

CONTACT INFORMATION

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SUMMARY

Ph.D. educated structural geologist; extensive academic research and industry consulting experience, as well as college level teaching of undergraduate and graduate courses; U.S - German education, specializing in quantitative 3d model building and validation, regional synthesis and seismic interpretation; well versed in standard petroleum industry interpretation and modelling software; GIS (Arc, gmt, qgis, gdal); programming (unix tool box, python, javascript, tel);

PROFESSIONAL EXPERIENCE

2007-current: Senior Research Associate at Department of Earth & Planetary Sciences, Harvard University, Cambridge, MA, U.S.A.

- co-taught graduate level course Structural Geology
- improved course content, oversaw multiple TAs and taught undergraduate section as head teaching assistant for large (>150 students) general education course on Natural Hazards and GIS
- substantially improved detailed crustal velocity model of Southern California; provided support for applications using this model
- involved in multiple state-wide re-evaluations of seismic risk by the State of California.
- investigated mechanics of low-relief detachment folding in the Sichuan Basin, China
- advised on development of Community Fault and Velocity Models of the Sichuan Basin, China
- advised on implementation of substantial upgrade to visualization facility working with a heterogeneous group of stakeholders and implementors
- provided consulting for petroleum industry

2001-2007: Research Associate at Earth & Planetary Sciences, Harvard University, Cambridge, MA, U.S.A.

- co-lead interdisciplinary and cross-institutional multi-year research effort into large scale 3d fault structure of southern California.
- developed 3d characterisation of faults in Los Angeles Basin, California.

ACADEMIC DEGREES

Ph.D., FU Berlin, 1999

M.S., SUNY Albany University, 1994

POSITIONS HELD

2001-current: Research Associate at Earth & Planetary Sciences, Harvard University, Cambridge, MA, U.S.A.

1999-2001: Post-Doctoral Fellow at Earth & Planetary Sciences, Harvard University, Cambridge, MA, U.S.A.

1995-1999: Ph.D. student at the GeoForschungsZentrum Potsdam, Germany

1991-1994: Teaching Assistant at the department of Earth Sciences of the University at Albany, NY, U.S.A.

PUBLICATIONS

Tape, C., Plesch, A., and Shaw, John H. and Gilbert, H., 2012, Estimating a Continuous Moho Surface for the California Unified Velocity Model, *Seismological Research Letters* Volume 83, Number 4, pp. 728-735. doi: 10.1785/0220110118

Nicholson, C., Plesch, A., Shaw, J., and Hauksson, E., 2012, Upgrades and Improvements to the SCEC Community Fault Model: Increasing 3D fault complexity and Compliance With Surface And Subsurface Data, SCEC Annual Meeting, Proceedings and Abstracts, v. XXII, p. 125.

Jordan, TH., Plesch, A., and Shaw, JH., 2012, Stochastic Descriptions of Basin Velocity Structure from Analyses of Sonic Logs and the SCEC Community Velocity Model (CVM-H), SCEC Annual Meeting, Proceedings and Abstracts, v. XXII, p. 112.

Tape C., E. Casarotti, A. Plesch, and J.H. Shaw, 2011, Seismogram-Based Assessment Of The Southern California Seismic Velocity Model CVM-H 11.9 With 234 Reference Earthquakes, SCEC Annual Meeting, Proceedings and Abstracts, v. XXI, p. 241.

Plesch A., C. Tape, R. Graves, J.H. Shaw, P. Small, and G. Ely, 2011, Updates for the CVM-H Including New Representations of the Offshore Santa Maria And San Bernardino Basins And a New Moho Surface, SCEC Annual Meeting, Proceedings and Abstracts, v. XXI, p. 217.

Nicholson C., A. Plesch, and J.H. Shaw, 2011, CFM V.4.0: Continued Upgrades And Improvements To The SCEC Community Fault Model And Its Associated Fault Database, SCEC Annual Meeting, Proceedings and Abstracts, v. XXI, p. 211.

Graves R.W., A. Plesch, and J. Shaw, 2011, Testing SCEC 3d Seismic Velocity Models In The San Bernardino And Los Angeles Basin Regions, SCEC Annual Meeting, Proceedings and Abstracts, v. XXI, p. 171.

Tape C., A. Plesch, and J.H. Shaw, 2011, Expansion Of CVM-H 6.2 To Offshore And Central California, SCEC Annual Meeting, Proceedings and Abstracts, v. XX, p. 282.

Tape C., Q. Liu, J. Tromp, A. Plesch, and J. Shaw, 2011, Time Reversal Seismic Imaging Using Laterally Reflected Surface Waves In Southern California, SCEC Annual Meeting, Proceedings and Abstracts, v. XX, p. 282.

