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1. EDUCATION

- Ph.D. (Geophysics), University of California, Santa Cruz 1993
- B. S. (Applied Geophysics), University of California, Los Angeles 1988

2. PROFESSIONAL EMPLOYMENT

- Associate Professor, University of Texas at El Paso (UTEP) 2002-present
- Technical Staff Member, Los Alamos National Laboratory (LANL) 1997-2002
- Team and Task Leader, LANL 1999-2002
- Staff Geophysicist, Science Applications International Corporation 1993-1997
- Internet Consultant, Velasco Consulting Services 1994-1995
- Postdoctoral Researcher, Institute of Geophysics and Planetary Physics,
Lawrence Livermore National Laboratory 1993
- Research Assistant, University of California, Santa Cruz (UCSC) 1988-1993
- Assistant Field Coordinator PASSCAL Instrument Deployments for:
Aftershocks of the Valle de Estrella, Costa Rica, Earthquake (UCSC) 1991
Calibration Explosions for the Santa Cruz Mountains (UCSC) 1991
Aftershocks of the Loma Prieta, California, Earthquake (UCSC) 1989
- Computer Programmer, Institute of Geophysics and Planetary Physics,
University of California, Los Angeles 1987-1988

3. CONSULTANTSHIPS

- Los Alamos National Laboratory 2002-present
- Quantum Technologies (QTSI) 2004-present

4. PROFESSIONAL SOCIETIES

- Board Member, Society for the Advancement of Chicanos and Native
Americans in Science (SACNAS) 2002-present
- Committee Member, IRIS Education and Outreach Standing Committee 2003-present
- Committee Member, National Research Council, Committee on Seismology and
Geodynamics 2003-present
- Chair, Committee on Student Presentations, SACNAS 2002-present
- Chair, Committee on Geosciences, SACNAS 2002-present
- Committee Member, Advanced National Seismic System, Central United
States Panel 2002-present
- Committee Member, EARTHSCOPE Education and Outreach Committee 2002
- Member, American Geophysical Union
- Member, Seismological Society of America
- Member, Society for the Advancement of Chicanos and Native Americans in Science
- Member, Geological Society of America
- Member, Sigma Xi

5. HONORS

- U.C. President's Postdoctoral Fellowship 1993-1994
- Ford Foundation Dissertation Year Fellowship 1992-1993

- American Geosciences Institute Scholarship 1991,1992
- Patricia Harris Roberts Fellowship 1988-1991
- National Hispanic Scholarship Fund 1989, 1990, 1991

6. TEACHING ASSIGNMENTS DURING THE PAST TWO YEARS

- Digital Signal Processing, (GEOP 5460), 4 hours, Graduate, Lecture/Lab Spring 2004
- Principles of Earth Science (GEOL 1303), 3 hours, Undergraduate, Lecture Fall 2003
Spring 2004
- Advanced Physical Geology (GEOL 4315/5315), 3 hours, New Course, Lecture
co-taught with C. Andronicos, Graduate/Undergraduate Fall 2003
- Advanced Seismology (GEOP 5356), 3 hours, Graduate, Lecture Spring 2003
- Introduction to Physical Geology (GEOL 1301), 3 hours, Undergraduate, Lecture
Spring 2002, Spring 2003, Fall 2004
- Seismology, (GEOP 5354), 3 hours, Graduate, Lecture Fall 2002, Fall 2004

7. SERVICE

a. UTEP Service

- Liaison, University Library for Geological Sciences, UTEP 2002-present
- Co-chair, Kidd Seismic Observatory, UTEP 2002-present
- Lead Developer, Geological Sciences Web Page, UTEP 2002-present
- Top Ten Seniors Committee, UTEP 2002
- Research and Engineering Apprenticeship Program (REAP), UTEP 2003, 2004
- Introduction to Seismology and Nuclear Explosion Monitoring, two days
for professionals, Los Alamos National Laboratory, 2002
- PATHWAYS Summer Camp, Geophysics, UTEP, two days for high
school students 2002-2004
- Lead Coordinator, Annual SACNAS Reception, University of Texas
at El Paso (UTEP) 2002-present
- Panel Expert, Preparing Future Faculty, Alliance for Graduate Education and
the Professoriate, UTEP-Howard University 2004
- Panel Expert, Alternative Careers in Science for REU Program, UTEP 2003, 2004
- Judge, Student Research Expo, UTEP 2004
- Presenter, Mother-Daughter Father-Son Program, UTEP 2003, 2004
- Committee Chair, Masters Thesis
Vicki Gee, Geological Sciences, University of Texas at
El Paso (UTEP) 2003-present
- Committee Chair, Ph.D. Thesis
Todd Theiner, Geological Sciences, UTEP 2003-present
- Committee Chair, Ph.D. Thesis
Marina Rodriguez-Moya, Computer Sciences, UTEP 2003-present
- Committee Chair, Ph.D. Thesis
Eva Rumpfhuber, Geological Sciences, UTEP 2003-present
- Committee Chair, Ph.D. Thesis
Cleit Zeiler, Geological Sciences, UTEP 2004-present
- Committee Member, Masters Thesis
Katy Wiest, Geological Sciences, UTEP 2003-present
- Committee Member, Masters Thesis
Cara Schiek, Geological Sciences, UTEP 2003-present
- Committee Member, Masters Thesis
Claudia Flores, Geological Sciences, UTEP 2002-2003
- Committee Member, Masters Thesis
Roberto A. Saenz, Mathematical Sciences, UTEP 2003
- Committee Member, Ph.D. Thesis
Wesley Brown, Geological Sciences, UTEP 2003-present
- Committee Member, Ph.D. Thesis
Annette Veilleux, Geological Sciences, UTEP 2003-present
- Committee Member, Ph.D. Thesis
Nicholas Mariita, Geological Sciences, UTEP 2003-present
- Mentored Research
Leandro Trevino Graduate Student, UTEP 2003-present
- Mentored Research
Daniel Hernandez, Undergraduate Student, UTEP 2002-present

