rico

. **Asencio, Eugenio**.

Wednesday am, 30 April 2003—San Gerónimo A
Seismic Hazard
Presiding: Catherine Snelson and Ned Field

9:00 A Seismic Hazard Assessment for Italy Based on Historical Seismicity. **Mueller, C. S.**, and Akinci, A.

9:15 Seismic Hazard Assessment of Khorasan Province. **Shoja-Taheri, J.**

9:30 Seismic Hazards in the Las Vegas Valley, NV, USA: Preliminary Analysis from Earthquake and Seismic-refraction Data. **Snelson, C. M.**, Rodgers, A., Smith, K., Slemmons, D. B., O'Donnell, J., Zaragoza, S. A., Hopkins, J., McEwan, D. J., and Myers, J. R.

9:45 OpenSHA: A Developing, Community-modeling Environment for Seismic-hazard Analysis. **Field, E. H.** and Jordan, T. H.

Wednesday am, 30 April 2003—San Gerónimo A
Monitoring and Hazards Research at Active Volcanoes
Presiding: Carol Bryan

10:30 Recent Advances in the Volcano Monitoring Program Employed in the English-speaking Volcanic Islands of the Eastern Caribbean. **Lynch, L. L.**, Shepherd, J. B., Robertson, R. E. A., Latchman, J. L., Lindsay, J. M., and Joseph, E. P.

10:45 *The CALIPSO Borehole Observatory Project, Montserrat: Overview. **Young, S. R.**, Voight, B., Mattioli, G. S., Sacks, I. S., Linde, A. T., Shalev, E., Malin, P. E., and Elsworth, D.

11:00 *Seismic Signals at Volcan de Fuego (Colima Volcano), Mexico. **Nunez-Cornu, F. J.**, Suarez-Plascencia, C., Rutz, M., and Reyes-Davila, G. A.

11:15 *Seismic Activity Associated with the Cyclic Lava Dome Growth and Destruction during the 1999 Guagua Pichincha Volcano Eruption. **Garcia-Aristizabal, A.**, Ruiz, M., Yepes, H., Molina, I., Alvarado, A., Segovia, M., Jacome, L., and Viracucha, D.

11:30 *Eight Years of Monitoring at Popocatepetl Volcano: Techniques and Some Results. **Quaas, R.** and Guevara, E.

11:45 Tremor at Mount Erebus, Antarctica. **Ruiz, M.**, Aster, R., Kyle, P., Wilson, D., McIntosh, W., Dunbar, N., and Esser, R.

Wednesday am, 30 April 2003—San Gerónimo B
Puerto Rico Earthquake Hazard: What Do We Know, and Where Do We Go From Here?
Presiding: José Martínez-Cruzado and Carol Prentice

9:00 *Catalog of Felt Earthquakes for Puerto Rico and Neighboring Islands 1492–1899 with Additional Information for Some 20th-century Earthquakes. **McCann, W. R.**

9:15 *Block Rotation, Plate Tear, and Dynamic Topography in the Puerto Rico Trench. **ten Brink, U. S.**, Martin, J. L., Gurrola, H., Dillon, W., and Huerfano, V. A.

9:30 *Early Miocene to Recent Plate Tectonic Animation of Highly Oblique Collision between the Southeastern Bahama Carbonate Platform and the Puerto Rico-Virgin Islands-Hispaniola Region. **Mann, P.**, Gahagan, L., and Grindlay, N. R.

9:45 Microearthquakes and the Neotectonics of Puerto Rico and the U.S. Virgin Islands, Northeastern Caribbean. **McCann, W. R.**

10:00 Break

10:30 Focal Mechanisms for Moderate and Small Quakes in the Northeastern Caribbean. **Huerfano, V. A.**

10:45 *Diffuse Extension across and Active Faulting within the Puerto Rico and Northern Virgin Islands Microplate: GPS Geodetic Results from 1994–2002. **Jansma, P. E.** and Mattioli, G. S.

11:00 Using GPS Data to Assign Slip Rates to a Fault Set: Mona Passage, Puerto Rico. **Laforge, R.** and McCann, W. R.

11:15 *Microseismic Activity Reveals Two Stress Regimes in Southwestern Puerto Rico. Huerfano, V. A., von Hillebrandt-Andrade, C. G., and **Baez, G.**

11:30 Paleoseismic Study of the South Lajas Fault, Lajas Valley, Southwestern Puerto Rico. **Prentice, C. S.**, Mann, P., and Burr, G.

11:45 Reconnaissance Study of Late Quaternary Faulting along the La Cadena de San Francisco Mountain Front (Cerro Goden Fault Zone), Western Puerto Rico. **Mann, P.**, Prentice, C. S., Hippolyte, J. C., and Lao-Davila, D.

Wednesday am, 30 April 2003—San Gerónimo C
Seismological Studies of the Lithosphere
Presiding: Ivan Wong, Walter Mooney, and Garry Rogers

9:00 Density Structure of the Upper Mantle under North America. **Mooney, W. D.** and Kaban, M. K.

9:15 Seismic Structure of the Lithosphere in the Southwestern United States Using Receiver Functions. **Wilson, D.**, Aster, R., Ni, J., West, S., Grand, S., Gao, R., Baldridge, W. S., and Semken, S.

9:30 The Seismic Signature of Transient Slips on the Cascadia Subduction Zone. **Rogers, G. C.** and Dragert, H.

9:45 Thermal Control of Shallow Intraslab Seismicity: Implications for the Central and Southern Cascadia Subduction Zone. **Wong, I. G.** and Harris, R. N.

10:00 Break

10:30 Compressional Wave Velocity and Attenuation in the Uppermost Tibetan Mantle Estimated Using Pn Waves Recorded during the INDEPTH II Experiment. **Xie, J.**

10:45 3D P and S Velocity Models for the Crust and Uppermost Mantle of China by Monte-Carlo Adaptive Moving Window Inversion. **Sun, Y.**, Li, X., Morgan, F. D., and Toksöz, M. N.

11:15 Simulation of Regional Wave Propagation in Complex Crustal Wave Guide Using P-SV Screen Propagators. **Wu, R. S.**, Wu, X. Y., and Xie, X. B.

11:30 Nonlinear Waveform Fitting of S, Sp, SsPmP, and Shear-coupled PL Waves for Models of the Crust and Upper Mantle. **Pulliam, J.**, and Sen, M. K.

11:45 Accuracy and Long-duration Stability of 3D Finite-difference Seismic Simulations Including Viscoelasticity and Topography: Application to Basin Geology. **Ketcham, S. A.**, Moran, M. L., Anderson, T. S., Greenfield, R. J., and Hestholm, S. O.

Wednesday pm, 30 April 2003—San Gerónimo A
Monitoring and Hazards Research at Active Volcanoes
Presiding: Mario Ruiz

1:30 Repeating Long-period and Hybrid Earthquakes at Shishaldin Volcano, Alaska. **Caplan-Auerbach, J.** and Petersen, T.

1:45 Patterns of Eruption Mechanics as Mapped by Volcanoquakes. **Grasso, J. R.**

2:00 Coseismic Changes of the Coda Decay Rate and Precursorlike Time Delays in Shear-wave Splitting Associated with Bursts of Seismicity at Mt. Vesuvius, Italy. **Del Pezzo, E.**, Bianco, F., Saccorotti, G., and Petrosino, S.

