

CURRICULUM VITAE

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Professor,
Department of Earth Resources Engineering, Kyushu University
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History of employment

2007 (Sep) – 2012 (Mar): **Assistant Professor**, Graduate School of Engineering, Kyoto University, Japan
2009 (Feb) – 2010 (Jan): **Visiting scholar**, Geophysics, Stanford University, USA
2012 (Apr) – 2017(Mar): **Associate Professor**, International Institute for Carbon-Neutral Energy Research (I²CNER), Kyushu University, Japan
2013 (June) – present: **Division Head** (WPI Lead Principal Investigator), CO₂ storage division, I²CNER, Kyushu University, Japan
2017 (Apr) – present: **Professor**, International Institute for Carbon-Neutral Energy Research (I²CNER), Kyushu University, Japan
2017 (Apr) – present: **Professor**, Department of Earth Resources Engineering, Kyushu University, Japan
2018 (Apr) – present: **Department Head**, Department of Cooperative Program for Resources Engineering, Kyushu University, Japan
2019 (Apr) – present: **Adjunct Professor**, Kyoto University, Japan

Other employment

2004-2007: IODP-USIO logging staff scientist, JOI Alliance/Lamont-Doherty Earth Observatory
2008-2014: Visiting Scientist, JAMSTEC (2013-2014: Senior Visiting Scientist)
2008-2012: Visiting Lecturer, Kansai University
2010: Co-Chief Scientist, Integrated Ocean Drilling Program (IODP) Exp. 327
2012: Visiting lecturer, Kyoto University

Degrees

1998 – 2002: B.S., Resources and Environmental Engineering, Waseda University, Japan
2002 – 2004: MSc, Ocean Research Institute, the University of Tokyo, Japan
2004 – 2007: Ph.D., Ocean Research Institute, the University of Tokyo, Japan

Research experience

2006 (Apr) – 2007 (Mar): Doctoral research fellow (DC2), Japan Society for the Promotion of Science (JSPS), Japan
2007 (Apr) – 2007 (Aug): Postdoctoral fellow, Japan Agency for Marine-Earth Science and

Technology (JAMSTEC), Japan

Selected Honors

- 2005: Incentive Award, Society of Exploration Geophysicists of Japan (SEGJ),** May 10, 2005. *“Neural network application for seismic data interpretation”*
- 2007:** The Best Oral Presentation Awards of the 117th SEGJ Conference, November 26, 2007. *“Neural network application for mineral classification”*
- 2010:** Japan Society for the Promotion of Science (JSPS) Excellent Young Researchers Overseas Visit Program *“Honored fund for long-term visit in Stanford University”*
- 2012:** The Best Oral Presentation Awards of the 125th SEGJ Conference, May 30, 2012. *“Fault system in the 2011 Tohoku-oki earthquake (M9)”*
- 2013: Incentive Award, Society of Exploration Geophysicists of Japan (SEGJ),** June 7, 2013. *“Develop new seismic data analysis method: Inversion in Common Reflection Surface (CRS)”*
- 2015: Early Career Researcher Award, Seismological Society of Japan (SSJ),** March 9, 2015. *“Seismic velocity estimation in the plate subduction zone and pore pressure prediction”.*
- 2015:** The Best Oral Presentation Awards of the 132nd SEGJ conference, July 19, 2015. *“Development of continuous monitoring system using seismic wave”*
- 2015: Yoshiaki Ozawa Award, The Geological Society of Japan (GSJ),** June 29 2015. *“Characterization of plate boundary decollement in the Nankai subduction zone”.*
- 2016: The Young Scientists’ Prize, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (MEXT),** April 12 2016. *“Prize for characterization of plate boundary faults from seismic and drilling data”*
- 2016: Highly Cited Research in Tectonophysics** (Elsevier)
- 2018: Island Arc Award, The Geological Society of Japan (GSJ),** *“The influence of tectonic movements upon methane hydrate accumulation in the plate convergent margin”.*
- 2019: The International Union of Geodesy and Geophysics (IUGG) Early Career Scientist Award** in seismology

Memberships

American Geophysical Union (AGU); European Geophysical Union (EGU); Japan Geoscience Union (JPGU); Seismological Society of Japan (SSJ); Society of Exploration Geophysicists (SEG); Society of Exploration Geophysicists of Japan (SEGJ); The Geological Society of Japan (GSJ); The Mining and Materials Processing Institute of Japan (MMIJ); InterPore

