

ESTEBAN JOSUE CHAVES SIBAJA

Volcanological and Seismological Observatory of Costa Rica
at Universidad Nacional (OVSICORI-UNA)
Phone: (506) 87060862 Email: echfisica@gmail.com /
esteban.chaves.sibaja@una.cr

Research Interest

EARTHQUAKE RUPTURE MECHANICS.

Earthquake generation in subduction zones, Slow earthquakes, episodic tremor and slip, fluid movement in fractures and faults.

EARTHQUAKE SEISMOLOGY.

Earthquake source phenomenology, Empirical Green's functions methods, Time domain Moment tensor inversion, Finite Fault Inversion, microearthquakes source properties.

SEISMOLOGY-GEODESY.

Modeling deformation and displacement using GPS data.

Education

- | | |
|-----------|---|
| 2009 | NATIONAL UNIVERSITY. B.S. PHYSICS EDUCATION.
Influence off Mathematics in Physics significative learning in University introductory courses. |
| 2010-2011 | UNIVERSITY OF COSTA RICA. 3rd year. PHYSICS. |

Complementary Education

- | | |
|------|---|
| 2009 | VOLCANOLOGICAL AND SEISMOLOGICAL OBSERVATORY OF COSTA RICA AT NATIONAL UNIVERSITY (OVSICORI-UNA).
Seismology & Volcano-Seismology Summer School and Training.
Heredia, Costa Rica. |
| 2010 | ROSENTIAL SCHOOL OF MARINE SCIENCE AND GEOPHYSICS.
UNIVERSITY OF MIAMI & UNAVCO. Analysis and Modeling GPS data using GAMIT/GLOBK and TDEFNODE.
Miami, Florida. United States of America. |
| 2011 | MICHIGAN TECHNOLOGICAL UNIVERSITY & UNIVERSITY OF COSTA RICA. PASI 2011. Open Vent Volcano Hazards and Remote Sensing in the Pacific and Latin American. |

- San Jose, Costa Rica. January 09-23.
- 2011 UNAVCO. COCONET WORKSHOP. Comunidad Científica, Localización de estaciones y Construcción de Capacidades. San Juan, Puerto Rico. 3-4 February.
- 2011 INTERNATIONAL CENTER FOR THEORETICAL PHYSICS (ICTP). Advanced School on Scaling Laws in Geophysics: Mechanical and Thermal Process in Geodynamics. Trieste, Italy. May 22-3 June.
- 2011 INCORPORATED RESEARCH INSTITUTIONS FOR SEISMOLOGY (IRIS). Pan-American Advanced Studies Institute on New Frontiers in Seismological Research: Sustainable Networks, Earthquakes Sources Parameters, and Earth Structure. Quito, Ecuador. July 11-24.
- 2011 INTERNATIONAL CENTER FOR THEORETICAL PHYSICS (ICTP). Advanced School on Understanding and Prediction of Earthquakes and Others Extreme Events in Complex Systems. Trieste, Italy. September 25-October 9.
- 2011 INTERNATIONAL CENTER FOR THEORETICAL PHYSICS (ICTP). Joint ICTP/TWAS Workshop on Seismic Sources in Central America: What is the Largest earthquake each can produce? Heredia, Costa Rica. Octubre 30 - November 5.
- 2012 UNAVCO. GPS WORKSHOP. Real Time GPS Position Data Products and Formats. Boulder, Colorado. U.S. 26-28 March.
- 2012 TERMOGRAM, COSTA RICA
Thermography applied to volcanic systems.
Heredia, Costa Rica. 10-14 December.

Research Positions

- 2012-2013 VOLCANOLOGICAL AND SEISMOLOGICAL OBSERVATORY OF COSTA RICA AT NATIONAL UNIVERSITY (OVSICORI-UNA).
- 2011 SEISMOLOGICAL AND VOLCANOLOGICAL LABORATORY AT COSTA RICA'N INSTITUTE OF ELECTRICITY (ICE) & NATIONAL SEISMOLOGICAL NETWORK OF COSTA RICA AT UNIVERSITY OF COSTA RICA.
- 2009-2010 VOLCANOLOGICAL AND SEISMOLOGICAL OBSERVATORY OF COSTA RICA AT NATIONAL UNIVERSITY (OVSICORI-UNA).

Teaching Experience

2011	NATIONAL TECHNICAL UNIVERSITY OF COSTA RICA (UTN). Lectures in Introductory Physics and Classical Mechanics.
2011	UNIVERSIDAD LATINA DE COSTA RICA. Lectures in Introductory physics and General Physics.
2010	UNIVERSITY OF COSTA RICA (UCR). Lectures in Physics laboratory for biological sciences.
2008-2009	UNIVERSITY OF COSTA RICA(UCR). Lectures in Physics laboratory for biological sciences.
2007-2009	NATIONAL UNIVERSITY OF COSTA RICA (UNA). Lectures in general Physics laboratory.

Scholarships

2007-2008	Academic recognition for best student in physics education, Universidad Nacional, Costa Rica.
2008-2009	Scholarship for Honor. Excellence academic grades. Universidad Nacional, Costa Rica.

Technical Skills

SEISMIC ACQUISITION SYSTEMS AND SEISMIC DATA PROCESSING

- SEISAN
- ANTELOPE
- EARTHWORM
- SEISCOMP3
- REFTEK ACQUISITION PROGRAMS
- PQL of IRIS
- SAC
- GENNERIC MAPPING TOOLS (GMT)
- GEOMAPAPP
- MATLAB
- TIME DOMAIN MOMENT TENSOR INVERSION (TDMT)

- COMPUTER PROGRAMS IN SEISMOLOGY
- TOMODD (Tomography Inversion)
- HYPODD (Double Diference Re-location)
- COULOMB3(Geodynamics)
- OBSPY

GPS DATA ANALYSIS AND MODELING

- GAMIT/GLOBK and TDEFNODE.

REMOTE SENSING

- ERDAS IMAGE
- ENVI
- MULTISPEC
- ARCGIS

OPERATIVE SYSTEMS

- Microsoft Windows
- Linux distributions (Ubuntu, Fedora, Red Hat, Open Suse)
- UNIX
- Mac OS

PROGRAMMING LANGUAJE

- Python
- C++
- Java

Scientific societies and professionals

- Member of American Geophysical Union (AGU).

Publications & Conference abstracts

- Pacheco, J., Chaves, E. 2009. The Quepos Plateau Earthquake (M 5.6), Costa Rica. August 13, 2009. New leap in Panama Fracture Zone? Volcanological and Seismological Observatory of Costa Rica (OVSICORI-UNA).
- Taylor, W., Chaves, E., Lopez, A. 2012. El sismo de las Armenias de Upala ($M_W = 5,6$), Costa Rica. Una respuesta a la compresión y el movimiento de fluidos en la cordillera volcánica de Guanacaste. Área de Amenazas y Auscultación Sísmica y Volcánica. ICE.
- Chaves, E. 2012. Soluciones del Tensor de Momento Sísmico para identificación de la fuente sísmica: El sismo de las Armenias de Upala y el terremoto de Cinchona. Área de Amenazas y Auscultación Sísmica y Volcánica. ICE.
- Taylor, W., Chaves, E. 2012. Evidence of Volumetric Components due to Fluid Movements in Miravalles Geothermic Field, Costa Rica. Costa Rican Institute of Electricity (ICE).
- Chaves, E. 2012. Evidencia de Estructuras Activas usando Relocalización Hipocentral por Doble Diferencia en el Centro de Producción Pirrís y el Proyecto Hidroeléctrico Reventazón.