BRIDGET R. SMITH-KONTER*

NASA, Jet Propulsion Laboratory
California Institute of Technology
M/S 183-501, Pasadena, California 91109
Tel: (818) 354-2076 Email: Bridget.R.Konter@jpl.nasa.gov
Website: http://topex.ucsd.edu/bsmith

*Formerly Smith

EDUCATION

Ph.D.	Geophysics (Earth Science), Scripps Institution of Oceanography University of California, San Diego	1999-2005
B.S., *magna cum laude*	Major Physics & Astronomy, Minor Mathematics, Northern Arizona University	1995-1999

DISSERTATION

Title: Three-dimensional Deformation and Stress Models: Exploring One-Thousand Years of Earthquake History Along the San Andreas Fault System
Dissertation Advisor: David T. Sandwell

RESEARCH EXPERIENCE

Postdoctoral Researcher, NASA Jet Propulsion Laboratory, Caltech, 2007
- Modeling tidally-driven 3-D viscoelastic stress accumulation and failure on fractures of Europa and Enceladus

Postdoctoral Researcher, Scripps Institution of Oceanography, IGPP, UCSD, 2005-2006
- Vertical constraints on plate boundary motion from California coastal tide gauge records
- Refinement of 3D semi-analytic crustal deformation model of San Andreas Fault System
- 1000-year deformation and stress models of the San Andreas Fault System constrained by geologic, geodetic, and paleoseismic data

Graduate Student Researcher, Scripps Institution of Oceanography, IGPP, UCSD, 1999-2005
- Lithospheric deformation and Coulomb stress evolution of the San Andreas Fault System
- Development, verification, & application of 3D elastic and viscoelastic body force model
- Shuttle Radar Topography Mission Data resolution analysis and application

Undergraduate Research Assistant, NASA Ames, NASA Astrobiology Academy, 1999
- Development of *Terraforming Mars Calculator*, a program that used biological constraints to calculate development and statistics of a terraformed Martian planet

Undergraduate Research Assistant, Stanford Linear Accelerator Center, Stanford Univ, 1998
- Monte Carlo simulations of BaBAR drift chamber

Undergraduate Research Assistant, NASA Space Grant, Lowell Observatory, 1997-1999
- Modeling the rotational morphology of gas and dust jets in Comet Hale-Bopp
- Morphology of HCN and CN in Comet Hale-Bopp

TEACHING EXPERIENCE

Instructor	Earthquakes in Action (COSMOS)	UCSD	Summer	2006
Instructor	The Planets	UCSD	Spring	2006
Instructor	Frontiers in Plate Boundary Deformation	UCSD	Fall	2005
Instructor	Earthquakes in Action (COSMOS)	UCSD	Summer	2005
Instructor	The Planets	UCSD	Spring	2005
Teaching Assistant	The Atmosphere	UCSD	Winter	2004
Teaching Assistant	The Atmosphere	UCSD	Winter	2003
Teaching Assistant	The Atmosphere	UCSD	Winter	2002
Teaching Assistant	Geodynamics of the Terrestrial Planets	UCSD	Fall	2002
Teaching Assistant	Geodynamics of the Terrestrial Planets	UCSD	Fall	2001
Teaching Assistant	Introduction to Geophysics	UCSD	Spring	2000
Teaching Assistant	Physics III	NAU	Spring	1998
Teaching Assistant	Physics III	NAU	Spring	1999

SELECTED AWARDS AND FELLOWSHIPS

SIO Outstanding Undergraduate Teaching Award Nominee, SIO	2006
SIO Outstanding Undergraduate Teaching Award Recipient, SIO	2005
Outstanding Student Paper Award, AGU Fall Meeting, Geodesy	2004
1st Place, SIO Visualization Contest	2004
Edward Frieman Director's Prize for Outstanding Graduate Student Research, SIO	2003
Outstanding Graduating Senior in the Arts and Sciences, NAU	1999
Physics and Astronomy Chair's Scholar, NAU	1998-1999
Dean's List, NAU	1995-1999
NASA Earth System Science Fellow	2003-2005
National Science Foundation Fellow	1999-2002
NASA Space Grant Scholarship	1998-1999