Thomas VanDeMark, Undergraduate Student, UTEP	2002-present
Monica Maceira, Graduate Student, Penn. State University/Los Alamos National Laboratory (LANL)	2000-present
Matt Averill, Graduate Student, UTEP	2003
Tiffini Bond, Graduate Student, UTEP	2003
Eric Hernandez, High School Student, UTEP	2003
Melissa Brophy, Undergraduate Student, UTEP	2003
Dowchu Drukpa, Graduate Student, UTEP	2002
Jill Franks, Undergraduate Student, University of Saint Louis/ LANL	2002
Claudia Flores, Graduate Student, UTEP/LANL	2001-2002
Moira Pyle, Undergraduate Student, University of Saint Louis/ LANL	2001
Claudia Aprea, Postdoctoral Researcher, LANL.	2000
Michael Begnaud, Postdoctoral Researcher, LANL.	1999-2000
Craig Whitted, Graduate student, University of Arizona	1999
Brett Ketter, Graduate student, University of Saint Louis	1998

b. Professional Service

- (1) National
 - Board Member, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) 2002-present
 - Committee Member, IRIS Education and Outreach Standing Committee 2003-present
 - Committee Member, National Research Council, Committee on Seismology and Geodynamics 2003-present
 - Chair, Committee on Student Presentations, SACNAS 2002-present
 - Chair, Committee on Geosciences, SACNAS 2002-present
 - Committee Member, Advanced National Seismic System, Central United States Panel 2002-present
 - Committee Member, EARTHSCOPE Education and Outreach Committee 2002
 - Committee Member, IRIS Education and Outreach Standing Committee 2003-present
- (2) State and Regional
 - Panel Member, Texas Education Agency 2003

c. Community Service

- Marathon Coach, Leukemia Society of America, Team in Training 1999-present
- Expert, Local Television Interviews Regarding Large Earthquakes 2003
- Expert, Local Television Interview for Movie Review of “The Core” 2003
- Expert, High School Geoscience Curriculum, Texas Education Agency 2003
- Volunteer, Bhutan Days, Geological Sciences Booth, UTEP 2003

8. PROFESSIONAL ACTIVITIES

a. Professional Presentations

- Invited Talks
 - Geological Society of America, Fall Meeting, The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Geoscience Initiative 2004
 - University of Texas at Austin, The Future of Seismology, Optimizing People and Performance (Diversity); The Bhutan Himalaya: Insights into Himalayan Formation from Seismic Data 2004

- IRIS Annual Workshop, The Future of Seismology, Optimizing People and Performance (Diversity) 2004
- Southern Methodist University, The Bhutan Himalaya: Insights into Himalayan Formation from Seismic Data 2004
- University of Texas at El Paso, Physics Department, The UTEP Geophysics Program 2004
- New Mexico Tech, The Bhutan Himalaya: Insights into Himalayan Formation from Seismic Data 2004
- Texas Education Agency, The EarthScope Initiative 2003
- University of Arizona, The Bhutan Himalaya: Preliminary Results from a Temporary Seismic Network 2003
- Joint Statistical Meetings, Annual Meeting, Nuclear Explosion Monitoring: History, Seismology, and Statistics 2003
- American Geophysical Union, Fall Meeting, The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Geoscience Initiative 2002
- EARTHSCOPE Education and Outreach, The EarthScope Knowledge Base 2002
- University of Indiana, Bloomington, Unusual Seismic Events in China and Implications for Nuclear Explosion Monitoring 2001
- Purdue University, The 1997 Tibet ($M_w=7.5$) Earthquake: Rupture Characteristics and the Aftershock without a Shock 2001
- Saint Louis University, The 1997 Tibet ($M_w=7.5$) Earthquake: Rupture Characteristics and the Aftershock without a Shock 2001
- Incorporated Research Institutions for Seismology, Annual Meeting 2002,2004
- Seismic Research Symposium, Conference on Monitoring the Comprehensive Test Ban Treaty 1998-2003
- American Geophysical Union,
 - Fall Meeting, 1989-1994,1996,1998-2003
 - Spring Meeting 1998
- Seismological Society of America, Annual Meeting 1999-2000
- International Union of Geophysics and Geodesy, Vienna, Austria 1991
- Society for the Advancement of Chicanos and Native Americans in Science, Annual Meeting 1991, 1992, 1993,1997,2003

b. Panel Member for Peer Review

- National Earthquake Hazard Reduction Program, United States Geological Survey 2001
- Institute of Geophysics and Planetary Physics, Lawrence Livermore National Laboratory 2000

c. Professional Peer Reviewer

- Journal of Geophysical Research
- Bulletin of the Seismological Society of America
- Tectonics
- Physics of the Earth and Planetary Interiors
- Pure and Applied Geophysics
- American Geophysical Union, Monograph Series
- Institute of Geophysics and Planetary Physics
- Geophysical Research Letters
- National Science Foundation
- National Nuclear Security Agency
- Department of Defense
- Department of Energy