2:15 Monitoring Temporal and Spatial Variations in the Frequency-magnitude Distributions of Microearthquakes: An Emerging Capability in Volcanoseismology? **Wiemer, S.**, and Rowe, C. A.

2:30 Crustal Structure and a Zone of Potential Magma Conduit beneath the Taupo Volcanic Region of North Island, New Zealand. **Chiu, J. M.**, Pujol, J., and Reyners, M.

2:45 Structure of Vesuvius (Southern Italy) and Magma Chamber Location from Seismic Tomography and Geochemical-petrological Constraints. **De Natale, Giuseppe G.**, Troise, C., Mastrolorenzo, G., Chiarabba, C., and Trigila, R.

3:00 Break

3:30 Recent Advances in Volcano Monitoring at the Montserrat Volcano Observatory, West Indies. **Thompson, G.**, Dunkley, P., Edmonds, M., and Herd, R. A.

Wednesday pm, 30 April 2003—San Gerónimo B
Puerto Rico Earthquake Hazard: What Do We Know, and Where Do We Go From Here?
Presiding: Carol Prentice and José Martínez-Cruzado

1:30 *The Role of the Puerto Rico Seismic Network in the Determination and Dissemination of Local Seismic Hazard. **von Hillebrandt-Andrade, C. G.** and Huerfano, V. A.

1:45 An Overview of the Puerto Rico Strong Motion Network. **Martinez-Cruzado, J. A.**

2:00 *Developing an Intensity-magnitude Relationship for Puerto Rico. **Doser, D. I.** and Bakun, W. H.

2:15 *Ground-motion Relations for Puerto Rico. **Motazedian, D.**, and Atkinson, G. M.

2:30 *Probabilistic Seismic Hazard Analysis for Puerto Rico. **Crouse, C. B.** and Hengesh, J. V.

2:45 Elastic Design Spectra for Puerto Rico's Main Cities Based on Worldwide Strong-motion Data. Irizarry-Padilla, J., Portela-Gauthier, G., and **Martinez-Cruzado, J. A.**

3:00 Break

3:30 *A Probabilistic Seismic Source Model for Puerto Rico, Part I: Description of the Model. Laforge, R. and **McCann, W. R.**

3:45 *A Probabilistic Seismic Source Model for Puerto Rico, Part II: Some Probabilistic Results. **Laforge, R.** and McCann, W. R.

4:00 *Probabilistic Seismic Hazard Maps for Puerto Rico and the U.S. Virgin Islands. **Mueller, C. S.**, Frankel, A. D., Petersen, M. D., and Leyendecker, E. V.

Wednesday pm, 30 April 2003—San Gerónimo C
Earthquake Generation, Fault Behavior, Source Parameters, and Wave Propagation
Presiding: Robert Kovach and Kim Olsen

1:30 Long-term Creep-rate Changes and Their Causes. Bokelmann, Götz H. R. and **Kovach, Robert L.**

1:45 Derivation of a Closed-form Mathematical Expression of the Far-field Pulse of a Symmetrical Circular Crack with Healing. **Dong, G.** and Papageorgiou, A. S.

2:00 Constraints on the Mechanics of the Southern San Andreas Fault System from Velocity and Stress Observations. **Becker, T. W.**, Hardebeck, J. L., and Anderson, G.

2:15 Hypocenter Locations in Finite-source Rupture Models. **Mai, P. M.**, Spudich, P., and Boatwright, J.

2:30 On Parallel Time-domain Finite-difference Computation of Elastodynamic Wave Propagation. Marcinkovich, C. and **Olsen, K. B.**

2:45 Focal Mechanisms of Earthquakes in Himalaya from Moment-tensor Inversion. **Huang, G. C.**, Wu, F. T., and Sheehan, A. F.

Wednesday (all day), 30 April 2003—San Cristobal Jr. Ballroom
Strong Ground Motion
Posters
Presiding: Gail Atkinson and José Martinez-Cruzado

A1 Calibration of the Specific Barrier Model to Earthquakes in Various Tectonic Regions. **Halldorsson, B.** and Papageorgiou, A. S.

A2 High-frequency Regional S-wave Propagation in Southeastern Canada. **Jeon, Y. S.** and Herrmann, R. B.

A3 3D Elastic Wave Propagation Modeling Using a Rotated Staggered Stress-velocity Finite-difference Scheme. **Pitarka, A.**

A4 *PGA and PGV Attenuation Inferred from Northern California ShakeMap Data. **Boatwright, J.**, Bundock, H., Luetgert, J., and Seekins, L. C.

A5 3D Deterministic Prediction of Ground Motion in the Near Zone of a Steplike Propagating Curvilinear Fault. Bykovtsev, Alexander S. and **Katz, Alexander A.**

A6 On Mathematical Models of Dynamic Rupture with Complex Nonlinear Geometry on Different Scales. Bykovtsev, Alexander S. and **Katz, Alexander A.**

A7 Requirements for Verifying Wave-wave Coupling at Texcoco, Valley of Mexico. Stephenson, B. and **Passmore, P. R.**

A8 Analyses of Seismic Response to Propagating Pressure Waves at NVAR. **Negraru, P. T.**, Herrin, E. T., and Sorrells, G. G.

A9 Reno-area Basin Seismic Response: Ground-motion Simulation in Reno, Nevada. **Pancha, A.**, Louie, J. N., and Anderson, J. G.

Wednesday (all day), 30 April 2003—San Cristobal Jr. Ballroom

Seismologic Studies of the Lithosphere
Posters
Presiding: Shane Detweiler

B1 Mapping Mantle Anisotropy with Shear-wave Splitting from Florida to Alberta. **Salas, M.**, Fischer, K. M., Welsh, M., and Wysession, M. E.

B2 Seismicity and Lithospheric Structure in Southern California. Walker, C., Mooney, W. D., and **Detweiler, S.**

B3 Seismic Anisotropy and Mantle Creep in Young Orogens. Meissner, R., Artemieva, I. M., and **Mooney, W. D.**

B4 Shear-wave Splitting Analysis along the Karadere-Duzce Branch of the North Anatolian Fault Using Repeating Microearthquakes. **Peng, Z.** and Ben-Zion, Y.

B5 Shear-wave Velocity, Seismic Attenuation, and Thermal Structure of the Continental Lithosphere. Artemieva, I. M., Billien, M., Leveque, J. J., and **Mooney, W. D.**

B6 Mapping Fine-scale Heterogeneities within the Continental Mantle Lithosphere beneath Scotland: Combining Active- and Passive-source Seismology. **Asencio, E.**, Knapp, J. H., Owens, T. J., and Helffrich, G.

B7 Uppermost Mantle Velocity and Anisotropy in China: Results from a Dense Chinese National Seismic Network. **Chun, K. Y.**, and Liu, J. S.

B8 Are the Cratonic Margins Vertical? The Case Study of the TESZ from Thermal and Seismic Data. Artemieva, I. M., **Mooney, W. D.**, and Krasnova, M. A.