OUTREACH AND SYNERGISTIC ACTIVITIES

1. Development of 3-D semi-analytic fault model, made freely available for application of earthquake deformation and stress analyses (2001-present).
2. Development and distribution of new earthquake-related teaching tools (K-12 classroom demonstrations, lab exercises, and activity sheets) for SIO Visualization Center Earthquake Education Workshop (2006).
3. Development and implementation of *Earthquakes in Action*, a high school summer enrichment course on seismology, remote sensing, and earth science topics (2005-2006).
4. Development and implementation of new teaching tools for *The Planets*, a large introductory UCSD Earth Science course, using Hyper-Interacting Teaching Technology (H-ITT) (2005-2006).
5. Graduate mentor for *Enduring Resources for Earth Science Education (ERESE)* Workshop (2004)
6. Participation and mentoring for Summer Training Academy for Research in the Sciences (STARS), a UCSD summer program for underrepresented undergraduate students (2002-2003).

ACADEMIC SERVICE AND ACTIVITIES

Co-Organizer	SIO Earthquake Education Workshop	2006
Contributor	SIO Earthquake Education Workshop	2005
Contributor	Earthquake! S. Birch Aquarium Exhibit	2005
SIO Student Body Chair	Students@SIO	2003-2004
Committee Chair	SIO Outstanding Teaching Award Committee	2003-2004
SIO Student Body Vice-Chair	Students@SIO	2002-2003
SIO Geophysics Representative	Students@SIO	2001-2002
Program Staff Manager	NASA Ames Astrobiology Academy	2000

PROFESSIONAL MEMBERSHIPS

American Geophysical Society	1999 -
Golden Key National Honor Society	1997-1999
Phi Kappa Phi National Honor Society	1997-1999

FIELD EXPERIENCE AND CRUISE PARTICIPATION

1. Geodetic mapping survey of the Ancient Lake Cahuilla shoreline, Salton Trough (K. Luttrell, Winter 2006)
2. Geodetic and photographic survey of permanent scatterers in the Coachella Valley (S. Lyons, Fall 2002)
3. Geodetic survey of Mexicali Valley, Cerro Prieto fault, and Laguna Salada fault (S. Lyons, Spring 2001)
4. Southern Mid-Atlantic Ridge Transit, R/V Nathaniel B. Palmer (J. Stock & S. Cande, Spring 2001)
5. Rapid-static GPS survey of Imperial Valley geodetic network (S. Lyons, Spring 2000)

INVITED PRESENTATIONS

1. *Historical Deformation and Stress Evolution of the San Andreas Fault System*, Washington State University, March 2007.
2. *Stress Evolution of the San Andreas Fault System*, University of Texas, El Paso, March 2007.
3. *Constructing and Constraining Time-Dependent Earthquake Cycle Models: Integrating 1000 Years of Seismic Activity and Modern Deformation Measurements*, University of California, Riverside, February 2007.
4. *Historical Stress Evolution of the San Andreas Fault System*, University of North Carolina, Chapel Hill, February 2007.
5. *Historical Evolution of Deformation and Stress of the San Andreas Fault System*, Harvey Mudd College, December 2006.
6. *Stress Evolution of the San Andreas Fault System*, Jet Propulsion Laboratory, November 2006.
7. *Modeling the Evolution of Stress of the San Andreas Fault System*, University of Southern California, October 2006.
8. *Earthquakes 101*, Earthquake Education Workshop, Scripps Institution of Oceanography, July 2006.

9. *1000 Years of Earthquake History Along the San Andreas Fault System*, Jeffrey B. Graham Perspectives Lecture on Ocean Science, Birch Aquarium at Scripps, January 2006.
10. *Historical Deformation Models of the San Andreas Fault System: Integrating 1000 Years of Earthquake Activity with Modern Deformation Measurements*, American Geophysical Union Spring Meeting, *Invited*, May 2005.
11. *A 3-D Semi-analytic Viscoelastic Model of the San Andreas Fault System: A 1000-year Perspective of the Earthquake Cycle*, American Geophysical Union Fall Meeting, *Invited*, December 2004.
12. *Variations in Coulomb Stress Accumulation Along the San Andreas Fault System*, American Geophysical Union Fall Meeting, *Invited*, December 2001.