9. FUNDED AND PENDING GRANTS

- National Nuclear Security Administration 05/01/2003
Title: Source Phenomenology Experiment (SPE) in Arizona,
Role: co-PI; Amount: \$79,433 for two years Funded
- International Program, National Science Foundation 02/01/2003
Title: US-Bhutan Workshop: Seismotectonics and its relationship to
natural hazards in the Bhutanese Himalaya
Role: co-PI; Amount: \$6,900 Funded
- National Earthquake Hazards Reduction Program, U. S. Geological
Survey 05/01/2002
Title: Seismic investigation of historical and recent earthquakes of the Mendocino
Triple Junctions region.
Role: PI; Amount: \$80,098 for two years Funded
- Los Alamos National Laboratory 11/01/2001
Title: Analysis of a seismic array in Bhutan.
Role: co-PI; Amount: \$158,305 for three years Funded
- University Research Initiative, University of Texas at El Paso 11/14/2002
Title: Evolution and seismic hazard of the southern Rio Grande rift near
El Paso, TX.
Role: PI; Amount: \$2,160 for 9 months Funded
- Department of Defense, Instrumentation and research support program 07/08/2004
for Hispanic serving institutions
Title: Seismic instrumentation for solidifying research capabilities in defense
and earthquake science and education
Role: PI; Amount: \$200,000 Funded
- Earthscope, National Science Foundation 8/24/2004
Title: Passive Seismic Observations and Geological Rift Analysis
Role: PI; Amount: \$341,000 Pending
- National Science Foundation, Opp. For Enhancing Diversity Geosciences 10/18/2004
Title: Track 2: Initiative for Equity in the Geosciences
Role: co-PI; Amount: \$1,242,876 Pending
- National Science Foundation, Opp. For Enhancing Diversity Geosciences 10/18/2004
Track 2: Pathways - A Geoscience Network for Training and Recruitment of
Future Earth Scientists in El Paso
Role: co-PI; Amount: \$1,484,851 Pending
- Broad Area Announcement, National Nuclear Security Administration 10/01/2004
Title: Development of South East Asia Ground Truth Database from Dense Networks
in Bhutan and Eastern India
Role: PI; Amount: \$411,163 Pending
- Broad Area Announcement, National Nuclear Security Administration 10/01/2004
Title: Data Mining PASSCAL Experiments in Asia: Ground Truth, Regional
Characterization, and Velocity Model Development
Role: PI; Amount: \$315,932 Pending
- Broad Area Announcement, National Nuclear Security Administration 10/01/2004
Title: Improved Relative Earthquake Locations Using Surface and Body Waves
Role: co-PI; Amount: \$75169 Pending

10. PUBLICATIONS

a. In preparation

- Hernandez, D., V. Gee, A. A. Velasco, K. C. Miller, L. S. Hollister, T. Tobgay, D. Grujic, M. Fort, and S. Harder, 2004, High seismicity rate and evidence for mid-crustal faults in the Bhutan Himalaya determined from a temporary seismic network, *Geophys. Res. Lett.*, to be submitted.
- Velasco A. A., 2004, The future of the geoscience workforce: Optimizing people and performance, *EOS.*, to be submitted.
- Begnaud, M. L., C. Flores, A. A. Velasco, and L. K. Steck, 2004, Earthquake locations in the Tibetan plateau using regional waveforms: technique comparison and the search for ground truth, manuscript in preparation.