B9 Moho Discontinuity beneath the Broadband Stations Ulleung-Do, Jeju-Do, Baekryong-Do, and Mt. Baekdu in the Korean Peninsula Using Receiver Functions. **Kim, S. G.**, and Lee, S. K.

B10 Tridimensional Mapping of the Moho Discontinuity beneath Southeastern Brazil. **Souza, J. L. de**, Santos, N. P. dos, and Pacheco, R. P.

B11 Joint Modeling of Receiver Functions and Surface-wave Dispersions with Genetic Algorithm. **Chang, S.-J.** and Baag, C.-E.

B12 Short-period Surface-wave Tomography in Central Asia and Its Application to Seismic Discrimination. **Maceira, M.**, and Taylor, S. R.

B13 Seismicity beneath the High Himalaya: Himalaya Nepal Tibet PASSCAL Seismic Experiment. **Monsalve, G.**, Sheehan, A. F., Blume, F., Brothers, D., and Wu, F. T.

B14 20-sec Rayleigh-wave Attenuation Tomography for Central Asia. **Yang, X.**, Patton, H. J., and Taylor, S. R.

B15 A Seismic Research Database for Improving Velocity Models in Southern Asia. **Britton, J. M.**, Harris, D. B., Bonner, J. L., and Rieven, S. A.

B16 In-situ Shear-wave Velocities from a Combination of F-K and P-tau Methods on an Irregular Array. **Abbott, R. E.**

Wednesday (all day), 30 April 2003—San Cristobal Jr. Ballroom
Monitoring and Hazards Research at Active Volcanoes
Posters
Presiding: Charlotte Rowe and Randy White

C1 Hazard Assessment of Volcanoes with Long Repose Periods and Short Historical Records: Examples from the Lesser Antilles. **Smith, A. L.**, Roobol, M. J., Lindsay, J. M., Thompson, S., and Fitzgerald, S.

C2 Correlation of Cyclic Surface Deformation Recorded by GPS Geodesy with Surface Magma Flux at Soufriere Hills Volcano, Montserrat. **Mattioli, G. S.** and Herd, R.

C3 Precise, Correlation-based Seismic Event Locations at Soufriere Hills Volcano: Insights into Magma Extrusion Behavior through Detailed Mapping of Seismic Energy Release. **Rowe, C. A.**, White, R. A., and Thurber, C. H.

C4 *Gallery of Volcanic Seismic Signals Recorded at Ecuadorian Volcanoes as Seen in Short-period Seismometers. **Yepes, H.**, Garcia-Aristizabal, A., Molina, I., Alvarado, A., Segovia, M., Hall, M., Aguilar, J., Troncoso, L., Enriquez, W., Vaca, M., and Caceres, V.

C5 *Could the Increase in the Volcanic Activity Be Triggered by Increase of the Convergence Rate of the Nazca Plate and the Andean Block?: The Case of Northern Ecuadorian Volcanoes. **Alvarado, A.**, Segovia, M., Molina, I., García, A., and Yepes, H.

C6 *Seismic Activity Related to the Sudden 2002 Eruption of El Reventador Volcano. **Garcia-Aristizabal, A.**, Ramon, P., Yepes, H., Alvarado, A., Segovia, M., Hall, M., and Mothes, P.

C7 *Volcanic Tremor at Tungurahua: A Nonclustered Source. **Molina, I.**, and Seidl, D.

C8 Dissolved Gases of Laguna Caliente: Poas Volcano Crater Lake. Sáenz, W., Fernández, E., Martínez, M., **Barboza, V.**, Moreno, N., Valdés, J., and Malavassi, E.

C9 *Seismic Signals from Poas Volcano. **Barboza, V.**, Fernández, E., Duarte, E., Sáenz, R., and Malavassi, E.

C10 Changes in the Activity of Turrialba Volcano: Seismicity, Geochemistry, and Deformation. **Barboza, V.**, Fernández, E., Duarte, E., Sáenz, W., Martínez, M., Moreno, N., Marino, T., Van der Latt, R., Hernández, E., Malavassi, E., and Valdés, J.

C11 Poas Volcano: Appraisal of 25 Years of Volcano Monitoring. Fernández, E., Duarte, E., Barquero, J., Martínez, M., Sáenz, R., Malavassi, E., Van der Latt, R., **Barboza, V.**, Marino, T., Valdés, J., Hernández, E., and Sáenz, W.

C12 *July 2000 Earthquakes at Apoyo Calder a and Masaya City, Nicaragua. **Tenorio, V.** and Strauch, W.

C13 Monitoring Volcan de Fuego (Colima Volcano), Mexico. **Nunez-Cornu, F. J.**, Suarez-Plascencia, C., Rutz, M., and Reyes-Davila, G. A.

C14 *Eruption-induced Changes to Volcanic Seismicity at Ruapehu Volcano, New Zealand. **Bryan, C. J.** and Sherburn, S.

C15 Implementation of an Automatic Seismic Monitoring System at Merapi Volcano, Indonesia: Current State and What We Have Learned. Wassermann, J., Ohrnberger, M., and **Scherbaum, F.**

C16 Neural Networks Applied to Volcano Monitoring. **Gidicepietro, F.**, Del Pezzo, E., Martini, M., Petrosino, S., Scarpetta, S., and Marinaro, M.

Thursday am, 1 May 2003—San Gerónimo A
Major Earthquakes Revisited
Presiding: Diane Doser and Allison Bent

8:00 High-resolution P-wave 3D Velocity Model for the San Fernando Valley Area and Relocation of Events in the Northridge and San Fernando Aftershock Sequences. **Pujol, J.** and Shen, P.

8:15 *Historical Earthquake Reanalysis Project: San Francisco Bay Region. **Uhrhammer, R. A.**

8:30 *The 1946 Aleutian "Tsunami Earthquake" Revisited. **Okal, E. A.**, Lopez, A. M., and Synolakis, C. E.

8:45 Major Historical Earthquakes in Canada Revisited. **Bent, A. L.** and Cassidy, J. F.

9:00 *A Reevaluation of the Allah Bund 1819 Earthquake Using the 2001 Bhuj Earthquake as a Template. **Bilham, Roger**, Fielding, E., Hough, S. E., Rajendran, C. P., and Rajendran, K.

9:15 *Large Earthquake Source Scaling in Stable Continental Crust: Update from India. **Johnston, A. C.**

Thursday am, 1 May 2003—San Gerónimo A
Strong Ground Motion
Presiding: Gail Atkinson and José Martínez Cruzado

10:15 *COSMOS Virtual Data Center: A Web-based Portal to the World's Strong-motion Data. **Archuleta, Ralph J.**, Steidl, Jamison H., and Squibb, Melinda.

10:30 The Canadian Urban Seismology Program Demonstration Strong-motion Seismograph Network in Vancouver, British Columbia. **Rogers, G. C.**, Rosenberger, A., Onur, T., and Cassidy, J. F.

10:45 On the Conversion of Source-to-site Distance Measures for Extended Earthquake Source Models. **Scherbaum, F.**, Schmedes, J., and Cotton, F.