Service to International Community

Reviewer Responsibilities

International funding proposals including *the United States National Science Foundation (NSF); National Geographic; Netherlands Organisation for Scientific Research (NWO); and New Zealand research funds.*

International journals including *Nature Geoscience; Earth and Planetary Science Letters; Journal of Geophysical Research; Geophysical Research Letters; G-cubed; Geophysics; Geophysical Prospecting; Near Surface Geophysics; Earth Planets and Space; International Journal for Greenhouse Gas Control; Journal of Applied Geophysics; Journal of Natural Gas Science and Engineering; Progress in Earth and Planetary Science; Exploration Geophysics; Island Arc; etc.*

Selected International or Governmental Committees

2014-2016: Environmental Protection and Safety Panel (EPSP) under US-IODP program (USA)

2016-2017: Evaluation of 3D seismic vessel, Ministry of Economy, Trade and Industry (METI)

2016-2018: Re-evaluation of resource potential in sedimentary basin around Japan, METI

2016-2018: Operation procedures for safe, long-term CO₂ storage at sub-seabed environment, Ministry of Environment (MOE)

2017-2019: Evaluation of geological formation for CO₂ storage sites around Japan, METI & MOE

2016-2019: International Committee, Society of Exploration Geophysicists of Japan (SEGJ)

Academic Commitments

Teaching (lectures)

Fundamental programming (2011-2012); Introduction of earth science (2014-2016); Instruction of exploration geophysics (2018-present); Environmental geoscience (2014-present); Geothermics (2015-2017); Elements of waves and thermal physics (2017-present); Geophysical explorations (2018-present); Offshore geophysics (2017-present); Disaster prevention (2017-2018); etc.

Supervision of Postdocs

F. Jiang: Digital rock physics, I2CNER, Kyushu University (2013-2016)

M.Y.N Khakim: Interferometric SAR, I2CNER, Kyushu University (2013)

T. Ikeda: Exploration geophysics, I2CNER, Kyushu University (2014-2016)

H. Fukagawa: Fluid dynamics, I2CNER, Kyushu University (2014-2015)

J. Jia: Molecular dynamics for CO₂ mineralization, I2CNER, Kyushu University (2016-2017)

S. Singh: Fluid dynamics, I2CNER, Kyushu University (2016-2017)

A. Hendriyana: Seismic data processing, I2CNER, Kyushu University (2018 -)

C. Chhun: Seismic data processing, Eng. Dept., Kyushu University (2019-)

Supervision of PhD students

C. Eng: PhD thesis (completed in 2018) on quantitative seismic interpretation, Kyushu Univ.

C. Chhun: PhD thesis (completed in 2019) on quantitative seismic interpretation, Kyushu Univ.

K. Kret: PhD thesis (completed in 2019) on quantitative seismic interpretation, Kyushu Univ.

F. Hutapea-Lawrens: PhD thesis (in progress) on computer geoscience, Kyushu Univ.

R.D. Andajani: PhD thesis (in progress) on seismic exploration, Kyushu Univ.

Y. Zhang: PhD thesis (in progress) on fluid dynamics, Kyushu Univ.

M. Mourad, PhD thesis (in progress) on shallow geology investigation, Kyushu Univ.

Fahrudin PhD thesis (in progress) on fault interpretation, Kyushu Univ.

H. Nimiya PhD thesis (in progress) on seismic imaging and monitoring, Kyushu Univ.

Supervision of MSc students

C. Cao: MSc thesis (completed in 2017) on neural network, Kyushu Univ.

R.D. Andajani: MSc thesis (completed in 2018) on seismic exploration, Kyushu Univ.