b. Peer Reviewed

- Schiek, C., J. M. Hurtado, and A. A. Velasco, 2004, Fourier analysis terrain change detection using ASTER optical satellite imagery along the Kunlun fault, Tibet, *J. Photogrammetry Remote Sensing*, submitted.
- VanDeMark, T., W. Brown, D. I. Doser, A. A. Velasco, 2004, Regional wave propagation in the Lybia region, *Bull. Seis. Soc. Am.*, submitted.
- Drukpa, D., A. A. Velasco, and D. I. Doser, 2004, Seismicity of the Bhutan region (1937-2003): Evidence for deep transcurrent deformation, *J. Geophys. Res.*, submitted.
- Maceira, M., S. R. Taylor, C. J. Ammon, X. Yang, A. A. Velasco, 2004, High resolution surface wave slowness tomography in central Asia, *J. Geophys. Res.*, accepted upon revision.
- Andronicos, C. L., and A. A. Velasco, 2004, Large scale deformation in the India-Asia collision constrained by earthquakes and topography, *GSA Bull.*, accepted upon revision.
- Ketter, B., A. A. Velasco, C. J. Ammon, and G. E. Randall, 2003, Path specific velocity structure of western China from surface-wave dispersion, *Pure App. Geophys.*, accepted upon revision.
- Velasco, A. A., C. J. Ammon, J. Farrell, and K. Pankow, 2004, Rupture directivity of the November 3, 2002 Denali fault earthquake determined from surface waves, *Bull. Seism. Soc. Am.*, in press.
- Velasco, A. A., H. E. Hartse, and G. E. Randall, 2003, Propagation or source? Analysis of a moderate sized event in the Qinghai Province, China, *Bull. Seism. Soc. Am.*, 93, 2281-2288.
- Taylor, S. R., A. A. Velasco, Hartse, W. S. Phillips, and W. R. Walter, 2002, Amplitude corrections for regional seismic discriminants, *Pure App. Geophys.*, 159, 623-650.
- Steck, L. K., A. A. Velasco, A. H. Cogbill, and H. J. Patton, 2001, Improving regional seismic event location in China, *Pure and Appl. Geophys.*, 158, 211-240.
- Phillips, W. S., H. E. Hartse, S. R. Taylor, A. A. Velasco, and G. E. Randall, 2001, Amplitude tomography for regional seismic verification, *Pure and Appl. Geophys.*, 158, 1189-1206.
- Velasco, A. A., C. J. Ammon, and S. L. Beck, 2000, Broadband source modeling of the November 8, 1997 Tibet ($M_w = 7.5$) earthquake and its tectonic implications, *J. Geophys. Res.*, 105, 28065-28080.
- Whitted, C. A., S. R. Taylor, A. A. Velasco, H. E. Hartse, and G. Zandt, 2001, A path specific crustal study in central Asia from group velocity inversions and full waveform modeling, submitted to *Geophys. Res. Lett.*
- Velasco, A. A., C. J. Ammon, T. Lay, and M. Hagerty, 1996, Rupture process of the 1990 Luzon, Philippines ($M_w = 7.7$) earthquake, *J. Geophys. Res.*, 101, 22419-22434.
- Velasco, A. A., T. Lay, and J. Zhang, 1996, Long period surface observations of the October 18, 1989, Loma Prieta earthquake, in The Loma Prieta, California, earthquake of October 17, 1989--Main-shock characteristics, *U. S. G. S. Loma Prieta professional paper 1550-a*, ed. Paul Spudich, A209-A214.
- Velasco, A. A., T. Lay, and J. Zhang, 1996, Source parameters of the October 18, 1989, Loma Prieta earthquake determined using long-period seismic waves, in The Loma Prieta,

- California, earthquake of October 17, 1989--Main-shock characteristics, *U. S. G. S. Loma Prieta professional paper 1550-a*, ed. Paul Spudich, A215-A233.
- Velasco, A. A., C. J. Ammon, and T. Lay, 1995, Source time function complexity of the great 1989 Macquarie Ridge earthquake, *J. Geophys. Res.*, 100, 3989-4009.
 - Protti, M., K. McNally, J. Pacheco, V. Gonzalez, C. Montero, J. Segura, J. Brenes, V. Barboza, E. Malavassi, F. Gueendel, G. Simila, D. Rojas, A. Velasco, A. Mata, and W. Schillinger, 1995, The March 25, 1990 ($M_w = 7.0$, $M_L = 6.8$), earthquake at the entrance of the Nicoya Gulf, Costa Rica; its prior activity, foreshocks, aftershocks, and triggered seismicity, *J. Geophys. Res.*, 100, 20,345-20,358.
 - Velasco, A. A., C. J. Ammon, T. Lay, and J. Zhang, 1994, Imaging a slow bilateral rupture with broadband seismic waves: The September 2, 1992 Nicaragua tsunami earthquake, *Geophys. Res. Lett.*, 21, 2629-2632.
 - Zandt, G., A. A. Velasco, and S. L. Beck, 1994, Composition and thickness of the southern Altiplano crust, Bolivia, *Geology*, 22, 1003-1006.
 - Lay, T., C. J. Ammon, A. A. Velasco, J. Ritsema, and T. C. Wallace, 1994, Near-real time seismology: rapid analysis of earthquake faulting, *GSA Today*, 4, 129, 132-134.
 - Ammon, C. J., T. Lay, A. A. Velasco, and J. Vidale, 1994, Routine estimation of earthquake complexity: The October 18, 1992, Colombian earthquake, *Bull. Seism. Soc. Am.*, 84, 1266-1271.
 - Velasco, A. A., C. J. Ammon, and T. Lay, 1994, Empirical Green function deconvolution of broadband surface waves: Rupture directivity of the 1992 Landers, California ($M_w = 7.3$) earthquake, *Bull. Seism. Soc. Am.*, 84, 735-750.
 - Velasco, A. A., C. J. Ammon, and T. Lay, 1994, Recent large earthquakes near Cape Mendocino and in the Gorda plate: Broadband source time functions, fault orientations, and rupture complexities, *J. Geophys. Res.*, 99, 711-728.
 - Ammon, C. H., A. A. Velasco, and T. Lay, 1993, Rapid estimation of rupture directivity: application to the 1992 Landers ($M_s = 7.4$) and Cape Mendocino ($M_s = 7.2$), California earthquakes, *Geophys. Res. Lett.*, 20, 97-100.
 - Velasco, A. A., T. Lay, and J. Zhang, 1993, Long-period surface wave inversion for source parameters of the October 18, 1989, Loma Prieta earthquake, *Phys. Earth Planet. Int.*, 76, 43-66, 1993.
 - Goes, S. D. B., A. A. Velasco, S. Y. Schwartz, and T. Lay, 1993, The April 22, 1991, Valle de la Estrella, Costa Rica ($M_w = 7.7$) earthquake and its tectonic implications: A broadband seismic study, *J. Geophys. Res.*, 98, 8127-8142.
 - Velasco, A. A., T. Lay, and J. Zhang, 1992, Improved resolution of earthquake source parameters from long-period surface wave inversions, *Phys. Earth Planet. Int.*, 74, 101-107.
 - Wallace, T. C., A. Velasco, J. Zhang, and T. Lay, 1991, A broadband seismological investigation of the 1989 Loma Prieta, California, earthquake: evidence for deep slow slip?, *Bull. Seism. Soc. Am.*, 81, 1622-1646.
- c. Reports, Proceedings, Newsletters**
- Brown, W. A., T. F. VanDeMark, D. I. Doser, and A. A. Velasco, 2004, An integrated geophysical study of the lithospheric structure beneath Libya, in *Proceedings of the 26th Seismic Research Review*.
 - Leidig, M., B. W. Stump, Bonner, J. L., C. T. Hayward, A. A. Velasco, D. F. Baker, H. Hooper, W. R. Walter, D. Zhang, R. Zhou, C. L. Edwards, Marie Renwald, J. F. Lewkowicz, 2004, Source Phenomenology Experiments in Arizona, in *Proceedings of the 26th Seismic Research Review*.
 - Bonner, J. L., B. W. Stump, A. A. Velasco, W. R. Walter, D. C. Pearson, C. T. Hayward, D. F. Baker, C. L. Edwards, J. F. Lewkowicz, S. Harder, S. A. Russell, M. Leidig, S. C. Myers, 2003, Planning Source Phenomenology Experiment in Arizona, in *Proceedings of the 25th Seismic Research Review*.

