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#### **Research Interests**

Seismology Upper mantle dynamics Seismic data management software Small-footprint seismic instrument design

#### **EDUCATION**

 Arizona State University	Seismology	2010+
-	(Ph.D. program,	
	Advisor: Matt Fouch)	
Arizona State University	Seismology (MS)	2010
New Mexico State University	Geology	2005
	(course work)	
North Carolina State University	Electrical & Computer	1983-1987
	Engineering	
	(course work)	
Rose-Hulman Institute of Technology	Electrical Engineering	1979
	(BSEE)	

#### **Employment**

2010-2011	Graduate Research Assistant (PhD), Arizona State University
2007-2008	Graduate Research Assistant (MS), Arizona State University
1999-present	President, Silverheels Software, Scottsdale, AZ
1994-1999	Independent Software Developer
1995-1996	Consultant, Financial Dynamics, Inc., Raleigh, NC
1986-1996	President, Network Group, Inc., Raleigh, NC
1989-1994	President, Environmental Sensing Devices, Inc., Raleigh, NC
1984-1986	Project Engineer, FiberLAN, Inc., Research Triangle Park, NC
1981-1984	Development Engineer, AMP, Inc., Winston-Salem, NC
1981	Engineer II, Teledyne Brown Engineering, Huntsville, AL
1979-1981	Instrumentation Engineer, Pratt & Whitney Aircraft Group, West Palm
	Beach, FL

# Field Experience

2006-2009 High Lava Plains Continental Dynamics seismic experiment (HLP)

# **PROFESSIONAL AFFILIATIONS**

American Geophysical Union Geological Society of America Seismological Society of America

### **PROFESSIONAL CREDENTIALS**

Professional Engineer (PE), registered in North Carolina and Louisiana (inactive) Microsoft Certified Systems Engineer Certified PowerBuilder Developer Professional

## **PATENTS**

US Patent #5,074,053, Magnetically Actuated Linear Position Sensor US Patent #4,477,132, Connector for Twin Axial Cable

## Honors & Awards

ASU SESE Merit Award, 2010

Best Student Paper Award Honorable Mention, EarthScope National Meeting, 2009

## **PUBLICATIONS**

West, J.D., M.J. Fouch, J.B. Roth, and L.T. Elkins-Tanton, Vertical mantle flow associated with a lithospheric drip beneath the Great Basin, *Nature Geoscience*, **2**, 439 - 444 (2009) doi:10.1038/ngeo526.

### **PRESENTATIONS**

**West, J.D.**, M.J. Fouch, and J.R. Arrowsmith, EMERALD: A Flexible Framework for Managing Seismic Data, AGU Fall Meeting, 2010.

Holt, W. E., Fouch, M. J., Flesch, L. M., Klein, E. C., **West, J. D.**, Short-Term versus Steady-State Crustal Deformation: Are Some Anomalies Driven by Transient Coupling with Mantle Flow?, AGU Fall Meeting, 2010.

**West, J.D.**, M.J. Fouch, and J.R. Arrowsmith, EMERALD: Managing the Explosion in Seismic Data, IRIS Annual Workshop, 2010.

West, J.D., M.J. Fouch, and J.R. Arrowsmith, EMERALD: Software for Managing Large Seismic Data Sets, SSA Annual Meeting, 2010.

Fouch, M.J., and **J.D. West**, The mantle flow field beneath western North America, SSA Annual Meeting, 2010.

West, J.D., M.J. Fouch, J.B. Roth, and L.T. Elkins-Tanton, The Great Basin lithospheric drip: detection of vertical mantle flow, *Eos Trans. AGU*, *90*(52), Fall Meet. Suppl., Abstract U33C-05, 2009, (invited talk).

West, J.D., M.J. Fouch, and J.R. Arrowsmith, EMERALD: Coping with the Explosion of Seismic Data, *Eos Trans. AGU*, *90*(52), Fall Meet. Suppl., Abstract U51C-0028, 2009.

Fouch, M.J., W.E. Holt, B.P. Wernicke, J.L. Davis, **J.D. West**, E.C. Klein, L.M. Flesch, E. Chong, Dynamics of Great Basin Crust-Mantle Coupling, *Eos Trans. AGU*, *90*(52), Fall Meet. Suppl., Abstract U51C-0028, 2009.

Fouch, M.J., and **J.D. West**, Plate tectonics and the mantle flow field beneath western North America, EarthScope National Meeting, 2009.

**West, J.D**., M.J. Fouch, J.B. Roth, and L.T. Elkins-Tanton, Vertical mantle flow associated with a lithospheric drip beneath the Great Basin, EarthScope National Meeting, 2009, (student poster honorable mention).

Holt, W. E., M.J. Fouch, E. Klein, **J.D. West**, and L.M. Flesch, GPS Measured Contraction in Nevada in the Vicinity of the Great Basin Mantle Drip, EarthScope National Meeting, 2009. Zandt, G., E. Humphreys, M.J. Fouch, and **J.D. West**, The role of toroidal mantle flow in the tectonic evolution of the western US: Emerging evidence from Earthscope, EarthScope National Meeting, 2009.

James, D.E., M.J. Fouch, **J.D. West**, and J. Johnson, High Lava Plains Seismic Experiment: Lessons from a major broadband deployment, SSA National Meeting, 2009.

Beghein, C., A. Snoke, M.J. Fouch, and **J.D. West**, Azimuthal anisotropy from surface waves in the Great Basin, *Eos Trans. AGU*, **89(53)**, Fall Meet. Suppl., Abstract DI13A-1676, 2008.

Fouch, M.J., and **J.D. West**, High-resolution imaging of the mantle flow field beneath western North America, *Eos Trans. AGU*, **89(53)**, Fall Meet. Suppl., Abstract U53C-06, 2008.

Fouch, M.J., F-C. Lin, M.H. Ritzwoller, and **J.D. West**, Seismic azimuthal anisotropy beneath the western United States from ambient noise tomography and shear wave splitting, *Eos Trans. AGU*, **89(53)**, Fall Meet. Suppl., Abstract S32B-01, 2008.

West, J.D., M.J. Fouch, J.B. Roth, and L. Elkins-Tanton, Geophysical detection of lithospheric delamination beneath the central Great Basin, United States, IRIS National Meeting, Stevenson, WA, 2008.

West, J.D., and M.J. Fouch, Shear-wave splitting in the Great Basin, *Eos Trans. AGU*, **88(52)**, Fall Meet. Suppl., Abstract S41B-0556, 2007.

West, J.D., and M.J. Fouch, Shear-wave splitting in the Great Basin, EarthScope National Meeting, Monterey, CA, 2007.

### MANUSCRIPTS IN PREPARATION

West, J.D., M.J. Fouch, and J.R. Arrowsmith, The EMERALD framework for seismic event processing, in preparation for Computers & Geosciences, 2011.

Fouch, M.J., and **J.D. West**, Mantle dynamics beneath the western United States, in preparation, 2011.

Holt, W., M.J. Fouch, E. Klein, and **J.D. West**, GPS measured contraction in Nevada above the Great Basin mantle drip, in preparation, 2011.

# **SCIENTIFIC COMMUNITY ACTIVITIES**

Reviewed manuscript for Geology magazine, 2010. Reviewed proposal for National Science Foundation, 2010. Member of Nature Reader Panel, 2010-2011. Member of USArray Transportable Array Working Group, 2011.