H. Nimiya: MSc thesis (completed in 2019) on geophysical monitoring, Kyushu Univ.

K. Ikuo: MSc thesis (completed in 2019) on LB simulation for fracture model, Kyushu Univ.

H. Matsui: MSc thesis (in progress) on Molecular dynamics for hydrate, Kyushu Univ.

K. Takahashi: MSc thesis (in progress) on surface wave analysis, Kyushu Univ.

Y. Suemoto: MSc thesis (in progress) on surface wave analysis for crust, Kyushu Univ.

Y. Nagata: MSc thesis (in progress) on seismic exploration for the Moon, Kyushu Univ.

I. Hagimori: MSc thesis (in progress) on geophysical exploration, Kyushu Univ.

K. Mukumoto: MSc thesis (in progress) on seismic exploration for ore deposits, Kyushu Univ.

Y. Liu: MSc thesis (in progress) on machine learning in geophysics, Kyushu Univ.

A. Ahmad: MSc thesis (in progress) on machine learning in geophysics, Kyushu Univ.

Evaluation of PhD dissertations

Five PhD dissertations in Kyushu University

One PhD dissertation in Yonsei University (external evaluator)

One PhD dissertation in University of Brunei Darussalam (external evaluator)

PEER-REVIEWED PAPERS

124. T. Ikeda and **T. Tsuji** (2019), Two-station continuous wavelet transform cross-coherence analysis for surface-wave tomography using active-source seismic data, *Geophysics*, accepted.
123. K. Ishizu, T. Goto, Y. Ohta, T. Kasaya, H. Iwamoto, C. Vachiratienchai, W. Siripunvaraporn, **T. Tsuji**, H. Kumagai and K. Koike (2019), Internal structure of a seafloor massive sulfide deposit by electrical resistivity tomography, Okinawa Trough, *Geophysical Research Letters*, doi:10.1029/2019GL083749.
122. M.Y.N. Khakim, A. A. Bama, I. Yustian, P. Poerwono, **T. Tsuji** and T. Matsuoka (2019), Peatland subsidence and vegetation cover degradation as impacts of the 2015 El Nino event revealed by Sentinel-1A SAR data, *International Journal of Applied Earth Observations and Geoinformation*, Vol.84, 101953, doi:10.1016/j.jag.2019.101953.
121. K. Mukumoto, **T. Tsuji** and A. Hendriyana (2019), Large Gas Reservoir along the Rift Axis of a Continental Back - arc Basin Revealed by Automated Seismic Velocity Analysis in the Okinawa Trough, *Geophysical Research Letters*, doi:10.1029/2019GL083065.
120. K. Takahashi, **T. Tsuji**, T. Ikeda, H. Nimiya, Y. Nagata and Y. Suemoto (2019), Underground structures associated with horizontal sliding at Uchinomaki hot springs, Kyushu, Japan, during the 2016 Kumamoto earthquake, *Earth, Planets and Space*, 71:87, doi:10.1186/s40623-019-1066-y.
119. A. Hendriyana and **T. Tsuji** (2019), Migration of very long period seismicity at Aso volcano, Japan, associated with the 2016 Kumamoto earthquake, *Geophysical Research Letters*, 46(15), 8763-8771, doi:10.1029/2019GL082645.
118. R.D. Andajani, T. Ikeda, and **T. Tsuji** (2019), Surface wave analysis for heterogeneous geological formations in geothermal fields: effect of wave propagation direction, *Exploration Geophysics*, 50(3), 255-268, doi:10.1080/08123985.2019.1597497.
117. Y. Ozaki, Y. Mugita, M. Aramaki, O. Furukimi, S. Oue, F. Jiang, **T. Tsuji**, A. Takeuchi, M. Uesugi, and K. Ashizuka (2019), Four-dimensional observation of ductile fracture in sintered iron using synchrotron X-ray laminography, *Powder Metallurgy*, 62:2, 146-154, doi:10.1080/00325899.2019.1585032.
116. **T. Tsuji**, T. Ikeda, and F. Jiang (2019), Evolution of hydraulic and elastic properties of reservoir rocks due to mineral precipitation in CO₂ geological storage, *Computers and Geosciences*, Vol.126, 84-95, doi:10.1016/j.cageo.2019.02.005.
115. J. Jia, Y. Liang, **T. Tsuji**, C. Miranda, Y. Masuda, and T. Matsuoka (2019), Ab Initio Molecular Dynamics Study of Carbonation and Hydrolysis Reactions on Cleaved Quartz (001) Surface, *The Journal of Physical Chemistry C*, doi: 10.1021/acs.jpcc.8b12089, accepted.
114. A. Kioka, **T. Tsuji**, H. Otsuka, and J. Ashi (2019), Methane concentration in mud conduits of submarine mud volcanoes: A coupled geochemical and geophysical approach, *Geochem. Geophys. Geosyst.*, doi:10.1029/2018GC007890.
113. C. Eng, **T. Tsuji** (2018), Influence of faults and slumping on hydrocarbon migration inferred from 3D seismic attributes: Sanriku-Oki forearc basin, northeast Japan, *Marine and Petroleum Geology*, Vol.99, 175-189, doi:10.1016/j.marpetgeo.2018.10.013. (1st author is supervised student)
112. G. Kimura, H. Koge, **T. Tsuji** (2018), Punctuated Growth of an Accretionary Prism and the Onset of a Seismogenic Megathrust in the Nankai Trough, *Progress in Earth and Planetary Science*, 5:78, doi:10.1186/s40645-018-0234-1.