11:00 Comparing Source Models from 1D and 3D Inversions of the Loma Prieta Strong-motion Data. Liu, Pengcheng and **Archuleta, Ralph J.**

11:15 Strong Ground Motion Models for Probabilistic Seismic Hazard Analysis in the Central and Eastern United States. McCann, M., **Youngs, R.**, Marrone, J., and Abrahamson, N.

Thursday am, 1 May 2003—San Gerónimo B
Seismological Tools for the Advancement of Tsunami Modeling and Warning
Eric Geist and Aurelio Mercado

8:00 Rapid Monitoring of Shallow Earthquake Sources in the Caribbean Using a Regional Moment-tensor Inversion Procedure. **Mendoza, C.**

8:15 *Historical Tsunami Database for the Atlantic, 60 B.C.–A.D. 2001. **Gusiakov, V. K.**

8:30 Possible Methods for Estimating the Potential of Tsunami Earthquakes and Earthquake-induced Landslide Tsunamis. **McCann, W. R.**

8:45 Volcanogenic Tsunamis in the Caribbean Basin: A Challenge for Traditional Warning Systems. **Young, S. R.**

9:00 Emergent Tsunami Warning System for Puerto Rico and the Virgin Islands. **von Hillebrandt-Andrade, C. G.**, Huerfano, V. A., and Whitmore, P. M.

9:15 The 1867 Tsunami at the Virgin Islands: Observations and Simulations. **Zahibo, N.**, Pelinovsky, E., Yalciner, A., Kurkin, A., Kozelkov, A., and Zaitsev, A.

9:30 Break

10:00 New Procedures and Criteria for Tsunami Warnings in the Pacific. **McCreery, C. S.**

10:15 Estimated Energy-to-moment Ratios Computed Routinely at PTWC: Toward a Routine Discriminant for Tsunami Earthquakes. **Weinstein, S. A.** and Okal, E. A.

10:30 Far-field Tsunami Forecast Guidance Tools. **Gonzalez, F. I.**, Titov, V. V., Mofjeld, H. O., Newman, J. C., Venturato, A. J., Eble, M . C., and Dantsker, A.

10:45 Use of Hydrophones for the Detection of Submarine Landslides. **Caplan-Auerbach, J.**, Fox, C. G., and Duennebier, F. K.

11:00 A Comparison of Near-shore Tsunami Sources Offshore of Los Angeles and Orange Counties in Southern California. **Borrero, J. C.**, Legg, M. R., and Synolakis, C. E.

11:15 Reconciling Source Areas Determined from Aftershock and Tsunami Data: The M 8.1 1952 Tokachi-Oki Earthquake along the Kuril Subduction Zone. **Geist, E. L.**, Hirata, K., Satake, K., Tanioka, Y., and Yamaki, S.

Thursday am, 1 May 2003—San Gerónimo C
Seismic Safety of Dams
Donald Yule, Luis Suarez, and Lloyd Cluff

8:30 Comparison of Tectonic and Reservoir-induced Seismicity: Southern California and Northeast Brazil. **Abercrombie, R. E.**, Tomic, J., and do Nascimento, A. F.

8:45 Seismic Analysis of Gravity Dams: The Effect of Valley Shape on Dam-reservoir Response. **Prato, C. A.** and Stuardi, J. E.

9:00 Seismic Responses of Arch Dam-reservoir-foundation Interaction System. Fahjan, Y. M., **Erdik, M.**, and Borekci, O. S.

9:15 *Incorporating Effects of Permanent Tectonic Deformation on Ground Motion (Fling) into Design Response Spectra for Engineering Applications. **Abrahamson, N. A.** and Graves, R. W.

9:30 Break

10:00 Deformation of Guajataca and Patillas Damns, Puerto Rico, due to Seismic Loading. **Torres, R.** and Engemoen, B.

10:15 The Elastic and Inelastic Response of the Single-degree-of-freedom (SDOF) System to Near-fault Seismic Excitations. **Mavroeidis, G. P.** and Papageorgiou, A. S.

10:30 Assessment of the Earthquake Hazard for Dams Located in the Precordillera of San Juan and Mendoza in Argentina. **Carmona, J. S.** and Palau, R. L.

10:45 Evaluating the Seismic Hazards at Western U.S. Dams: Progressing from Deterministic to Probabilistic Analyses. **Wong, I. G.**, Olig, S., Dober, M., Thomas, P., Nemser, E., and Ake, J.

Thursday pm, 1 May 2003—San Gerónimo A
Strong Ground Motion
Presiding: Gail Atkinson and José Martínez Cruzado

1:30 *Updated Ground-motion (Attenuation) Relations for Western and Eastern North America. **Campbell, K. W.** and Bozorgnia, Y.

1:45 *Earthquake Source and Ground Motion Characteristics of the June 23, 2001 Mw 8.4 Arequipa, Peru Earthquake. **Somerville, Paul**, Thio, H. K., Ichinose, G., Collins, N., Pitarka, A., and Graves, R. W.

2:00 Empirical Prediction of Earthquake Source Radiation. **Chen, Sheng-Zao Shawn**.

2:15 Broadband Source Asperity Model of the 2000 Tottori, Japan Earthquake from Nonlinear Inversion of Near-fault Ground Motion. **Pulido, Nelson** and Kubo, Tetsuo,

2:30 Inversion of Model Variables for Stochastic Ground-motion Simulation in the Southern Part of the Korean Peninsula. **Yun, K. H.** and Park, D. H.

2:45 Upper Bounds on Peak Ground Motion Revisited. **McGarr, A.**

3:00 Break

3:30 A Test of a Strong Ground Motion "Prediction" Method for the 7 September 1999, Mw 5.9 Athens Earthquake.

Hutchings, L., Savy, J., Ioannidou, E., Voulgaris, N., Kalogeras, I., and Stavrakakis, N.

3:45 Preliminary Results from the Embayment Seismic Excitation Experiment: Anelastic Attenuation in Mississippi Embayment Sediments. **Langston, C. A.**, Bodin, P., Withers, M., Powell, C. A., Horton, S. P., and Mooney, W.

4:00 Site Response of Strong-motion Stations in the Umbria, Central Italy, Region. **Castro, R. R.**, Pacor, F., Bindi, D., and Franceschina, G.

4:15 *Characteristics of Vertical Ground Motions. **Beresnev, I. A.**, Nightengale, A. M., and Silva, W. J.

4:30 Horizontal to Vertical Ground-motion Relations for Four Hard-rock Sites in Eastern Canada. **Bent, A. L.** and Delahaye, E. J.

4:45 Estimating Mean Surface Design Spectra for Shallow Soil Sites. **Payne, S. J.** and Costantino, C. J.

Thursday pm, 1 May 2003—San Gerónimo B
Recent Advances in Caribbean and Latin American Neotectonics, Paleoseismology, and Seismic Hazard
Presiding: Paul Mann and Eugenio Asencio

1:30 Neotectonics of the North America-Caribbean Plate Boundary Zone: A GIS-based Compilation of Faults, Epicenters, and Focal Mechanisms from Guatemala to the Lesser Antilles. **Mann, P.**, Rogers, R., and Watson, L.

