Stanford

Robert Kovach

Professor of Geophysics, Emeritus

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Geophysics

ADMINISTRATIVE APPOINTMENTS

- 1st. Lt., U.S. Army Corps of Engineers, (1956-1958)
- Research Assistant in Seismology, California Institute of Technology, (1959-1961)
- Senior Scientist, Jet Propulsion Laboratory, (1961-1963)
- Research Fellow, California Institute of Technology, (1963-1964)
- Assistant Professor of Planetary Science, California Institute of Technology, (1964-1965)
- Assistant Professor of Geophysics, Stanford University, (1965-1966)
- Associate Professor of Geophysics, Stanford University, (1966-1970)
- Professor of Geophysics, Stanford University, (1970-2005)
- Invited Visiting Professor, Japan Society for the Promotion of Science, Sendai University, (1975-1975)
- Visiting Scientist, Weizmann Institute of Science, (1976-1976)
- Associate Dean for Research, School of Earth Sciences, Stanford University, (1977-1979)
- Visiting Professor of Geology and Geophysics, University of Hawaii, (1977-1978)
- Professor Emeritus of Geophysics, Stanford University, (2005- present)

HONORS AND AWARDS

- Tau Beta Pi, Engineering Honorary Fraternity (1954)
- Sigma Gamma Epsilon, Earth Sciences Honorary Fraternity (1954)
- Fellow, Geological Society of America (1970)
- Guggenheim Fellow, John Simon Guggenheim Foundation (1970)
- Medal for Exceptional Scientific Achievement, National Aeronautics and Space Administration (1973)
- Invited Visiting Professor, University of Tohoku, Japan Society for the Promotion of Science (1975)
- President, Seismology Section, American Geophysical Union (1976-1978)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Faculty Representative, Judicial Affairs Board (2008 - 2010)
- Invited Speaker, Seismological Society of America Meeting, Santa Fe, New Mexico (2008 - 2008)

- Session Chairman, Seismological Society of America Meeting, San Juan, Puerto Rico (2003 - 2003)
- Invited Speaker, Apocalypse Then and Now, University of Calgary (2002 - 2002)
- Organizer, Union Session on Archaeological Evidence for Historic and Prehistoric Earthquakes, American Geophysical Union (2001 - 2001)
- Invited Speaker, Seismological Society of America, Eastern Section, South Carolina (2001 - 2001)
- Member, Development Committee, American Geophysical Union (2000 - 2004)
- Associate Chair, Department of Geophysics (2000 - 2004)
- Organizer, 3rd Conference on Tectonic Problems of the San Andreas Fault System, Stanford University (2000 - 2000)
- Speaker, Symposium on Great Earthquakes in the Cordillera, G.S.A. Cordilleran Section (1999 - 1999)
- Centennial 1899-1999, Berkeley (1999 - 1999)
- Field Trip Leader, Freshman/Sophomore College, Sterling Quad (1999 - 1999)
- Leader, Stanford Introductory Seminar Field Trip to Yucatan Peninsula, Mexico (1999 - 2007)
- Member, School of Earth Sciences Shell Foundation Fund (1995 - 2003)
- Member, University Subcommittee on Academic Standing, Petitions and Exceptions (C-AAA-ASPE) (1993 - 1999)
- Station Manager, Stanford Broadband Seismic Facility (1991 - 2003)
- Member, John A. Blume Earthquake Engineering Center, Stanford University (1976 - 2005)

PROFESSIONAL EDUCATION

- Ph.D., California Institute of Technology , Geophysics (1962)
- M.A., Columbia University , Geology (1959)
- Geophysical Engineer, Colorado School of Mines , Geophysics (1955)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Earthquake seismology, natural hazards, and ancient earthquakes and archaeology

Publications

PUBLICATIONS

- **Earthquakes and Civilizations of the Indus Valley: A Challenge for Archaeology** *Ancient Earthquakes*
  Kovach, R. L., Grijalva, K., Nur, A. M.
  Geological Society of America.2010: 119–127
- **Earthquakes and Archaeology: Neocatastrophism or Science?** *EOS, Transactions of the American Geophysical Union*
  Kovach, R. L., Nur, A. M.
  2006; 87 (32): 317-318
- **Evidence for Tectonic Activity during the Mature Harappan Civilization, 2600-1800 BCE** *EOS, Transactions American Geophysical Union, v. 87, no. 52*
  Grijalva, K. A., Kovach, R. L., Nur, A. M.
  2006: T51D–1553
- **Guide to Global Hazards**
  Kovach, R. L., McGuire, B.
  Firefly Books Ltd..2004
- **Early Earthquakes of the Americas**
  Kovach, R. L.