111. T. Sasaoka, H. Shimada, K. Watanabe, **T. Tsuji**, R. Imai, H. Miki, Y. Fujimitsu, Y. Sugai, K. Yonezu, and N. Hiroyoshi (2018), Cooperative Program for Resources Engineering Between Kyushu University and Hokkaido University, *International Journal of Georesources and Environment*, 4(3),174-179, doi:10.15273/ijge.2018.03.028.
110. T. Ikeda, **T. Tsuji** (2018), Temporal change in seismic velocity associated with an offshore MW 5.9 Off-Mie earthquake in the Nankai subduction zone from ambient noise cross-correlation, *Progress in Earth and Planetary Science*, 5:62, doi:10.1186/s40645-018-0211-8.
109. T. Ikeda, **T. Tsuji**, M. Nakatsukasa, H. Ban, A. Kato, K. Worth, D. White, and B. Roberts (2018), Imaging and monitoring of the shallow subsurface using spatially windowed surface-wave analysis with a single permanent seismic source, *Geophysics*, 83(6), EN23-EN38, doi:10.1190/geo2018-0084.1.
108. K. Kawabata, A. Sakaguchi, Y. Hamada, **T. Tsuji**, Y. Kitamura, and S. Saito (2018), Thermal fluid migration in the Kumano forearc basin, Nankai Trough, estimated via vitrinite reflectance measurement, research paper in *Geological Society of America (GSA) Books*, doi:10.1130/2018.2534(09)
107. K. Kret, T. Ikeda, **T. Tsuji** (2018) Grid-search inversion based on rock physics model for estimation of pore geometry and grain elastic moduli: Application to hydrothermal ore deposits and basalt, *Exploration Geophysics*, accepted. (1st author is supervised student)
106. F. Jiang, **T. Tsuji**, and T. Shirai (2018), Pore Geometry Characterization by Persistent Homology Theory, *Water Resources Research*, 54(6), 4150-4163, doi: 10.1029/2017WR021864.
105. A. Ijiri et al. (2018), Deep-biosphere methane production stimulated by geofluids in the Nankai accretionary complex, *Science Advances* 4(6), eaao4631, doi: 10.1126/sciadv.aao4631.
104. R.D. Andajani, T. Ikeda, and **T. Tsuji** (2018), Surface wave analysis for heterogeneous geological formation in geothermal field: Consideration of wave propagation direction, *Exploration Geophysics*, accepted. (1st author is supervised student)
103. K. Ikuo, F. Jiang, and **T. Tsuji** (2018), Characterization of fluid behavior in 3D digitalized fracture using Lattice Boltzmann Method: Evolution of permeability by shear deformation and its representative elementary volume, *Journal of MMIJ*, 134(5), 60-66, doi:10.2473/journalofmmij.134.60. (1st author is supervised student)
102. **T. Tsuji**, F. Jiang, A. Suzuki, and T. Shirai (2018), Mathematical Modeling of Rock Pore Geometry and Mineralization: Applications of Persistent Homology and Random Walk, *Agriculture as a Metaphor for Creativity in All Human Endeavors*, 95-109, doi:10.1007/978-981-10-7811-8_11.
101. C. Chhun, A. Kioka, J. Jia, and **T. Tsuji** (2018), Characterization of hydrate and gas reservoirs in plate convergent margin by applying rock physics to high-resolution seismic velocity model, *Marine and Petroleum Geology*, doi:10.1016 /j.marpetgeo.2017.12.002. (1st author is supervised student)
100. H. Nimiya, T. Ikeda, and **T. Tsuji** (2017), Spatial and temporal seismic velocity changes on Kyushu Island during the 2016 Kumamoto earthquake, *Science Advances*, Vol. 3, no. 11, e1700813, doi:10.1126/sciadv.1700813. (1st author is supervised student)
99. A.R.K. Asikin, A. Priyono, T. Ariadji, B. Sapiie, M. R. Sule, **T. Tsuji**, W. G. A. Kadir, T. Matsuoka, and S. Rahardjo, Forward Modeling Time-Lapse Seismic based on Reservoir Simulation Result on The CCS Project at Gundih Field, Indonesia, *Modern Applied Science*, Vol.12, No.1, doi:10.5539/mas.v12n1p75, 2017.