1:45 Strain Partitioning and Fault Slip Rates in the Northeastern Caribbean from GPS Measurements. **Calais, E.**, Freed, A., Mann, P., Mattioli, G. S., and Jansma, P. E.

2:00 Quaternary Uplift and Faulting of Southern Hispaniola Suggests Seismic Coupling along Muertos Trough Subduction Zone. **Hengesh, J. V.**

2:15 Development of a Seismic Network in the Dominican Republic by Instituto Sismologico Universitario: Earthquake Hypocenters and Active Faults. **Payero, J. S.**, Martinez, F., Polanco, E., Ortiz, D., and Maki, T.

2:30 Crustal Structure and Seismicity of Cuba. **Moreno Toirán, Bladimir**

2:45 Neotectonics of the South America-Caribbean Plate Boundary Zone: A GIS-based Compilation of Faults, Epicenters, and Focal Mechanisms from Colombia to the Barbados Accretionary Prism. **Mann, P.**, Escalona, A., and Wood, L.

3:00 Break

3:30 Projected Seismicity near Tobago Based on Past Seismicity near and to the East of Tobago. **Latchman, J. L.** and Shepherd, J. B.

3:45 Syn-sedimentary Deformations in Post-LGM Periglacial Environments in Sweden and Venezuela. **Audemard, F. A.**, Beck, C., and Morner, N.-A.

4:00 Reevaluation of Seismic Hazard in the Northern Panama Canal Region, Republic of Panama. **Schweig, E. S.**, Cowan, H., Gomberg, J. S., and Pratt, T. L.

4:15 The Atirro-Río Sucio Fault System and the Pull-apart of Turrialba-Irazú of Central Costa Rica: Tectonic Indentation Related to the Collision of the Cocos Ridge. **Montero, W.**

4:30 Geologic Setting of Intraplate Seismicity in the Northern Mexico Basin. **Carrillo, M. M.** and Silva Mora, Luis

4:45 Coulomb Stress Evaluation for Anthropogenic Seismicity in the Cerro Prieto Geothermal Field (Baja California, Mexico). **Glowacka, E.**, Sarytchikhina, O., Contreras, J., Nava, F. A., and Díaz de Cossio, G.

Thursday pm, 1 May 2003—San Gerónimo C
Seismic Data Acquisition and Instrumentation
Presiding: Steve Malone and Christa von Hillebrandt-Andrade

1:45 Lessons for Planning or Modermizing Seismic Networks. **Arabasz, W. J.**

2:00 A Review of Regional Seismic Network Recording and Data Exchange Systems. **Malone, S. D.**

2:15 Interdisciplinary Real-time Geophysical Instrumentation of Mount Erebus, Antarctica. **Aster, R.**, Kyle, P., McIntosh, W., Dunbar, N., Esser, R., Ruiz, M., and Richmond, M.

2:30 New Developments of the Seismic Monitoring System in Italy. Amato, A., Acerra, C., Badiali, L., Basili, A., Bono, A., Cattaneo, M., D'Anna, G., **Delladio, A.**, Doumaz, F., Demartin, M., Di Bona, M., Franceschi, D., Lauciani, V., Giovani, L., Marcocci, C., Mele, F., Passafiume, G., Pintore, S., Piscini, A., Rao, S., Salvaterra, C., Salvaterra, L., Thorossian, W., Vallocchia, M., and Vecchi, S.

2:45 The POLARIS Network: The First 50 Libra VSAT Broadband Seismographs. **Asudeh, I.** and Atkinson, G. M.

3:00 Break

3:30 Upgrade of INEEL Seismic Stations and Strong-motion Accelerographs to Digital Field Acquisition and Telemetry.

Holland, A. A., Payne, S. J., Berg, R. G., and Hodges, J. M.

3:45 The New Venezuelan Seismological Network. **Rendón, H.**, Gonzalez, J., and Lopez, R.

4:00 Remote Seismological and Volcano Monitoring Using Distributed Computing Techniques. **Lynch, L. L.**, Beckles, D., Shepherd, J. B., and Ramsingh, C.

4:15 *Instrumentation, Integration, and Progress on the CALIPSO Borehole Project at Soufriere Hills Volcano, Montserrat. **Mattioli, G. S.**, Elsworth, D., Voight, B., Young, S. R., Linde, A. T., Sacks, I. S., Malin, P. E., and Shalev, E.

4:30 Seismic Monitoring in the Puerto Rico Region. **Huerfano, V. A.**, von Hillebrandt-Andrade, C. G., and Lugo, J.

Thursday (all day), 1 May 2003—San Cristobal Jr. Ballroom
Puerto Rico Earthquake Hazard: What Do We Know, and Where Do We Go From Here?
Posters
Presiding: José Martinez-Cruzado and Carol Prentice

D1 High-resolution Bathymetric Map of the Puerto Rico Trench: Implications for Earthquake and Tsunami Hazards. **ten Brink, U. S.** and Smith, S.

D2 Origin, and Neotectonics of the Anegada Trough, Northeastern Caribbean. **McCann, W. R.** and Lithgow-Bertelloni, C.

D3 Toward an Integrated Understanding of Holocene Fault Activity in Western Puerto Rico: Constraints from High-resolution Seismic and Sidescan Sonar Data. **Grindlay, N. R.**, Abrams, L. J., del Greco, J., and Mann, P.

D4 Earthquake Submarine Geology and Estimates of Fault Slip Rates in Puerto Rico and the U.S. Virgin Islands. **McCann, W. R.**

D5 A Neotectonic Model for Puerto Rico. **Vegas, R.**, Muñoz-Martin, A., Carbo, A., and Vazquez, J. T.

D6 *Plio-Quaternary Seismotectonic Regimes in Western Puerto Rico. **Moya, J. C.**

D7 *Liquefaction Induced by Historic and Prehistoric Earthquakes in Puerto Rico. **Tuttle, M. P.**, Dyer-Williams, K., Schweig, E. S., Prentice, C. S., Moya, J. C., and Tucker, K. B.

D8 Seismically Instrumented Structures in Puerto Rico by the PRSMP. Martinez-Cruzado, J. A. and **Martinez-Pagan, J.**

D9 Earthquake Instrumentation of Puerto Rico Bridges. **Wendichansky, D. A.** and Martinez-Cruzado, J. A.

Thursday (all day), 1 May 2003—San Cristobal Jr. Ballroom
Recent Advances in Caribbean and Latin American Neotectonics, Paleoseismology, and Seismic Hazard
Posters
Presiding: Paul Mann and Eugenio Ascencio

E1 First Tomography of Jamaica, West Indies. **Wiggins-Grandison, M. D.** and Carriaza-Ojeda, A.

E2 Observations on the Venezuelan Seismicity Pattern for 2000–2002 with the Contribution of a New Broadband Seismological Network. Romero, G., Vasquez, R., **Rendón, H.**, and Alvarado, L.

E3 BOLIVAR: An Interdisciplinary Investigation of an Oblique Arc-continent Collision Zone. **Wallace, T. C.**

E4 Structure and Seismicity at the Southern Barbados Accretionary Prism, from Strike-slip to Subduction. **Lebrun, J.-F.**

E5 Paleoseismic Evidence for Holocene Faulting, Central Range Fault, South American-Caribbean Plate Boundary. **Crosby, C. J.**, Prentice, C. S., Weber, J., and Ragona, D.