- Small P., P. Maechling, G. Ely, K. Olsen, K. Withers, R. Graves, T. Jordan, A. Plesch, and J. Shaw, 2011, SCEC CVM-Toolkit (CVM-T) -- High Performance Meshing Tools For SCEC Community Velocity Models, SCEC Annual Meeting, Proceedings and Abstracts, v. XX, p. 276.
- Plesch, A. and J.H. Shaw, 2010, Statewide Community Fault Model, SCEC Annual Meeting, Proceedings and Abstracts, v. XX, p. 262.
- Nicholson, C., Hauksson, E., and Plesch, A. , 2010, Revised 3d Fault Models for the Southern San Andreas Fault System Extending From San Gorgonio Pass to the Salton Sea. Abstracts with Programs - Geological Society of America, 42(4), p. 69
- Plesch A., Nicholson, C., Shaw, J.H., Hauksson, E., and Shearer, P.M., 2010, New Developments For The SCEC Community Fault Model And Its Associated Fault Database, SCEC Annual Meeting, Proceedings and Abstracts, v. XX, p. 261.
- Nicholson C, Hauksson E, Plesch A., and Shearer PM, 2009, Revised 3d Fault Models For CFM Along The Southern San Andreas And Elsinore-Earthquake Valley Fault Systems, SCEC Annual Meeting, Proceedings and Abstracts, v. XIX, p. 264.
- Plesch A., Tape C., Shaw J., and members of the USR working group, 2009, CVM-H 6.0: Inversion Integration, The San Joaquin Valley And Other Advances in the Community Velocity Model, SCEC Annual Meeting, Proceedings and Abstracts, v. XIX, p. 260.
- Casarotti, E., Magnoni, F., Le Goff, N., Martin, R., Komatitsch, D., Plesch, A., Nissen-Meyer, T., Luo, Y., Tromp, J. (2008). Mesh generation for short-period seismic wave propagation based upon the spectral-element method; southern california. EOS, Transactions, American Geophysical Union, 89(53), 23-1875.
- Benesh, N., Plesch, A., and Shaw J., 2008, Investigating the Mechanics of Fault-Bend Folding with the Discrete Element Method, *Abstracts with Programs - Geological Society of America*, Vol. 40, No. 6.
- Plesch, A., Benesh, N., Guzowski, C., and Shaw, J., 2008, Evaluating 3D Finite Element–Based Structural Restoration Methods through Applications to Discrete Element Forward Models and Natural Examples, *Abstracts with Programs - Geological Society of America*, Vol. 40, No. 6.
- Plesch, A., Shaw, J., Hauksson, E., and Tanimoto, T., 2008, SCEC community velocity model (CVM-H 5.5), *2008 SCEC Annual Meeting, Proceedings and Abstracts*, v. XVIII, p. 142.
- Nicholson, C., Hauksson, E., Plesch, A., and Shearer, P., 2008, Resolving 3D fault geometry at depth along active strike-slip faults: simple or complex, *2008 SCEC Annual Meeting, Proceedings and Abstracts*, v. XVIII, p. 143.
- Nicholson, C., Plesch, A., Lin, G., Shearer, P., and Hauksson, E., 2007, Evaluating SCEC 3D Community Fault Model v3.0 and Regional Seismicity Catalogs, *2007 SCEC Annual Meeting, Proceedings and Abstracts*, v. XVII, p. 149.
- Plesch, A., Suess, P., Munster, J., Shaw, J., Hauksson, E., Tanimoto, T., and members of the USR Working Group, 2007, A new velocity model for southern California: CVM-H 5.0, *2007 SCEC Annual Meeting, Proceedings and Abstracts*, v. XVII, p. 159.
- Plesch A, Shaw J H, and Kronman, D, 2006, Mechanics of low-relief detachment folding in the Bajiaochang field, Sichuan Basin, China, *Bulletin of the American Association of Petroleum Geologists*, accepted for publication.

- Plesch, A, Shaw, J H, and SCEC USR focus group members, 2006, The Community Fault Model (CFM) Version 3.0 and related fault models for Southern California, *2006 SCEC Annual Meeting, Proceedings and Abstracts*, v. XVI, p. 144.
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- Plesch, A, Shaw, J H, and SCEC USR focus group members, 2005, The Community Fault Model Version 2.5 and Associated Models, *2005 SCEC Annual Meeting, Proceedings and Abstracts*, v. XV, p.168.
- Plesch, A, Shaw, J H, SCEC USR focus group members, 2004, Community Fault Model (CFM) and Community Block Model (CBM) for Southern California, *2004 SCEC Annual Meeting, Proceedings and Abstracts*, v. XIV, p.144.
- Plesch, A, Shaw, J H, SCEC CFM Working Group, 2003, SCEC CFM - A WWW Accessible Community Fault Model for Southern California, *Eos Transactions, American Geophysical Union*, Fall meeting, Suppl., v. 84, no. 46, F1004.
- Plesch, A, Shaw, J H, SCEC CFM Working Group, 2003, CFM – A Community Fault Model for Southern California, *2003 SCEC Annual Meeting, Proceedings and Abstracts*, v. XIII, p.128.
- Plesch, A, Shaw, J H, SCEC CFM Working Group, 2003, SCEC 3D community fault model for southern California, *Eos Transactions, American Geophysical Union*, Fall meeting, Suppl., v. 83, no. 47, p. F1065.
- Shaw, J H; Plesch, A; Dolan, J F; Pratt, T L; Fiore, P, 2002, Puente Hills Blind-thrust System, Los Angeles, California, *Bulletin of the Seismological Society of America*, v. 92, no. 8, p. 2946-2960.
- Plesch, A, Shaw, J H, 2002 SCEC CFM-A Working Group, 3-D Fault Model (CFM-A) for Southern California, *2002 SCEC Annual Meeting, Proceedings and Abstracts*, p.113.
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- Plesch, A, Shaw, J H , 2001, Prototype 3-D Fault Model for the Los Angeles Basin, CA, *2001 SCEC Annual Meeting, Proceedings and Abstracts*, p.104.
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meeting, Suppl., v. 81, no. 48, p. F850.

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Plesch, A, Shaw, J H, 2000, Seismic reflection images and 3D structure model of blind-thrust and strike-slip faults in the Los Angeles Basin, *2000 SCEC Annual Meeting, Proceedings and Abstracts*, p.88.