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## **EDUCATION**

2007: PhD, Geophysics, University of Colorado at Boulder, Cumulative GPA 3.97/4.0, Graduate advisor: Anne Sheehan. Thesis title: Deformation and seismic structure of the upper lithosphere in the Himalayan collision zone.

2001: Bachelor of Engineering, Universidad Nacional de Colombia, Geological Engineering GPA 4.4/5.0

## **EMPLOYMENT**

August 2007 – present: Research Associate, CIRES (Cooperative Institute for Research in Environmental Sciences). Main advisors: Anne Sheehan and Craig Jones.

2002-2007: University of Colorado at Boulder, Graduate Research Assistant, Nepal-Tibet Passcal Seismic Experiment.

2005: University of Colorado at Boulder, Graduate Teaching Assistant, Field Geophysics.

2002-2004: University of Colorado at Boulder, Graduate Teaching Assistant, Introduction to Physical Geology Laboratory.

2001-2002: Universidad Nacional de Colombia, Research Assistant, Seismic Microzonation of the Aburra Valley, Medellín, Colombia.

1998-2000: Universidad Nacional de Colombia, Teaching Assistant, Physics I, Physics III, Mineralogy and Petrology.

## **PUBLICATIONS**

De la Torre, T., Monsalve, G., Sheehan, A.F., Sapkota, S., Wu, F., Earthquake processes of the Himalayan Collision Zone in Eastern Nepal and the Southern Tibetan Plateau, *Geophysical Journal International*, 171, p. 718-738, 2007.

Monsalve, G., Sheehan, A., Pandey, M.R., Rajaure, S., Wu, F., Seismicity and 1-D velocity structure of the Himalayan Collision zone: Earthquakes in the crust and upper mantle, *Journal of Geophysical Research*, 111, B10301, doi: 10.1029/2005JB004062, 2006.

De la Torre, T., Monsalve, G., Sheehan, A., Rowe, C., Begnaud, M., Ground Truth Hypocenters and 3D crustal velocity structure in Central Asia from in-country networks, , *Proceedings of the 28th Seismic Research Review: Trends in Nuclear Explosion Monitoring (Volume I)*, LA-UR-06-5471, p. 377-386, Orlando, Florida, September 19-21, 2006.

Schulte-Pelkum, V., Monsalve, G., Sheehan, A., Bilham, R., Wu, F., Imaging the Indian subcontinent beneath the Himalayas, *Nature*, 435, 1222-1225, 2005.

Monsalve, G., Sheehan, A., de la Torre, T., Rowe, C., Begnaud, M., Ground truth in Central Asia from in-country networks, *Proceedings of the 27th Seismic Research Review: Trends in Nuclear Explosion Monitoring (Volume I)*, LA-UR-05-6407, p. 372-382, Palm Springs, California, September 20-22, 2005.

Sheehan, A.F., Monsalve, G., Rowe, C., Begnaud, M., Ground Truth in Central Asia from In-Country Networks, *Proceedings of the 26th Seismic Research Review: Trends in Nuclear Explosion Monitoring (Volume I)* LA-UR-04-5801, p. 338-345, Orlando, Florida, September 21-23, 2004.

Chica, A., Buitrago, J.A., Monsalve, G., Morales, J.E., Codificación sismológica de un segmento de la falla Cauca-Almaguer y sus aplicaciones en el departamento de Antioquia. *Boletín de la Academia Colombiana de Ciencias Exactas y Naturales*. Vol. 27, No. 102., pp. 53-69, 2003.

### **In preparation:**

Monsalve, G., Sheehan, A., Rowe, C., Seismic structure of the crust and the upper mantle beneath the Himalayas: Evidence for eclogitization of lower crustal rocks in the Indian Plate. *Submitted to Journal of Geophysical Research (second round of review)*.

Monsalve, G., Viviano, C., Sheehan, A., An assessment of Colorado seismicity from a statewide temporary seismic station network. *Submitted to Seismological Research Letters (in review)*.

## ABSTRACTS

Monsalve, G., McGovern, P., Sheehan, A., Upper mantle earthquakes in the Himalayan collision: Flexure of the continental lithosphere?, *Eos transactions AGU* 88(52), Fall Meeting, Abstract T22C-08, San Francisco, California, 2007.

Monsalve, G., Schulte-Pelkum, V., Sheehan, A., Crustal Structure and Shear Zones beneath the Himalayas and Southern Tibet, *Eos transactions AGU* 87(52), Fall Meeting, Abstract T52B-01, San Francisco, California, 2006.