- Begnaud, M., J. Aguilar-Chang, A. Velasco, and L. Steck, 2002, Developing regional seismic databases for improving event location and ground truth data sets in Asia, in *Proceedings of the 24th Seismic Research Review*, 839-844.
- Yang, X., S. Taylor, H. Patton, M. Maceira, and A. Velasco, 2002, Evaluation of intermediate-period (10- to 30-sec) Rayleigh-wave group-velocity maps for central Asia, in *Proceedings of the 24th Seismic Research Review*, 609-617
- Steck, L., H. Hartse, C. Bradley, C. Aprea, A. Velasco, G. Randall, and J. Franks, 2002, Regional location calibration in Asia, in *Proceedings of the 24th Seismic Research Review*, 430-437.
- Ammon, C. J.; M. Pyle, G. E. Randall, and A. A. Velasco, 2001, Refining faulting parameters and depth estimates for earthquakes in eastern Asia, in *Proceedings of the 23rd Seismic Research Review*, 483-489.
- Taylor, S. R., A. A. Velasco, X. Yang, M. Maceria, W. S. Phillips, 2001, Bayesian tomography applied to seismic event identification problems, in *Proceedings of the 23rd Seismic Research Review*, 440-447.
- Steck, L. K., M. L. Begnaud, and A. A. Velasco, 2001, On the use of kriged P-wave travel-time correction surfaces for seismic location, in *Proceedings of the 23rd Seismic Research Review*, 410-419.
- Anderson, D. N.; S. A. Hartley, C. A. Presti, A. C. Rohay, S. R. Taylor, A. A. Velasco, C. J. Young, 2001, Event identification, error propagation and calibration assessment, in *Proceedings of the 23rd Seismic Research Review*, 129-135.
- Velasco, A. A., C. J. Young, and D. N. Anderson, 2001, Uncertainty in phase arrival picks for regional seismic events: An experimental design, Los Alamos National Laboratory, LAUR-01-0747, 13 pp.
- Velasco, A. A., and J. Aguilar-Chang, 2001, Lop Nor test site special event data set: Research database products, Release 4.0, Los Alamos National Laboratory, LACP-01.
- Velasco, A. A., and J. Aguilar-Chang, 2001, Eastern Asia data set, Release 2.0, Los Alamos National Laboratory, LACP-01.
- Velasco, A. A., and J. Aguilar-Chang, 2000, Eastern Asia research datasets, prepared for DTRA Tech Area B contractors, Release 1.0, Los Alamos National Laboratory, LAUR-00-3518, 37 pp.
- Velasco, A. A., and J. Aguilar-Chang, 2000, Lop Nor test site special event data set: Research database products, Release 3.0, Los Alamos National Laboratory, LACP-00-0139, 87 pp.
- Velasco, A. A., and J. Aguilar-Chang, 2000, Eastern Asia data set, Release 1.0, Los Alamos National Laboratory, LACP-00-152, 47 pp.
- Velasco, A. A., and J. Aguilar-Chang, 2000, Special field data set, Release 1.0, Los Alamos National Laboratory, LACP-00-147, 12 pp.
- Moore, S., H. M. Armstrong, D. Carr, M. Chown, R. Keyser, E. R. Shepherd, L. Wilkening, C. J. Young, M. McCornack, J. Aguilar-Chang, A. A. Velasco, S. D. Ruppert, T. Hauk, and C. Schultz, 2000, The integration process design for incorporating information products into the Department of Energy knowledge base, Sandia National Laboratories, SAND2000-0597, 48 pp.
- Carr, D., S. Moore, H. M. Armstrong, L. Wilkening, M. Chown, E. R. Shepherd, T. Edwards, R. Keyser, C. J. Young, A. H. Cogbill, J. Aguilar-Chang, A. A. Velasco, and S. D. Ruppert, 2000, Knowledge base contributor's guide, Sandia National Laboratories, SAND2000-0442, 84 pp.
- Hartse, H. E., and A. A. Velasco, 2000, An interesting regional seismic event from Qinghai Province, China, in *Proceedings for the 22nd Seismic Research Symposium*, New Orleans, Louisiana, 35.
- Casey, L. A., E. R. Shepherd, A. A. Velasco, and S. D. Ruppert, 2000, Migration of research results into operational monitoring systems, in *Proceedings for the 22nd Annual Seismic Research Symposium*, New Orleans, Louisiana, 159.