Cambridge University Press.2004

- **Long-term creep-rate changes and their causes** *GEOPHYSICAL RESEARCH LETTERS*
  Bokelmann, G. H., Kovach, R. L.
  2003; 30 (8)
- **Guide to Global Hazards**
  Kovach, R. L., McGuire, B.
  Philip's, Octopus Publishing Group Ltd., London.2003
- **History of Geophysics at Stanford** *International Handbook of Earthquake & Engineering Seismology, Part B*
  Kovach, R. L., Beroza, G. C.
  edited by Lee et al.
  Academic Press.2003
- **Did Earthquakes Play a Role in the Demise of Maya Centers** *Proceedings of the 35th Chacmool Conference, Apocalypse Then and Now, University of Calgary*
  Kovach, R. L., Garcia, Jr., B. N.
  2002
- **Seismic detectability of a subsurface ocean on Europa** *ICARUS*
  Kovach, R. L., Chyba, C. F.
  2001; 150 (2): 279-287
- **Proceedings of the 3rd Conference on Tectonic Problems of the San Andreas Fault System**
  edited by Bokelmann, G., Kovach, R. L.
  Stanford University Publications in Geological Sciences, v. XXI.2000
- **Review of Furious Earth: The Science and Nature of Earthquakes, Volcanoes and Tsunamis by Ellen J. Prager, McGraw-Hill** *Geotimes*
  Kovach, R. L.
  1999; 45 (8): 32-33
- **Europa and Titan: Preliminary Recommendations of the Campaign Science Working Group on Prebiotic Chemistry in the Outer Solar System** *Proceedings, Lunar and Planetary Science*
  Chyba, C. F., McKinnon, W. B., Coustenis, A., Johnson, R. E., Kovach, R. L., et al
  1999
- **Seismotectonics of the Death Valley region**
  Kovach, R. L.
  http://www.FATBRAIN.com/ematter/home.html.1999
- **Conflict with the Earth--Disasters and Human Affairs**
  Kovach, R. L.
  Agreka Books, Utah,175 pp..1998
- **Estimates of Deformation Rates and Earthquake Recurrence Intervals, Stanford Area** *USGS Open File Report 96-267, Towards Assessing the Seismic Risk Associated with Blind Faults*
  Page, B., Kovach, R. L.
  1996: 39–40
- **Seismotectonics near Stanford University** *California Geology*
  Kovach, R. L., Page, B. M.
  1995; 48 (4): 91-98
- **Seismic Potential from Reverse Faulting on the San Francisco Peninsula** *Bulletin of the Seismological Society of America*
  Kovach, R. L., Beroza, G. C.
  1993; 83: 597-602
- **SHEAR VELOCITY STRUCTURE OF THE NORTHERN CALIFORNIA LITHOSPHERE** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH AND PLANETS*
  Levander, A. R., Kovach, R. L.

1990; 95 (B12): 19773-19784

- **GEOPHYSICAL INVESTIGATIONS IN JORDAN** *TECTONOPHYSICS*
  Kovach, R. L., ANDREASEN, G. E., Gettings, M. E., ELKAYSI, K.
  1990; 180 (1): 61-69

- **UPLIFT AND A POSSIBLE MOHO OFFSET ACROSS THE DEAD-SEA TRANSFORM** *TECTONOPHYSICS*
  TENBRINK, U. S., SCHOENBERG, N., Kovach, R. L., BENAVRAHAM, Z.
  1990; 180 (1): 71-85

- **SHEAR-WAVE OBSERVATIONS IN THE REGION NORTH OF THE SAN-FRANCISCO BAY** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Levander, A. R., QUIN, H., Kovach, R. L.
  1983; 73 (4): 1031-1039

- **SHEAR-WAVE VELOCITIES AND CRUSTAL STRUCTURE OF THE EASTERN SNAKE RIVER PLAIN, IDAHO** *JOURNAL OF GEOPHYSICAL RESEARCH*
  GREENSFELDER, R. W., Kovach, R. L.
  1982; 87 (NB4): 2643-2653

