

Prof. Francis T. WU

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Education

1959, B.S. Geology, National Taiwan University
1966, Ph.D. Geophysics, California Institute of Technology

Professional Experience

1966-1968, Postdoctoral Research Fellow, California Institute of Technology
1968-1969, Assistant Professor of Geophysics, Boston College
1970-1972, Assistant Professor of Geophysics, SUNY-Binghamton
1972-1976, Associate Professor of Geophysics, SUNY-Binghamton
1976- Professor of Geophysics, SUNY-Binghamton
1979-1992, Director, Center for Study of Natural Hazard, SUNY-Binghamton
1989-1992, Chairman, Department of Geological Sciences, SUNY-Binghamton
2011- Professor Emeritus, SUNY Binghamton

Synergistic Activities

- Member of two NSF seismological delegations to Taiwan, 1973, 1975.
- Member of Sino-US (NSF/USGS) seismological protocol discussion team with China SSB (CEA), 1997, 2000, 2004, 2007, 2011.
- Member of “Haicheng Earthquake Study Team”, a seismological delegation sent by the Committee on Scholarly Communication with PRC, National Academy of Sciences, ACLS and SSRC, to study the prediction of the 1975 Haicheng earthquake, 1976.
- Member of the “Plate Tectonics Delegation” to China to study the collision zones in Tibet, China, sent by the Committee on Scholarly Communication with PRC, National Academy of Sciences, ACLS and SSRC, 1979.
- National Science Foundation panels: Geophysics (1993-96), Continental Dynamics (1993-96), International Programs (2009), Southern California Earthquake Center (SCEC) 5-year reviews (2000, 2005).
- Department of Energy/DoD Seismology: as reviewer 1987-; Panel member 2002.
- Secretary, Eastern Section of Seismological Society of America, 1978-1981.
- Director, Seismological Society of America, 1986-1992.
- Member, Steering Committee of Technical Advisory Committee on Earthquake Hazards in New York State, 1985-1992.
- Acting Director, Institute of Earth Sciences, Academia Sinica, 1993-1994.
- Member, Board of Directors, IIRIS, an US University Consortium, 1986-.
- Member, Data Management System Standing Committee, IRIS Consortium, 1990-1996.

- Chairman, Data Management System Standing Committee, IRIS Consortium, 1993-1996.
- Member, Board of Advisors (1989-) Strong Motion Programs, Central Weather Bureau, Taipei, Taiwan, 1990-.
- Associate Editor, Journal of Geophysical Research, American Geophysical Union, 1993-1996.
- Member, Working Group on Reference Events for Improved Locations (REIL), IASPEI Commission on Seismological Observation and Interpretation (CoSOI), 2005.

Honors

1998, University award for Research Excellence, SUNY Binghamton

2017, Award for Scientific Contribution, Chinese (Taipei) Geophysical Society

Professional Affiliation:

American Geophysical Union

Seismological Society of America

Chinese (Taipei) Geophysical Society

Main Research Projects

- Yunnan seismic project, NSF, 1980-1987.
Objective: study the potential of Chinese earthquake prediction program, tectonics of Yunnan and strong ground motion prediction.
Conclusion: Prediction is difficult; tension (EW) tectonics dominate in western Yunnan.
- Tibet Plateau transect, NSF, 1991-1992.
Objectives: Internal structures of Tibetan Plateau; the first broadband seismic experiment in Tibet. SKS anisotropy, surface wave propagation, crust and upper mantle structures
- South Island, New Zealand, NSF, 1995-1999. Member of a consortium
Objectives: Decipher how collision is taking place across South Island. SKS anisotropy, surface waves, active source, sea-land.
Conclusion: vertical coherent collision tectonics
- Changbai Volcano, Sino-N. Korean border, DOE, 1998-2000.
Objectives: Is Changbai active? wide-angle reflection, receiver function and tomography.
Conclusion: A low velocity layer mapped in middle-lower crust, but is it magma chamber?
- Southern Tibet and Nepal, Collaborative with Anne Sheehan of U of Colorado, NSF, 2000-04.
Objectives: Is there a subduction zone under the Central Himalaya? Local and teleseismic tomography, surface waves, SKS anisotropy, receiver function.
Conclusion: No high velocity anomaly imaged – no active subduction?
- Taiwan Integrated Geodynamics Research (TAIGER), NSF-NSC, 2004-2012.
Objectives: How mountains are built? This project includes broadband seismic array for recording local and teleseisms, explosions source wide-angle transects on land, multi-channel seismics in the ocean around Taiwan, broadband and narrow band instruments for recording earthquakes in the whole region, magnetotellurics and numerical geodynamics calculations to assist simulation.
Conclusions: Central Range “flowering” and root building are important; eclogitization and delamination may be taking place in lower crust; it may contribute to circulation of crust materials to the upper mantle.