

Curriculum Vitae of Prof. Jian LIN

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Member of Academia Europaea (MAE)

Fellow of American Geophysical Union (AGU)

Fellow of American Association for the Advancement of Science (AAAS)

Fellow of Geological Society of America (GSA)

Chair Professor, Southern University of Science and Technology (SUSTech), China

Director, Key Laboratory of Ocean and Marginal Sea Geology (OMG), South China Sea Institute of Oceanology, Chinese Academy of Sciences (CAS), China

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PROFESSIONAL POSITIONS:

Southern University of Science and Technology, Chair Professor, since 2020

Woods Hole Oceanographic Institution, USA, Emeritus Scientist, 2020–2022; Henry Bigelow Chair for Excellence in Oceanography, 2009; Senior Scientist, 2005; Associate Scientist with Tenure, 1996; Assistant Scientist, 1988; MIT/WHOI Joint Program in Oceanography, Faculty Member, 1989

University of Paris/CNRS, Visiting Scientist, 1999; IPG, Strasbourg, France, 2009

Southern California Earthquake Center, Visiting Fellow, 1991-1992

US Geological Survey, Earthquake Science Center, Menlo Park, CA, Visiting Scientist, 1987

DEGREES:

Brown University, Ph.D., Geophysics, 1989; M.S., Geophysics, 1985

University of Science & Technology of China, B.S., Geophysics, 1982

AWARDS & HONORS:

Member of Academia Europaea (MAE), elected 2022

Grand Prize, Ocean Science and Technology Award, Chinese Society for Oceanography, 2022

First Prize, Natural Science Award of Guangdong Province, China, 2021

Top Ten Advances in Ocean Science and Technology Award, China, 2020

Fellow, American Geophysical Union (AGU), elected 2020

Fellow, American Association for the Advancement of Science (AAAS), elected 2008

Fellow, Geological Society of America (GSA), elected 2007

Henry B. Bigelow Chair for Excellence in Oceanography, WHOI, awarded 2009

Top Author & Top Paper in Earthquake Research, ISI Essential Science Indicators, 2003;

#1 most cited paper and top 20 most cited authors on earthquake research in preceding decade

Distinguished Scholar, Chinese University of Hong Kong (CUHK), 2017

Charles E. Culpeper Young Scientist Award, Culpeper Foundation/WHOI, 1989

Guo Mo-Ruo Medal for Distinguished Academic Achievements, U Sci-Tech of China, 1982

RESEARCH EXPERIENCE, DISCOVERIES AND CONTRIBUTIONS:

- Led pioneering seagoing and theoretical modeling programs; made influential contributions to

research of lithospheric evolution from mid-ocean ridges to subduction zones; conducted high-impact research on earthquake stress transfer and triggering.

- Chief Scientist and Shipboard Scientist on 22 global oceanographic expeditions to Atlantic, Indian, and Pacific Oceans, on research vessels of UK, France, US, China, and Korea.

Mid-ocean ridge and transform dynamics:

- Discovered major changes in crustal structure and highly-focused magmatic accretion at ridge segments.
- Demonstrated strong dependence of crustal structure and mantle upwelling on spreading rate.
- Discovered a unique class of amagmatic spreading centers along ultraslow spreading ridges. Elucidated how mantle plumes influence mid-ocean ridge melting and crustal structure.
- Discovered large-scale detachment faulting and ocean core complexes at slow spreading ridges.
- Documented rapid magmatism from continental rifting to seafloor spreading in the South China Sea and proposed plate-edge rifting concept in sharp contrast to classic Atlantic hyperextension model.
- Proposed a new concept of broad transform deformation zone, linking transform valley strike-slip motion to off-transform faulting and rifting.

Earthquake stress interaction:

- Conducted influential research on earthquake stress transfer and triggering.
- Investigated strike-slip and thrust faulting earthquakes on land in California, Japan, China, Chile, Algeria, etc. and under oceans.
- Elucidated the role of 3D crustal and mantle flow in viscoelastic stress transfer and earthquake triggering.
- Co-developed Coulomb 3, a free-to-public tool for modeling earthquake deformation and stress changes, co-taught Coulomb earthquake modeling courses in many countries, with thousands of international users.

Subduction plate dynamics:

- Led the first large-scale seismic exploration of the Challenger Deep - the deepest seafloor on Earth; Published the first seismic velocity model beneath the deepest Mariana Trench.
- Discovered dramatic change in slab depth and significant hydration beneath the Challenger Deep.
- Elucidated the critical role of megathrust rupture in controlling outer-rise faulting and seismicity.
- Led a major study of ultralow-angle subduction and tsunami in Makran Trench, Indian Ocean.

International leadership:

- Chaired and expanded the InterRidge Program to over 4,000 scientists worldwide, via initiation of new national memberships, Working Groups, and InterRidge fellowships.
- Initiated and co-led 11 international cruises to the Pacific, Indian Ocean and marginal seas in the last 15 years, involving researchers from 25 nations, including the Europe, US, China, Japan, Korea, Australia, Russia, South Africa, Pakistan, Brazil, Chile, and others.
- Co-initiated and co-led four IODP drilling expeditions in the South China Sea in the last decade.
- Initiated ocean science schools, theoretical institutes, training programs, and web-platforms that have influenced over thousands of international young researchers and students.