PUBLICATIONS*

*Note: B. Smith is now B. Smith-Konter (name change by marriage)

1. Wdowinski, S., B. Smith, Y. Bock, and D. T. Sandwell, Spatial characterization of the interseismic velocity field in southern California, *Geology*, doi:10.1130/G2938A.1, 2007.
2. Smith, B., and D. T. Sandwell, A Model of the Earthquake Cycle Along the San Andreas Fault System for the Past 1000 Years, *J. Geophys. Res.*, 111, doi:10.1029/2005JB003703, 2006.
3. Luttrell, K., D.T. Sandwell, B. Smith, B. Bills, and Y. Bock, Modulation of the Earthquake Cycle at the Southern San Andreas Fault by Lake Loading, submitted to *J. Geophys. Res.*, 2006.
4. Taesombut, N., X. Wu, A. Chien, A. Nayak, B. Smith, D. Kilb, T. Im, D. Samilo, G. Kent, and J. Orcutt, Collaborative Data Visualization for Earth Sciences with the OptIPuter, *Journal of Future Generation Computing System*, 22, doi:10.1016/j.future.2006.03.023, 2006.
5. Sandwell, D. T., and B. Smith, California Earthquakes, to be included in: *Our Changing Planet: A view from Space*, editors, King, Partington and Williams, in press, 2006.
6. Smith, B., and D. T. Sandwell, A 3-D Semi-Analytic Viscoelastic Model for Time-Dependent Analysis of the Earthquake cycle, *J. Geophys. Res.*, doi:10.1029/2004JB003185, 2004.
7. Smith, B., and D.T. Sandwell, Coulomb Stress Along the San Andreas Fault System, *J. Geophys. Res*, 108 (B6), doi:10.1029/2002JB002136, 2003b.
8. Smith, B., and D.T. Sandwell, Accuracy and Resolution of Shuttle Radar Topography Mission Data, *Geophys. Res. Lett.*, 30 (9), doi:10.1029/2002GL016643, 2003a.
9. Sandwell, D.T., L. Sichiox, and B. Smith, The 1999 Hector Mine Earthquake, Southern California: Vector near-field displacements from ERS InSAR, *Bull. Seismo. Soc. Am.*, 92, 1341-1354, 2002.
10. Woodney, L.M., M.F.A'Hearn, D.G. Schleicher, T.L. Farnham, J.P. McMullin, M.C.H. Wright, J.M. Veal, L. E. Snyder, I. De Pater, J. R. Forster, P. Palmer, Y. J.Kuan,W. R. Williams, C. C. Cheung, and B. Smith, Morphology of HCN and CN in Comet Hale-Bopp (1995 O1), *Icarus* 157, 193, 2002.
11. Schleicher, D.G., T.L. Farnham, W.R. Williams, B. Smith, and C.C. Cheung, Modeling the Rotational Morphology of Gas and Dust Jets in Comet Hale-Bopp (1995 O1) At Perihelion, *Bull. Am. Astron. Soc.*, 31, 1128, 1999.