Monsalve, G., Sheehan, A., Rowe, C., Seismicity and 3-D velocity structure of the Himalayan Collision Zone: Lateral Variations in Lithospheric Structure, *Eos Transactions AGU* 86(18), Fall Meeting, Abstract T52A-07, San Francisco, California, 2005.

Viviano, C., Monsalve, G., Sheehan, A., Bensen, G., Determining Rocky Mountain Front Seismicity: A Colorado Case Study, *Eos Transactions AGU* 86(18), Fall Meeting, Abstract S51B-1013, San Francisco, California, 2005.

De la Torre, T., Monsalve, G., Sheehan, A., Focal mechanisms from moment tensor solutions and first-motion polarities of shallow to deep local earthquakes in Eastern Nepal and Southern Tibet, paper presented at *SSA Annual Meeting*, Incline Village, Nevada, 2005

Monsalve, G., Sheehan, A., Schulte-Pelkum, V., Wu, F., Rowe, C., Seismicity and Velocity Structure of the Himalayan Collision Zone: Mantle Earthquakes and Fast Velocity Zone in the Lower Crust of Southern Tibet, *Eos Transactions AGU* 85(47), Fall Meeting, Abstract S13B-1064, San Francisco, California, 2004.

De La Torre, T.L., Sheehan, A.F., Monsalve, G., Wu, F., Focal Mechanisms from Moment Tensor Solutions and First Motion Polarities of Shallow to Deep Local Earthquakes in Eastern Nepal and Southern Tibet, *Eos Transactions AGU* 85(47), Fall Meeting, Abstract S51A-0127, San Francisco, California, 2004.

Monsalve, G., Sheehan, A., Wu, F., De La Torre, T., Blume, F., Huang G., Sapkota, S., Rajaure, S., Earthquake Locations, Depths and Source Parameters from the Himalayan Nepal Tibet Seismic Experiment (HIMNT): Implications for Continental Lithospheric Strength, *Eos Transactions AGU* 84(46), Fall Meeting, Abstract S22A-0414, San Francisco, California, 2003.

Monsalve, G., Sheehan, A.F., Blume, F., Brothers, D., Seismicity Beneath the High Himalaya: Himalayan Nepal Tibet PASSCAL Seismic Experiment, paper presented at *SSA Annual Meeting*, San Juan, Puerto Rico, 2003.

Sheehan, A.F., Wu, F., Bilham, R., Blume, F., Monsalve, G., Bendick, R., Gilbert, H., De La Torre, T., Schulte-Pelkum, V., Wilson, C.K., Huang, G.C., Pandey,

M.R., Liu, H.B., Himalayan Nepal Tibet Broadband Seismic Experiment (HIMNT), *Eos Transactions AGU* 83(47), Fall Meeting, Abstract S61D-11, San Francisco, California, 2002.

## **GRADUATE COURSES**

Earth and Planetary Physics I (Seismology)  
Earth and Planetary Physics II (Geodesy and Gravity)  
Earth and Planetary Physics III (Geodynamics)  
Fourier Series and Boundary Value Problems  
Complex Variables  
Spectral Analysis  
Geophysical Inverse Theory  
Seminar in Geophysics  
Seminar in Tectonics and Climate  
Tectonics of Western U.S.  
Mechanics and Chemistry of Landscapes

## **AWARDS**

2007: Jeff Deen Memorial Scholarship (Department of Geological Sciences, University of Colorado at Boulder).

2005: Longley, Warner & Wahlstrom Scholarship Award (Department of Geological Sciences, University of Colorado at Boulder)

2004: John D. Edwards Scholarship Award (Department of Geological Sciences, University of Colorado at Boulder)

2003: Bruce Curtis Scholarship Award (Department of Geological Sciences, University of Colorado at Boulder).

## **COMPUTER SKILLS**

Proficient in UNIX, Macintosh and Windows platforms.  
Programming in FORTRAN, BASIC, MATLAB, UNIX C shell, TCL.  
Proficient in Antelope Seismology Database Software, Microsoft Office, LaTeX.  
Ability to learn new software and programming languages easily.

## FIELD EXPERIENCE

Summer 2005 and Fall 2007: Instalation and removal of seismometers in the California Sierra Nevada as a part of the *Sierra Nevada Earth Scope Project SNEP*.

## REFERENCES

Dr. Anne Sheehan, [afs@cires.colorado.edu](mailto:afs@cires.colorado.edu)  
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