- Begnaud, M. L., A. A. Velasco, and L. K. Steck, 2000, Utilizing results from InSAR to develop seismic location benchmarks and implications for seismic source studies, in Proceedings for the 22nd Seismic Research Symposium, New Orleans, Louisiana, 22.
- Velasco, A. A., and J. Aguilar-Chang, 1999, Lop Nor test site special event data set: Research database products, Release 2.0, LAUR-99-2835, 52 pp.
- (S) Cortinas, J V. Jr., and A. A. Velasco, 1999, Solving the mysteries of the big blue planet, in SACNAS News, Spring 1999, 3, 14-16.
- Aguilar-Chang, J., A. A. Velasco, and H. E. Hartse, 1999, Seismic database in support of regional monitoring research in Asia, in Proceedings for the 21st Annual Seismic Research Symposium, 1-6.
- Hartse, H. E., A. A. Velasco, and S. R. Taylor, 1999, Some interesting seismic events from western China, in Proceedings for the 21st Annual Seismic Research Symposium, 82-91.
- Steck, L. K., A. A. Velasco, A. H. Cogbill, and H. J. Patton, 1999, Improving regional seismic event location in China, in Proceedings for the 21st Annual Seismic Research Symposium, 639-645.
- Taylor, S. R., A. A. Velasco, H. E. Hartse, W. S. Phillips, and W. R. Walter, 1999, Amplitude corrections for regional seismic discriminants, in Proceedings for the 21st Annual Seismic Research Symposium, 646-655.
- Phillips, W. S., H. E. Hartse, S. R. Taylor, A. A. Velasco, and G. E. Randall, 1999, Regional phase amplitude tomography for seismic verification in China, in Proceedings for the 21st Annual Seismic Research Symposium, 216-225.
- Chael, E., M. Harris, C. Young, K. Mayeda, W. Walter, S. Taylor, and A. Velasco, 1999, Prototyping regional discrimination tools with MATSEIS, in Proceedings for the 21st Annual Seismic Research Symposium, 294-299.
- Phillips, W. S., A. A. Velasco, S. R. Taylor, and G. E. Randall, 1998, Amplitude path corrections for regional phases in China, in Proceedings of the 20th seismic research symposium on monitoring a Comprehensive Test Ban Treaty (CTBT), 96-103.
- Steck, L. K., A. H. Cogbill, and A. A. Velasco, 1998, The use of propagation path corrections to improve regional seismic event location in western China, in Proceedings of the 20th seismic research symposium on monitoring a Comprehensive Test Ban Treaty (CTBT), 136-145.
- Hartse, H. E., W. S. Phillips, S. R. Taylor, and A. A. Velasco, 1998, Source and path corrections, feature selection, and outlier detection applied to regional event discrimination in China, in Proceedings of the 20th seismic research symposium on monitoring a Comprehensive Test Ban Treaty (CTBT), 34-43.
- Young, C. J., J. M. Harris, H. M. Armstrong, A. A. Velasco, and J. Aguilar-Chang, 1998, Using the DOE Knowledge Base for special event analysis, in Proceedings of the 20th seismic research symposium on monitoring a Comprehensive Test Ban Treaty (CTBT), 774-781.
- Taylor, S. R., and A. A. Velasco, 1998, User's manual for SPAC 1.0: A MATLAB program for computing source and path amplitude corrections, Los Alamos National Laboratory, LAUR-98-4363, 32 pp.
- Velasco, A. A., 1998, Lop Nor test site special event data set: Knowledge Base product, Release 1.1, Los Alamos National Laboratory, LAUR-98-1148, 30 pp.
- Velasco, A. A., T. J. Sereno, and D. Bozich, 1995, Bomb damage assessment (BDA) test support: Final report, Science Applications International Corporation, Tech. Rep. SAIC-95/1039, 100 pp.

d. Abstracts

- Renwald, M. D., A. A. Velasco, M. Leidig, B. W. Stump, and J. L. Bonner, 2004, surface-wave excitation from a large copper mine determined from regional data recorded from the Source Phenomenology Experiment, *Seism. Res. Lett.*, 75, 253.
- VanDeMark, T. F., W. Brown, D. I. Doser, and A. A. Velasco, 2004, Initial waveform investigation of the Libyan region, *Seism. Res. Lett.*, 75, 256.