SELECTED ABSTRACTS

1. Smith-Konter, B. and D.T. Sandwell, Are Geodetically and Geologically Constrained Vertical Deformation Models Compatible With the 100-Year Coastal Tide Gauge Record in California?, *EOS Trans*. AGU, Fall Meet. Suppl., 87(52), G21A-08, 2006.
2. Smith-Konter, B., A. Jacobs, K. Lawrence, and D. Kilb, Earthquakes in Action – Incorporating Multimedia, Internet Resources, Large-scale Seismic Data, and 3-D Visualizations into Innovative Activities and Research Projects for Today's High School Students, *EOS Trans*. AGU, Fall Meet. Suppl., 87(52), ED53C-06, 2006.
3. Luttrell, K., D. Sandwell, B. Smith-Konter, and Y. Bock, Modulation of the Earthquake Cycle at the Southern San Andreas Fault by Lake Loading, *EOS Trans*. AGU, Fall Meet. Suppl., 87(52), G43B-0996, 2006.
4. Smith-Konter, B. and D.T. Sandwell, 3D Modeling of Historical Surface Deformation and Stress Accumulation Along the San Andreas and San Jacinto Faults in Southern California, SCEC Annual Meeting, 2006.
5. Luttrell, K, D.T. Sandwell, B. Smith-Konter, B. Bills, and Y. Bock, Modulation of the Earthquake Cycle at the Southern San Andreas Fault by Lake Loading, SCEC Annual Meeting, 2006.
6. Kilb, D., A. Nayak, and B. Smith, Scientific Visualization and Collaboration Tools Enhance Understanding of Seismological Data, SSA Meeting, 2006.
7. Wdowinski, S., B. Smith, Y. Bock, and D. Sandwell, Diffuse Interseismic Deformation Across the North America-Pacific Plate Boundary: Observations and Modeling Results, *EOS Trans*. AGU, Fall Meet. Suppl., U43B-0832, 2005.
8. Smith, B.R., and D.T. Sandwell, Is the Elastic Half-space Dislocation Model Appropriate for Estimating Far-field Velocity, *EOS Trans*. AGU, Fall Meet. Suppl., G53A-0864, 2005.
9. Lutrell, K., D.T. Sandwell, and B.R. Smith, Slip Rate Modulation Caused by Ocean Loading on Glacial Timescales, *EOS Trans. AGU,* Fall Meet. Suppl., G53A-0865, 2005.
10. Smith, B. R., and D. T. Sandwell, Historical Deformation Models of the San Andreas Fault System: Integrating 1000 Years of Earthquake Activity with Modern Deformation Measurements, *EOS Trans*. AGU, Spring Meet. Suppl. 86(18), Jt. Assem. Suppl, G21A-05, 2005. *Invited*
11. Smith, B.R., and D.T. Sandwell, A 3-D Semi-Analytic Viscoelastic Model of the San Andreas Fault System: A 1000-year Perspective of the Earthquake Cycle, *EOS Trans. AGU,* Fall Meet. Suppl., *85(47), G14A-02*, 2004.
12. Lutrell, K., B.R. Smith, D.T. Sandwell, and Y. Fialko, Models of Afterslip and Viscoelastic Response following the Landers and Hector Mine Ruptures, *EOS Trans. AGU,* Fall Meet. Suppl., *85(47), G13A-0794*, 2004.
13. Smith, B.R., and D.T. Sandwell, A 3-D Semi-Analytic Viscoelastic Model for Time-Dependent Analyses of the Earthquake Cycle: A 1000-year Perspective of the San Andreas Fault System, SCEC Annual Meeting, 2004.
14. Smith, B.R., and D.T. Sandwell, Time-Dependent Coulomb Stress Along the San Andreas Fault System, *EOS Trans. AGU*, *84*(46), Fall Meet. Suppl., G31B-0708, 2003.
15. Smith, B.R., and D.T. Sandwell, A 4-D Semi-Analytic Model of Stress Evolution Along the San Andreas Fault System, SCEC Annual Meeting, 2003.
16. Smith, B.R., and D.T. Sandwell, Magnitude of Deviatoric Stress Along the San Andreas Fault, *EOS Trans. AGU, Spring Meet. Suppl.*, EAE03-A-14336, 2003.

17. Smith, B.R., D.T. Sandwell, and B. Bills, Estimating SRTM Resolution for Applications of Fault Offset Recovery, *EOS Trans. AGU*, *83*(47), Fall Meet. Suppl., T71E-1221, 2002.
18. Sandwell, D.T., and B.R. Smith, Variations in Normal Stress Along the San Andreas Fault due to Isostatically Compensated Topography, *EOS Trans. AGU*, *82*(47), Fall Meet. Suppl., G52A-10, 2001.
19. Smith, B. R., and D. T. Sandwell, Variations in Coulomb Stress Accumulation Along the San Andreas Fault System, *EOS Trans. AGU*, *82*(47), Fall Meet. Suppl., G52A-12, 2001. *Invited*
20. Sandwell, D.T., L. Sichiox, and B.R. Smith, Hector Mine Earthquake: Vector Coseismic Displacement from ERS InSAR, *EOS Trans. AGU*, *81*(48), Fall Meet. Suppl., S61A-02, 2000.