- **CRUSTAL STRUCTURE OF MAUNA LOA VOLCANO, HAWAII, FROM SEISMIC REFRACTION AND GRAVITY-DATA** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Zucca, J. J., Hill, D. P., Kovach, R. L.
  1982; 72 (5): 1535-1550

- **S-WAVE OBSERVATIONS IN THE FRANCISCAN TERRANE, CENTRAL CALIFORNIA** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Levander, A. R., Kovach, R. L.
  1981; 71 (6): 1863-1874

- **GEODETIC ANALYSIS OF RESERVOIR DEPLETION AT THE GEYSERS STEAM FIELD IN NORTHERN CALIFORNIA** *JOURNAL OF GEOPHYSICAL RESEARCH*
  Denlinger, R. P., ISHERWOOD, W. F., Kovach, R. L.
  1981; 86 (NB7): 6091-6096

- **INSITU VELOCITY STUDY - STONE CANYON WELL** *JOURNAL OF GEOPHYSICAL RESEARCH*
  STIERMAN, D. J., Kovach, R. L.
  1979; 84 (NB2): 672-678

- **PRESSURE-INDUCED VELOCITY-GRADIENT - ALTERNATIVE TO A PG REFRACTOR IN THE GABILAN RANGE, CENTRAL CALIFORNIA** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  STIERMAN, D. J., Healy, J. H., Kovach, R. L.
  1979; 69 (2): 397-415

- **NEAR-FIELD MOTIONS FROM A PROPAGATING STRIKE-SLIP FAULT IN AN ELASTIC HALF-SPACE** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Israel, M., Kovach, R. L.
  1977; 67 (4): 977-994

- **VIKING SEISMIC EXPERIMENT** *SCIENCE*
  Anderson, D. L., Duennebier, F. K., LATHAM, G. V., TOKSOZ, M. F., Kovach, R. L., Knight, T. C., LAZAREWICZ, A. R., Miller, W. F., Nakamura, Y., Sutton, G.
  1976; 194 (4271): 1318-1321

- **WATER-LEVEL FLUCTUATIONS AND EARTHQUAKES ON SAN ANDREAS FAULT ZONE** *GEOLOGY*
  Kovach, R. L., Nur, A., Wesson, R. L., Robinson, R.
  1975; 3 (8): 437-440

- **TIME VARIATIONS IN TELESEISMIC RESIDUALS PRIOR TO MAGNITUDE 5.1 BEAR VALLEY EARTHQUAKE OF FEBRUARY 24, 1972** *PURE AND APPLIED GEOPHYSICS*
  Cramer, C. H., Kovach, R. L.

1975; 113 (1-2): 281-292

- **A SEARCH FOR TELESEISMIC TRAVEL-TIME ANOMALIES ALONG THE SAN ANDREAS FAULT ZONE** *GEOPHYSICAL RESEARCH LETTERS*
  Cramer, C. H., Kovach, R. L.
  1974; 1 (2): 90-92
- **LUNAR NEAR-SURFACE STRUCTURE** *REVIEWS OF GEOPHYSICS*
  Cooper, M. R., Kovach, R. L., WATKINS, J. S.
  1974; 12 (3): 291-308
- **FLUID-PRESSURE VARIATIONS AND FAULT CREEP IN CENTRAL CALIFORNIA** *TECTONOPHYSICS*
  Johnson, A. G., Kovach, R. L., Nur, A.
  1974; 23 (3): 257-266
- **SOURCE MECHANISMS FOR WILMINGTON OIL FIELD, CALIFORNIA, SUBSIDENCE EARTHQUAKES** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
  Kovach, R. L.
  1974; 64 (3): 699-711
- **COMPRESSIONAL AND SHEAR WAVE VELOCITIES IN GRANULAR MATERIALS TO 2.5 KILOBARS** *JOURNAL OF GEOPHYSICAL RESEARCH*
  Talwani, P., Nur, A., Kovach, R. L.
  1973; 78 (29): 6899-6909
- **PORE PRESSURE CHANGES DURING CREEP EVENTS ON SAN-ANDREAS FAULT** *JOURNAL OF GEOPHYSICAL RESEARCH*
  Johnson, A. G., Kovach, R. L., Nur, A.
  1973; 78 (5): 851-857
- **APOLLO 17 SEISMIC PROFILING - PROBING LUNAR CRUST** *SCIENCE*
  Kovach, R. L., WATKINS, J. S.
  1973; 180 (4090): 1063-1064