98. C. Eng, T. Ikeda, and **T. Tsuji** (2017), Study of the Nankai seismogenic fault using dynamic wave propagation modelling of digital rock from the Nobeoka fault, *Exploration Geophysics*, doi:10.1071/EG17129.
97. S. Minato, R. Ghose, **T. Tsuji**, M. Ikeda, and K. Onishi (2017), Hydraulic properties of closely-spaced dipping open fractures intersecting a fluid-filled borehole derived from tube-wave generation and scattering, *Journal of Geophysical Research*, 122, 8003–8020 doi:10.1002/2017JB014681.
96. **T. Tsuji**, S. Minato, R. Kamei, T. Tsuru, and G. Kimura (2017), 3D geometry of a plate boundary fault related to the 2016 Off-Mie earthquake in the Nankai subduction zone, Japan, *Earth and Planetary Science Letters*, Vol.478, 234-244, doi:10.1016/j.epsl.2017.08.041.
95. **T. Tsuji**, T. Ikeda, and F. Jiang (2017), Hydrologic and Elastic Properties of CO₂ Injected Rock at Various Reservoir Conditions: Insights into Quantitative Monitoring of Injected CO₂, *Energy Procedia*, Vol.114, 4047-4055, doi:10.1016/j.egypro.2017.03.1545.
94. S. Shiwani, F. Jiang, and **T. Tsuji** (2017), Influence of Slip Flow at Fluid-solid Interface upon Permeability of Natural Rock, *Energy Procedia*, Vol.114, 3572-3577, doi:10.1016/j.egypro.2017.03.1487.
93. T. Ikeda, and **T. Tsuji** (2017), Robust Subsurface Monitoring Using a Continuous and Controlled Seismic Source, *Energy Procedia*, Vol.114, 3956-3960, doi:10.1016/j.egypro.2017.03.1527.
92. S. Singh, F. Jiang, and **T. Tsuji** (2017), Impact of the kinetic boundary condition on porous media flow in lattice Boltzmann formulation, *Physical Review E*, 96, 013303, doi:10.1103/PhysRevE.96.013303.
91. Y. Liang, S. Tsuji, J. Jia, **T. Tsuji**, and T. Matsuoka (2017), Modeling CO₂-Water-Mineral Wettability and Mineralization for Carbon Geosequestration, *Acc. Chem. Res.*, 50 (7), 1530-1540, doi: 10.1021/acs.accounts.7b00049.
90. K. Ishitsuka, T. Matsuoka, T. Nishimura, **T. Tsuji**, and T. ElGharbawi (2017), Ground uplift related to permeability enhancement following the 2011 Tohoku earthquake in the Kanto Plain, Japan, *Earth, Planets and Space*, 69:81, doi:10.1186/s40623-017-0666-7.
89. J. Jia, Y. Liang, **T. Tsuji**, S. Murata, and T. Matsuoka (2017), Elasticity and Stability of Clathrate Hydrate: Role of Guest Molecule Motions, *Scientific Reports*, 7, Article number 1290, doi:10.1038/s41598-017-01369-0.
88. T. Ikeda, **T. Tsuji**, M. Takanashi, I. Kurosawa, M. Nakatsukasa, A. Kato, K. Worth, D. White, and B. Roberts (2017), Temporal variation of the shallow subsurface at the Aquistore CO₂ storage site associated with environmental influences using a continuous and controlled seismic source, *Journal of Geophysical Research - Solid Earth*, Vol.122, Issue 4, 2859-2872, doi:10.1002/2016JB013691.
87. **T. Tsuji**, J. Ishibashi, K. Ishitsuka, and R. Kamata (2017), Horizontal sliding of kilometre-scale hot spring area during the 2016 Kumamoto earthquake, *Scientific Reports*, 7, 42947, doi:10.1038/srep42947.
86. F. Jiang and **T. Tsuji** (2017), Estimation of three-phase relative permeability by simulating fluid dynamics directly on rock-microstructure images, *Water Resources Research*, Vol.53, Issue 1, 11-32, doi:10.1002/2016WR019098.
85. T. Ikeda, and **T. Tsuji** (2016), Surface wave attenuation in the shallow subsurface from multichannel-multishot seismic data: A new approach for detecting fractures and lithological discontinuities, *Earth, Planets and Space*, 68:111, doi: 10.1186/s40623-016-0487-0.