- Gee, V. L., D. Hernandez, and A. A. Velasco, 2004, Formation of the Bhutan Himalaya: Preliminary results utilizing a temporary seismic network, *Seism. Res. Lett.*, 75, 257.
- Hernandez, D., V. Gee, and A. A. Velasco, 2004, Seismicity of the Bhutan Himalaya utilizing a temporary seismic network, *Seism. Res. Lett.*, 75, 274.
- Theiner, T. R., A. A. Velasco, and D. I. Doser, Seismic investigation of recent and historical events in the Mendocino Triple Junction region, 2004, *Seism. Res. Lett.*, 75, 275.
- Wiest, K., D. I. Doser, and A. A. Velasco, 2004, Source process of western Washington intraslab earthquakes (1939-1965), *Seism. Res. Lett.*, 75, 278.
- Wiest, K., T. Theiner, A. A. Velasco, and D. Doser, 2003, Source parameter studies of historical and recent earthquakes of the Cascadia subduction zone and Mendocino triple junction region, *Eos Trans. AGU, Fall Meet. Suppl., Abstract*, S42A-0142.
- Velasco A. A., K. C. Miller, and L. S. Hollister, 2003, Results from a Temporary Seismic Network in Bhutan, *Eos Trans. AGU, Fall Meet. Suppl., Abstract*, S21F-0398.
- Velasco, A. A., R. E. Lopez, and M.E. Zavala, The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Geoscience Initiative, *Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract*, ED72A-04 INVITED.
- Drukpa, D., D. I. Doser, A. A. Velasco, 2002, A study of the seismicity of the Bhutan region (1937-1998) and its Tectonic Implications, *Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract*, S51B-1045.
- Maceira, M., A. A. Velasco, S. R. Taylor, X. Yang, H. J. Patton, 2002, Surface wave tomography in central Asia, *Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract*, S51B-1052.
- Velasco, A. A., K. C. Miller, L. S. Hollister, M. Fort, S. Harder, T. Tobgeyl, 2002, A pilot earthquake seismic network in Bhutan: Preliminary results, *Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract*, S51B-1044.
- Velasco, A. A., W. I. Sevilla, C. Flores, and C. J. Ammon, 2002, Rupture processes of the November 3, 2002 Denali (M=7.9) earthquake, *Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract*, S72F-1341.
- Steck, L. K., H. Hartse, C. Aprea, J. Franks, A. Velasco, G. Randall, C. Bradley, M. Begnaud, and J. Aguilar-Chang, Regional Location Calibration in Asia, 2002, *Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract*, S62A-1172.
- Begnaud, M. L., A. A. Velasco, and L. K. Steck, 2001, Comparing regional seismic location results using kriged travel time correction surfaces and double-difference methods, *Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract*, S12A-0580.
- Flores, C., A. A. Velasco, and M. L. Begnaud, High resolution earthquake locations in the Tibetan Plateau, *Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract*, S31D-07.
- Ammon, C. J., M. L. Pyle, G. E. Randall, and A. A. Velasco, 2001, Faulting parameters and depth estimates for earthquakes in eastern Asia, *Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract*, S12A-0585.
- Begnaud, M. L., A. A. Velasco, and L. K. Steck, 2000, Using shear waves to improve regional seismic location in China, *Eos Trans. AGU, 81 (48), Fall Meet. Suppl., Abstract* S71C-08.
- Maceira, M., L. Malagnini, A. A. Velasco, and C. J. Ammon, 2000, Source process of the August, 1999 and November, 1999 Turkey earthquakes, *Eos Trans. AGU, 81 (48), Fall Meet. Suppl., Abstract*, S51A-11.
- Velasco, A. A., 2000, Utilizing large integrated data sets for regional seismic research in Asia, *Seism. Res. Lett.*, 71, 213.
- Begnaud, M. L., L. K. Steck, and A. A. Velasco, 2000, The affect of secondary arrivals on regional earthquake location, *Seism. Res. Lett.*, 71, 207.
- Velasco, A. A., and L. K. Steck, 1999, Ground truth aftershock relocations in Tibet using InSAR, *Eos Trans. AGU, 80, F656*.
- Malagnini, L., C. J. Ammon, and A. A. Velasco, 1999, Broadband investigation of recent large earthquakes in the Kamchatka subduction zone, *Seism. Res. Lett.*, 70, 268.