E6 Offshore Acoustic Trenching in the Gulf of Paria, Trinidad-Venezuela. **Ragona, D.**, Weber, J., and Driscoll, N.

E7 A Seismic Microzoning Study in Caracas, Venezuela: Input from Geophysical Investigations and Modeling of Seismic Response. Schmitz, M., Sanchez, J., Rocabado, V., Enomoto, T., Ampuero, J.-P., Kantak, H., **Rendón, H.**, and Villotte, J.

E8 Seismic Attenuation Anomalies in Northwestern South America (Colombia). **Vargas-Jimenéz, C. A.**, Ugalde, A., Pujades, L. G., and Canas, J. A.

E9 Considerations about the Seismicity in Northwestern Argentina. **Torres, M. I.** and Benitez, L. M.

E10 Seismicity of the La Paz-Los Cabos, Baja California Sur, Mexico Region during 1996–2002. **Munguia, L.**, Gonzalez, M., Mayer, S., Navarro, M., Aguirre, A., and Valdez, T.

E11 Ground Motion Amplification on the Cerro Prieto Volcano, Northern Baja California, Mexico. **Vidal, A.**, Munguia, L., and Gonzalez, M.

E12 A Comparative Catalog for Seismic Data at the Domincan Republic for 1502–2002. **Payero, J. S.** and Maki, T.

E13 Neotectonics and Subsidence of the Northern Puerto Rico-Virgin Islands Margin in Response to the Oblique Subduction of High-standing Ridges. **Grindlay, N. R.**, Mann, P., Dolan, J. F., and Van Gestel, J. P.

Thursday (all day), 1 May 2003—San Cristobal Jr. Ballroom
The M 7.9, 2002 Denali Earthquake and Other Important Earthquakes of the Previous Five Years
Posters
Presiding: Roger Hansen

F1 Preliminary Analysis for Site Effects of the Aftershock Strong-motion Data Set of the 1999 Chi-Chi Earthquake. **Zhang, F.** and Papageorgiou, A. S.

F2 Tectonic Implications of the 29 November 1999 M 5.6 Xiuyan Earthquake from Double-difference Relocation. Jiao, W., **Chan, W. W.**, Gu, H., and Gu, G.

F3 Damage due to Moho Reflection during the 31 March 2002 Hualien, Taiwan Earthquake. **Chen, K. C.**, Huang, B. S., Wang, J. H., Huang, W. G., Shin, T. C., and Wu, C. F.

F4 Geophysical Investigation of the Denali Fault, Alaska, and the October-November 2002, M 7.9 Earthquake Sequence. **Fisher, M. A.**, Nokleberg, W. J., Ratchkovski, N. A., and Pellerin, L. F.

F5 Source Kinematics of the 2002 Mw 7.9 Denali Fault Earthquake. Dreger, D., Ratchkovski, N. A., and **Hansen, R. A.**

F6 Strong Ground Motion during the M 7.9 Denali Earthquake. **Martirosyan, A. H.**, Biswas, N. N., Dutta, U., and Stephens, C. D.

F7 The 7.9 Denali Fault Earthquake of 3 November 2002: Aftershock Locations, Moment Tensors, and Focal Mechanisms from the Regional and Temporary Seismic Network Data. **Ratchkovski, N. A.**, Hansen, R. A., and Stachnik, J. C.

Thursday (all day), 1 May 2003—San Cristobal Jr. Ballroom
Paleoseismology, Tectonic Geomorphology, and Liquefaction
Posters
Presiding: Heidi Stenner and Daniel Ragona

G1 3,000 Years of Ground-rupturing Earthquakes in the Anza Seismic Gap, San Jacinto Fault, Southern California: Time to Shake It Up? **Rockwell, T. K.**, Young, J., Seitz, G. G., Meltzner, A. J., Verdugo, D. M., Khatib, F., Ragona, D., Altangerel, O., and West, J.

G2 Slip along the Brawley Fault, Imperial Valley, California during the Past 400 Years. **Meltzner, A. J.**, Rockwell, T. K., and Verdugo, D. M.

G3 Late Holocene Slip Rate for the San Bernardino Strand of the San Andreas Fault near Banning, California. **Orozco, A.** and Yule, D.

G4 Earthquake Magnitude Estimates from Paleoseismic Measurement of Displacement. **Biasi, G. P.**, and Weldon, R. J. II.

G5 Improving C14-based Paleoseismic Chronologies by Dating of Various Detrital Organic Components: Examples from the Tule Pond and Hog Lake Sites. **Seitz, G. G.**, Rockwell, T. K., and Lienkaemper, J. L.

G6 Hyperspectral Imaging of Trench Stratigraphy: Toward Improving the Recognition and Documentation of Past Earthquakes at Paleoseismic Sites. **Ragona, D.**, Minster, B., Fialko, Y., Rockwell, T. K., Hemlinger, M., and Blom, R.

G7 Evidence for Variable Slip from the Last Three Surface-rupturing Earthquakes along the Central Hurricane Fault, Arizona. **Stenner, H. D.**, Crosby, C. J., Dawson, T. E., Amoroso, L., Pearthree, P. A., and Lund, W. R.

G8 Overpressure Development in a Sedimentary Basin and Its Relation to Earthquake-induced Liquefaction Deposits. **Wolf, L. W.**, Lee, M.-K., Tuttle, M. P., and Browning, S.

Thursday (all day), 1 May 2003—San Cristobal Jr. Ballroom
Major Earthquakes Revisited
Posters
Presiding: Diane Doser and Allison Bent

H1 Crustal Structure of the Northern Margin of the Tien Shan, China and Its Tectonic Implications for the 1906 M 7.7 Manas Earthquake. Wang, C.-Y., Yang, Z.-E., Luo, H., and **Mooney, W. D.**

H2 Induced Stress Effects of the 1988 Saguenay Earthquake in Eastern Canada. **Oncel, A. O.** and Adams, J.

H3 Source Processes of Western Washington Intraslab Earthquakes (1939–1965). Wiest, K., **Doser, D. I.**, and Zollweg, J.

Thursday (all day), 1 May 2003—San Cristobal Jr. Ballroom
Seismological Tools for the Advancement of Tsunami Modeling and Warning
Posters
Presiding: Eric Geist and Aurelio Mercado

J1 Local Microseismicity Analysis in Support of Tsunami Flood Mapping in Puerto Rico. **Huerfano, V. A.** and Mercado, Aurelio,

J2 The Nicaraguan Tsunami Warning System. **Strauch, W.**

J3 Rapid Determination of Mw from Broadband P Waveforms. **Hirshorn, B. F.**, Whitmore, P. M., and Tsuboi, S.

J4 Detailed Modeling of the 9 September 2002 Tsunami near Wewak, Papua New Guinea and Comparison to the 1998 Aitape Tsunami. **Borrero, J. C.**, Synolakis, C. E., Uslu, B., and Okal, E. A.