84. **T. Tsuji**, T. Ikeda, T.A. Johansen, and B.O. Ruud (2016), Using seismic noise derived from fluid injection well for continuous reservoir monitoring, *Interpretation*, 4(4), SQ1-SQ11, doi: 10.1190/INT-2016-0019.1.
83. K. Ishitsuka, **T. Tsuji**, and T. Matsuoka (2016), Pixel-based interferometric pair selection in InSAR time series analysis with baseline criteria, *Remote Sensing Letters*, Vol.7, Issue 7, 711-720, doi:10.1080/2150704X.2016.1182660.
82. J. Jia, Y. Liang, **T. Tsuji**, S. Murata, and T. Matsuoka (2016), Microscopic Origin of Strain Hardening in Methane Hydrate, *Scientific Reports*, 6, Article 23548, doi:10.1038/srep23548.
81. F. Jiang and **T. Tsuji** (2016), Numerical investigations on the effect of initial state CO₂ topology on capillary trapping efficiency, *International Journal of Greenhouse Gas Control*, Vol.49, 179-191, doi:10.1016/j.ijggc.2016.03.006.
80. **T. Tsuji**, F. Jiang, K. Christensen (2016), Characterization of immiscible fluid displacement processes with various capillary numbers and viscosity ratios in 3D natural sandstone, *Advances in Water Resources*, 95, 3-15, doi:10.1016/j.advwatres.2016.03.005.
79. H. Yamabe, **T. Tsuji**, Y. Liang, and T. Matsuoka (2016), Influence of fluid displacement patterns on seismic velocity during supercritical CO₂ injection: Simulation study for evaluation of the relationship between seismic velocity and CO₂ saturation, *International Journal of Greenhouse Gas Control*, 46, 197-204, doi:10.1016/j.ijggc.2016.01.011.
78. T. Ikeda, **T. Tsuji**, T. Watanabe, and K. Yamaoka (2016), Development of surface-wave monitoring system for leaked CO₂ using a continuous and controlled seismic source, *International Journal of Greenhouse Gas Control*, 45, 94-105.
77. J. Jia, **T. Tsuji**, T. Matsuoka (2016), Gas hydrate saturation and distribution in the Kumano Forearc Basin of the Nankai Trough, *Exploration Geophysics*, doi:10.1071/EG15127.
76. **T. Tsuji**, J. Ashi, M. Strasser, and G. Kimura (2015), Identification of the static backstop and its influence on the evolution of the accretionary prism in the Nankai Trough, *Earth and Planetary Science Letters*, 431, 15-25, doi:10.1016/j.epsl.2015.09.011.
75. K. Ishitsuka, **T. Tsuji**, T. Matsuoka, J. Nishijima and Y. Fujimitsu (2015), Heterogeneous Surface Displacement Pattern at the Hatchobaru Geothermal Field Inferred from SAR Interferometry Time-Series, *International Journal of Applied Earth Observation and Geoinformation*, 44, 95–103, doi:10.1016/j.jag.2015.07.006.
74. **T. Tsuji** (2015), Monitoring and modeling technologies for CO₂ injection around Japanese island, *Bulletin of The Iron and Steel Institute of Japan*, 20, 7, 6-11.
73. W. Lin, T.B. Byrne, M. Kinoshita, L.C. McNeill, C. Chang, J.C. Lewis, Y. Yamamoto, D.M. Saffer, J.C. Moore, H-Y. Wu, **T. Tsuji**, Y. Yamada, M. Conin, S. Saito, T. Ito, H.J. Tobin, G. Kimura, K. Kanagawa, J. Ashi, M.B. Underwood, and T. Kanamatsu (2015), Distribution of stress state in the Nankai subduction zone, southwest Japan and a comparison with Japan Trench, *Tectonophysics*, doi:10.1016/j.tecto.2015.05.008.
72. T. Ikeda and **T. Tsuji** (2015), Advanced surface-wave analysis for 3D ocean bottom cable data to detect localized heterogeneity in shallow geological formation of a CO₂ storage site, *International Journal of Greenhouse Gas Control*, 39, 107-118.
71. F. Jiang, and **T. Tsuji** (2015), Impact of Interfacial Tension on Residual CO₂ clusters in Porous Sandstone, *Water Resources Research*, 51(3), 1710-1722, doi:10.1002/2014WR016070.
70. R. Hino, **T. Tsuji**, N.L. Bangs, Y. Sanada, J-O. Park, R. vonHuene, G. Moore, E. Araki, and M. Kinoshita (2015), Qp structure of the accretionary wedge in the Kumano Basin, Nankai Trough, Japan, revealed by long-offset walk-away VSP, *Earth, Planets and Space*, 67:7.