SUSTAINED STRONG INTERNATIONAL COLLABORATION:

- Well known for pioneering research of stress interaction of earthquakes in US, Europe, Asia, Oceania, and other areas. Collaborated with international colleagues to quantify the triggering of

earthquakes, published top-cited seismology paper in one decade; with international colleagues amassed body of work on mid-ocean ridges, from structure to crustal accretion and to ridge segmentation.

- Co-taught Coulomb earthquake modeling courses in US, European and Asian countries, benefiting thousands of users.
- Co-authored with 55 European scientists from 45 institutions in UK, France, Germany, Italy, Spain, Denmark, Norway, Portugal, Russia, Greece, Sweden, Switzerland, and Iceland. Co-initiated strong working links with the UK BRIDGE, French Dorsal, Norwegian RIDGE, and IFREMER Seafloor Geodesy programs.
- Convened InterRidge workshops on Ridge Segmentation (Durham, UK, 1993), Oceanic Lithosphere Dynamics (Pavia, Italy, 2002), Ridge-Hotspot Interaction (Brest, France, 2003), Circum-Antarctic Ridges (Toulouse, France, 2011) and others. Co-taught Coulomb earthquake modeling courses in Italy, France, and other European countries, benefiting ~500 European users.
- Co-led bilateral collaborative programs, including those with US (Atlantic and Indian Oceans), Japan (Mid-Atlantic and Indian Ocean Ridges); with China (Mariana Trench, Indian and Pacific Ocean Ridges); with Korea (circum-Antarctic Ridges); with Pakistan (Makran Trench); and with Myanmar (Myanmar-India Trench), etc.
- Advised and mentored over 100 international graduate students and young scientists. Conducted residential sabbatical of teaching and research in Europe, including co-teaching courses and co-advising students at U. Paris, U. Strasbourg, U. Leeds, and Durham U. Some of them have become young scientific leaders in Europe.
- Led and participated in ODP 184 (1999), IODP 349 (2014), 368 (2017), and 368X (2018) with many European participants. Co-led and participated in expeditions on European research vessels, including R/V Charles Darwin (UK, 1992), R/V L'Atalante (France, 1998), R/V Theni (Greece, 2013).

SCIENTIFIC COMMITTEES & ADVISORY BOARDS:

American Geophysical Union, Chair, Tectonophysics, National Spring Mtg. Committee; Co-Chair, Tectonophysics, W. Pacific Mtg. Committee; Member, AGU Fellow Committee, Maurice Ewing Medal Committee, Natural Hazards Focus Group Advisory Board, Index Committee, History of Geophysics Committee.

US National Academy of Sciences/National Research Council, Committee on Review of Tsunami Warning & Forecast System & Overview of Nation's Tsunami Preparedness.

InterRidge Science Program, Chair, Steering Committee & Program; Chair & Co-Chair, WGs on Circum- Antarctic Ridge, Hotspot-Ridge Interactions, 4-D Architecture of Oceanic Lithosphere; Member, WGs on Southwest Indian Ridge & Meso-Scale Processes.

Asia Oceania Geosciences Society (AOGS), Distinguished Lecturer, Ocean Sciences, Singapore, 2012.

European Geosciences Union, Co-chaired special sessions and gave invited presentations.

US RIDGE Program, Steering Committee; Chair, Crustal Accretion Variables WG.

National Science Foundation, Review Panels, US RIDGE & Ocean Sciences Programs; Polar Sciences Program, Committee on Polar Aerogeophysical Research Facility.

National Science Foundation of China, Advisory Committee, W. Pacific Earth System Interactions Initiative & South China Sea Deep Initiatives; Chair, Review Panel, International Program.

International Ocean Discovery Program, IODP Exp. 349 Co-chief Scientist; Ocean Drilling Program, Tectonics Review Panel & Liaison to Lithosphere Panel.

US Geological Survey, Review Panel, National Earthquake Hazard Reduction Program.

International Committees, Co-Chair, International Review Committee, Ocean U of China;

Advisory Committee, Hadal Sci & Tech Center, Shanghai Ocean U; Academic Committee, Key Lab of Ocean & Marginal Sea Geology, Chinese Academy of Sciences; Member, Academic Committee, Qingdao Pilot National Lab for Marine Sci & Tech; State Key Lab of Marine Geology, Tongji University.

Diversity Initiatives, Co-Founding Member, Woods Hole Diversity Advisory Committee; Co-Chair, WHOI Diversity Committee; Trustee & Overseer, Sea Education Association, Woods Hole, MA.

Membership, American Geophysical Union; European Geosciences Union; Geological Society of America; Seismological Society of America; American Association for the Advancement of Science; Asia Oceania Geosciences Society.

EDITORSHIP:

Editor, *AGU Geophysical Monograph*, Vol. 184; Associate Editor, *Journal of Geophysical Research*; Theme Editor, *Geochemistry, Geophysics, Geosystems*; Editorial Advisory Board, *EOS*; Science Advisor.

Associate Editor-in-Chief, *Acta Oceanologica Sinica*; *Journal of Tropical Oceanography*; *Ocean-Land-Atmosphere Research*.

Editorial Board, *National Science Review*; *Science in China-Earth Sciences*; *Chinese Journal of Geophysics*; *Advances in Earth Sciences*; *Earthquake Science*.

CITATIONS:

Author of more than 270 publications. His citation is 21,571, h-index is 71, i10-index is 175 (per Google Scholar).