Friday am, 2 May 2003—San Gerónimo B
Closing Plenary Session

8:45 A Millennium of Earthquake Fatalities: A Grim Future. **Bilham, Roger**

Friday am, 2 May 2003—San Gerónimo A
Magnitude and Recurrence in Central and Eastern North America
Presiding: Buddy Schweig and Won-Young Kim

10:30 A Chronology of Paleoseismicity in the Southern Mississippi Embayment. **Cox, R. T.**, Larsen, D., Forman, S. L., and Woods, J.

10:45 Constraining the Minimum Magnitude of the 16 December 1811 New Madrid Earthquake. **Horton, S. P.**, Johnston, A. C., Moran, N., and McDaniel, R.

11:00 Where Was the 23 January 1812 New Madrid Mainshock? **Hough, S. E.**, Mueller, K., and Bilham, Roger,

11:15 *Revisiting the New Madrid 1811–1812 Fault Rupture Scenario with the New SCR Seismic Source Scaling. **Johnston, A. C.**

11:30 Evidence of Deep Seismogenic Depth in the Wabash Valley Fault Zone. **Kim, Won-Young,**, Hamburger, M., Stigall, T., Haase, J., Withers, M., and Rupp, J. A.

11:45 Developing a Local Magnitude Scale for the Central U.S. **Miao, Q.** and Langston, C. A.

Friday am, 2 May 2003—San Gerónimo B
The M 7.9, 2002 Denali Earthquake and Other Important Earthquakes of the Previous Five Years
Presiding: Joan Gomberg and Christine Powell

10:30 Source Variables and Scaling Relations for the 1999 North Anatolian Fault Zone, Turkey Earthquakes. Gok, M. G., **Hutchings, L. J.**, and Mayeda, K. M.

10:45 Analysis of Site Response in the Athens Area from the 7 September 1999, Mw 5.9 Athens Earthquake and Aftershock Recordings, and Intensity Observations. Ioannidou, E., Voulgaris, N., Kalogeras, I., Stavrakakis, G., and **Hutchings, L. J.**

11:00 Effect on Seismicity and Earthquake Triggering of the 1999 Mw 7.6 Chi-Chi, Taiwan Earthquake. **Ma, K.-F.**, Chang, C.-H., and Stein, R. S.

11:15 A Three-dimensional P-wave Velocity Model for the 2001 Bhuj, India Earthquake Aftershock Region: Estimates of Model Resolution. **Powell, C. A.**, Bodin, P., and Horton, S. P.

11:30 High-resolution Exploration of the Kunlun Fault, China: Implications from the Mw 7.8 Kunlun Earthquake. **Wang, C.-Y.**, Ding, Z.-F., and Chan, W. W.

11:45 Spontaneous Rupture Model of the 2002 M 7.9 Denali Fault Earthquake, Alaska. **Harris, Ruth A.**, Oglesby, D. D., Ratchkovski, N. A., Eberhart-Phillips, D., and Dreger, D.

Friday am, 2 May 2003—San Gerónimo C
Understanding and Communicating Seismic Risk: Applications of Science to Society
Presiding: Don Windeler and Chesley Williams

11:00 Communicating Seismic Risk: A Multidisciplinary Approach. **Rodriguez, H.**, Diaz, W., and Aguirre, B.

11:15 Educating the Next Generation about Geologic Hazards. **Hall-Wallace, M. K.**, Wallace, T. C., Walker, C. S., Kendall, L. P., and Weeks, J. A.

11:30 Communicating Foreshock and Aftershock Hazard through Time-dependent Hazard Maps. Gerstenberger, M. C., **Wiemer, S.**, and Jones, L. M.

11:45 A Way to Detect Times of Increasing Probability (TIPS) Preceding Large Earthquakes in Southern California. **Howell, B. F. Jr.**

Friday pm, 30 April 2003—San Gerónimo A
Magnitude and Recurrence in Central and Eastern North America
Presiding: Buddy Schweig and Won-Young Kim

1:30 Ground Motion from a Composite Source Model in the Central United States. **Shi, B.**, Wang, Z., Woolery, E. W., and

Zeng, Y.

1:45 Observed Strain Zonation Clarifies Recurrence Rates from Paleoseismological Data near Charleston, South Carolina. **Talwani, P.**, Trenkamp, R., and Dura-Gomez, I.

2:00 Implications of the Paleoseismicity Model for Earthquake Recurrence Rates in the Central and Eastern United States. **Ebel, John E.**

2:15 Comparison of 2001 Bhuj, India and Eastern North America Earthquake Engineering Ground Motions and Their Decay with Distance: Implication for ENA Earthquake Hazards. **Cramer, C. H.**

2:30 Application of Wavelet-domain Waveform Inversion to Source Parameter Retrieval: Example from the 2002 Au Sable Forks, New York Earthquake. **Sze, E. K. M.** and Toksöz, M. N.

2:45 Spatial Variability of Magnitude-range Dependence of b Value in France. **Beauval, C.** and Scotti, O.

Friday pm, 2 May 2003—San Gerónimo B
The M 7.9, 2002 Denali Earthquake and Other Important Earthquakes of the Previous Five Years
Presiding: Joan Gomberg and Christine Powell

1:30 Blind Prediction of Near-fault Strong Ground Motions Caused by the Mw 7.9 Alaska Earthquake. **Anderson, J. G.**, Graves, R. W., Zeng, Y., and Somerville, P.

1:45 Trans-Alaska Oil Pipeline Design Accommodates 3 November 2002, M 7.9 Earthquake and Surface Fault Rupture. **Cluff, L. S.** and Slemmons, D. B.

2:00 Local Amplification of Seismic Waves from the Mw 7.9 Alaska Earthquake and a Damaging Seiche in Lake Union, Seattle, Washington. **Barberopoulou, A.**, Qamar, A., Creager, K., Steele, W., and Pratt, T. L.

2:15 Was Earthquake Triggering by the Landers Earthquake Extraordinary? Answers from the Denali Earthquake. **Gomberg, J. S.** and Bodin, P.

2:30 The 2003 Armeria, Colima, Mexico Earthquake: The First 72 Hours. Reyes-Davila, G. A., Ramirez-Vazquez, C. A., Marquez-Ramirez, V. H., **Nunez-Cornu, F. J.**, Rutz, M., Suarez-Plascencia, C., Camarena, M., and Trejo, E.

2:45 Strong Ground Motions on the Guerrero, Mexico Accelerograph Network from the 22 January 2003 Colima Earthquake. **Anderson, J. G.**, Alcantara, L., Almora, D., Castro, G., Ayala, M., Velasco, J. M., Torres, M., Vázquez, R., Quaas, R., Guevara, E., and Singh, S. K.

Friday pm, 2 May 2003—San Gerónimo C
Understanding and Communicating Seismic Risk: Applications of Science to Society
Presiding: Don Windeler and Chesley Williams

1:30 Evaluation of U.S. Natural Hazards Costs as a Function of Frequency, Size, Built Environment, and Politics. **van der Vink, G. E.**, Andrews, S. Q., Bach, D. E., Brownlee, S. J., Cromwell, M. W., Gilbane, M. P., Hakala, J. A., Holland, E. J., Levine, N. M., McCloskey, T. A., Morgan, W. J., and Nolet, M. C.