- Whitted, C. A., S. R. Taylor, A. A. Velasco, H. E. Hartse, and G. Zandt, 1999, A path specific crustal study in central Asia from group velocity inversions and full waveform modeling, *Eos Trans. AGU*, 80, F656-F657.
- Ketter, B. S., A. A. Velasco, G. E. Randall, and C. J. Ammon, 1999, Seismic velocity structure in western China from surface wave dispersion, *Seism. Res. Lett.*, 70, 254.
- Steck, L. K., A. A. Velasco, and A. H. Cogbill, 1999, Path corrections, kriging, and regional seismic event location in China, *Seism. Res. Lett.*, 70, 229.
- Hartse, H. E., and A. A. Velasco, 1999, An unusual seismic event from Qinghai Province, China, *Seism. Res. Lett.*, 70, 228.
- Taylor, S. R., A. A. Velasco, H. E. Hartse, and W. S. Phillips, 1999, Amplitude corrections for regional seismic discriminants, *Seism. Res. Lett.*, 70, 228.
- Phillips, W. S., H. E. Hartse, S. R. Taylor, and A. A. Velasco, 1999, Amplitude tomography for regional seismic verification, *Seism. Res. Lett.*, 70, 229.
- Velasco, A. A., K. Meares, S. L. Beck, C. J. Ammon, and M. Simmons, 1998, Broadband source modeling of the large intraplate 1997 Tibet (Ms=7.9) earthquake and the tectonic implications, *Eos Trans. AGU*, 79, F568-F569.
- Steck, L. K., A. H. Cogbill, and A. A. Velasco, 1998, The use of propagation path corrections to improve regional seismic event location in western China, *Eos Trans. AGU*, 79, F555.
- Brumbaugh, D., R. Le Bras, D. D. Wahl, and A. A. Velasco, and P. S. Dysart, 1998, Hydroacoustic signals from a ground truth data set of marine explosions, *Eos Trans. AGU*, 79, S211.
- Velasco, A. A., G. E. Randall, L. K. Steck, and A. H. Cogbill, 1998, Seismic event location in China: Sensitivity to modeling errors and travel-time residual bias, *Eos Trans. AGU*, 79, S210.
- Ammon, C. J., G. E. Randall, A. A. Velasco, and W. R. Walter, 1996, Exploring methods for inverting regional broad-band seismic waveforms for earth structure, *Eos Trans. AGU*, 77, F459.
- Goes, S., J. Ritsema, T. Lay, A. A. Velasco, and C. J. Ammon, 1994, The 1994 Fiji (Mw=7.6) and Bolivia (mw=8.3) events: body wave analysis of two large deep events, *Eos Trans. AGU*, 75, 468.
- Zandt, G., A. A. Velasco, and S. L. Beck, 1994, Central Andean lithospheric structure from slant stacking for teleseismic depth-phase precursors, *Eos Trans. AGU*, 75, 69.
- Lay, T., C. J. Ammon, and A. A. Velasco, 1994, Investigation of large earthquake rupture complexity using empirical Green's functions method, *Seism. Res. Lett.*, 65, 33.
- Lay, T., A. A. Velasco, and C. J. Ammon, 1993, Source time function complexity of the great 1989 Macquarie Ridge earthquake, *Eos Trans. AGU*, 74, 398.
- Velasco, A. A., C. J. Ammon, and T. Lay, 1993, Long-period source properties and rupture durations for recent large Central American earthquakes, *Eos Trans. AGU*, 74, 398.
- Lay, T., A. A. Velasco, and C. J. Ammon, 1993, Rapid determination of earthquake rupture complexity, *Seism. Res. Lett.*, 64, 30.
- Velasco, A. A., C. J. Ammon, and T. Lay, 1992, Fault identification and rupture directivity of the April 25, 1992, Cape Mendocino, California, earthquake, *Eos Trans. AGU*, 73, 383.
- Lay, T., A. A. Velasco, and C. J. Ammon, 1992, Rupture directivity of the June 28, 1992, Landers, California, earthquake, *Eos Trans. AGU*, 73, 505.
- Hagerty, M. T., S. Y. Schwartz, A. A. Velasco, and J. Zhang, 1992, Source parameters of the April 25 and 26, 1992, Cape Mendocino, California, earthquakes from inversion of surface and body waves, *Eos Trans. AGU*, 73, 505.
- Lay, T., A. A. Velasco, and J. Zhang, 1992, Long-period surface wave inversions: state of the art, *Seism. Res. Lett.*, 63, 64.
- Velasco, A. A., T. Lay, and J. Zhang, 1991, Long period source parameters of the April 22, 1991, Valle de la Estrella, Costa Rica, earthquake, *Eos Trans. AGU*, 72, 301.
- Schwartz, S. Y., A. A. Velasco, K. C. McNally, S. L. Beck, G. Zandt, and G. Simila, 1991, A portable aftershock deployment in the region of the April 22, 1991 Valle de la Estrella, Costa Rica, earthquake, *Eos Trans. AGU*, 72, 302.

- Velasco, A. A., J. Zhang, T. Lay, and T. C. Wallace, 1990, The Loma Prieta earthquake as a seismological benchmark: Compatibility of seismic inversions, *Eos Trans. AGU*, 71, 1454.
- McNally, K. C. and A. A. Velasco, 1990, Fault mechanics along the San Andreas fault: Does velocity structure affect faulting?, *Eos Trans. AGU*, 71, 1635, 1990.
- McNally, K. C., Y. Zhou, G. D. Nelson, and A. A. Velasco, 1990, Comparison of intermediate term precursors for two recent California earthquakes, *Seism. Res. Letters*, 61, 40.
- Velasco, A. A., K. C. McNally and G. D. Nelson, 1989, Fault mechanics and seismicity behavior along the San Andreas fault in the Bear Valley-Stone Canyon region, Central California, *Eos Trans. AGU*, 70, 1229.