1:45 Earthquake Insurance Risk Analysis: San Francisco Case Study. **Williams, C. R.**, Windeler, D. S., Morrow, G. C., Rahnama, M., Molas, G. L., and Pena, A.

2:00 The Challenge of Parametric Earthquake Covers in Reinsurance. **Andrea, G.**

2:15 Large Earthquakes, Basis Risk, and Catastrophe Bonds. **Windeler, D. S.**, Williams, C. R., Morrow, G. C., and Winkler, T.

Friday (all day), 2 May 2003—San Cristobal Jr. Ballroom
Earthquake Generation, Fault Behavior, Source Parameters, and Wave Propagation
Posters
Presiding: Craig Nicholson

K1 Seismic Imaging of Structure and Rupture Behavior along the Bear Valley Section of the San Andreas Fault. McGuire, J., and **Ben-Zion, Y.**

K2 Stress Triggering and Earthquake Probability: An Example from Southern California. **Hardebeck, J. L.**

K3 Propagation Evolution of the Slip Function in a Foam Rubber Model of Earthquakes. **Anooshehpoor, A.** and Brune, J. N.

K4 On Seismic Sources Characterized by Volume Changes. **Richards, P. G.** and Kim, Won-Young,

K5 Progress in Wide-area Seismic Event Location on the Regional Scale. **Richards, P. G.**, Waldhauser, F., Schaff, D., Khalturin, V., Kim, Won-Young,, Armbruster, J., Fisk, M., Burlacu, V., Saikia, C., Ichinose, G., Morozova, E., Morozov, I., Stroujkova, A., and Cormier, V.

K6 Shallow Seismic Trapping Structure in the San Jacinto Fault Zone near Anza, California. **Lewis, M. A.**, Peng, Z.,

Ben-Zion, Y., and Vernon, F.

K7 The Southern California Fault Activity Database: An Online Research Resource. **Perry, S. C.**

K8 3D Development of an Active Oblique Fault System, Northern Santa Barbara Channel, California. Kamerling, M. J., Sorlien, C. C., and **Nicholson, C.**

K9 San Andreas Fault Geometry at Desert Hot Springs, California from High-resolution Seismic Images. **Catchings, R. D.**, Rymer, M. J., and Goldman, M. R.

K10 Behavior of Fault Networks on Different Scales. Bykovtsev, Alexander S., and **Katz, Alexander A.**

K11 Four Decades of PDE mb. **Dewey, J. W.**, Earle, P. S., and Presgrave, B. W.

K12 Revision of Truncated and Nontruncated Statistical Models of the Frequency-Magnitude Distribution. **Palacios, P.**, García, J. C., and Molina, I.

K13 Calibrating the MKAR Array Using Transfer Functions. **Renwald, M. D.**, Taylor, S. R., and Wallace, T. C.

K14 Broad-area Monitoring Using Regional Coda-wave Amplitudes. **Phillips, W. S.**, Hartse, H. E., and Aprea, C.

K15 3D Fourth-order Staggered-grid Finite-difference Method Combining Discontinuous Grids with Locally Variable Time-step for Efficient Basin Amplification Modeling. **Kang, T.-S.** and Baag, C.-E.

Friday (all day), 2 May 2003—San Cristobal Jr. Ballroom
Seismic Data Acquisition and Instrumentation
Posters
Presiding: Christa von Hildebrandt-Andrade and Steve Malone

L1 A Complete, One-piece, Hand-portable Seismic Station. **Malin, P. E.**, Onacha, S. A., Shalev, E., Allmendinger, T. R., Walter, L., and McLain, D.

L2 Development of an Inexpensive, Small, and Low-power Broadband Ocean-bottom Seismograph. **Pulliam, J.**, Yates, B., Nakamura, Y., and Huerta y Lopez, C.

L3 A Comparison of Two Strong-motion Accelerometers. **Passmore, P. R.**, Raczka, J. F., and Gannon, J.

L4 Recent 24-bit A/D Tests on PASSCAL Recorder Model 130-01/6. **Passmore, P. R.**, Elliott, B. A., and Kromer, R.

L5 New General-purpose Data Communications and Authenticator Modules from Guralp Systems. **Pauly, B.**, Pearce, N., and McKenzie, J.

L6 Integration Developments and the Complete Product Line of Guralp Seismic Instrumentation. **Pauly, B.** and Pearce, N.

L7 SmartQuake: A New Automated Earthquake Data Processor. **Oncescu, Lani** and Rizescu, Mihaela,

L8 Commercial Open-source Software in Instrumental Seismology. **Dricker, I.**, Friberg, P., and Hellman, S.

L9 Electronic Encyclopedia of Earthquakes. **Benthien, M. L.**, Marquis, J. E., and Jordan, T. H.

L10 Creating a Regional Earthquake Information System: Practical Experience from the Utah Regional Seismic Network. **Nava, S.**, Arabasz, W. J., Pankow, K., Moeinvaziri, A., Drobeck, D., and Dye, T.

L11 The Southern California Earthquake Center Intern Program. **Perry, S. C.**

L12 The New Canadian urban Strong-motion Instrument. **Rosenberger, A.** Beverley, K., and Rogers, G. C.

L13 Setting Up a Seismic Monitoring Station Network around the Krsko Nuclear Power Plant. Vidrih, R., Godec, M., Gosar, A., **Sincic, P.**, Tasic, I., and Zivcic, M.

L14 Modernization of the Slovenian National Seismic Network. Vidrih, R., Godec, M., Gosar, A., **Sincic, P.**, Tasic, I., and Zivcic, M.

L15 Multipurpose Seismic Monitoring System (MSMS). **Marcillo, O. E.**

L16 TexSeis: Establishing a Regional Broadband Seismographic Network in Texas. **Pulliam, J.**, Gurrola, H., and Frohlich, C.

L17 New Opportunities for Seismology and Earthquake Engineering: Permanently Instrumented Field Sites in the George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES). **Steidl, Jamison H.**, Nigbor, R. L., and Youd, T. L.

L18 WLH 1.0 (WabeLab at Home): A New Tool for Seismic Wave Analysis on Personal Computers. Bono, A. (presented by **Delladio, A.**)

Friday (all day), 2 May 2003—San Cristobal Jr. Ballroom
Magnitude and Recurrence in Central and Eastern North America

Posters
Presiding: Buddy Schweig ad Won-Young Kim

M1 Evidence for a Large Earthquake near Newburyport, Massachusetts about 2,000 Years Ago. **Tuttle, M. P.**, Witkowski, A., Daniszewska, G., Ebel, John E., and Myskowski, E.

M2 Ground-motion Seismic Hazard Maps with the Effects of Site Geology for Memphis, Shelby County, Tennessee. **Cramer, C. H.**, Gomberg, J. S., Schweig, E. S., and Waldron, B. A.

M3 Quaternary Faulting in Memphis, Tennessee, USA. **Van Arsdale, R. B.**, Velasco, M. S., Waldron, B. A., and Cox, R. T.

M4 Earthquake Source Properties from High School Seismometers. **Jaume, Steven C.**

M5 Siting, Installation, and Preliminary Data from Charleston, South Carolina ANSS Stations. **Stephens, Jason H.** and Jaume, Steven C.