69. Y. Yamabe, **T. Tsuji**, Y. Liang, and T. Matsuoka (2015), Lattice Boltzmann simulations of supercritical CO₂-water drainage displacement in porous media: CO₂ saturation and displacement mechanism, *Environmental Science & Technology*, 49 (1), 537-543.
68. J. Ishibashi, F. Ikegami, **T. Tsuji**, and T. Urabe (2015), Hydrothermal activity in the Okinawa Trough back-arc basin - geological background and hydrothermal mineralization -, *Subseafloor Biosphere Linked to Global Hydrothermal Systems*; TAIGA Concept, Springer Japan, pp 337-359, doi:10.1007/978-4-431-54865-2_27.
67. F. Ikegami, **T. Tsuji**, H. Kumagai, J. Ishibashi and K. Takai (2015), Active rifting structures in Iheya Graben and adjacent area of the mid-Okinawa Trough observed through seismic reflection surveys, *Subseafloor Biosphere Linked to Global Hydrothermal Systems*; TAIGA Concept, Springer Japan, Tokyo, pp 361-368, doi:10.1007/978-4-431-54865-2_28.
66. F. Jiang and **T. Tsuji** (2014), Interfacial Tension Effect on Cluster Size Distributions for Residual Trapping of CO₂ in Sandstones, *Energy Procedia*, 63, 5483-5489.
65. S. Kimura, K. Honda, K. Kitamura, I. Taniguchi, K. Shitashima, **T. Tsuji**, and S. Fujikawa (2014), Preliminary feasibility study for on-site hydrogen station with distributed CO₂ capture and storage system, *Energy Procedia*, 63, 4575-4584, doi:10.1016/j.egypro.2014.11.490.
64. K. Kitamura, **T. Tsuji**, Y. Yamada, T. Matsuoka, K. Onishi, B. Sapiie, A. Bahar, Harya, A. Muhammad, A. Erdi, V. M. Sari, W. Gunawan and Gundih CCS Project Team (2014), Potential evaluation of CO₂ reservoir using the measured petrophysical parameter of rock samples in the Gundih CCS Project, Indonesia, *Energy Procedia*, 63, 4965-4970.
63. **T. Tsuji**, K. Kitamura, T. Matsuoka, Y. Yamada, Wawan Gunawan A Kadir, M. Rachmat Sule, A. Priyonom, T. Ariadji, B. Sapiie, M. Hato, T. Takahashi, K. Onishi, DS Widarto, R.I. Sebayang, A. Prasetyo, Pertamina, Gundih CCS Project Team (2014), Reservoir characterization for site selection in the Gundih CCS Project, Indonesia, *Energy Procedia*, 63, 6335-6343.
62. T. Ikeda, T. Matsuoka, **T. Tsuji**, and T. Nakayama (2014), Characteristics of the horizontal component of Rayleigh waves in multimode analysis of surface waves, *Geophysics*, 80(1), EN1-EN11. doi: 10.1190/geo2014-0018.1.
61. T. Ikeda and **T. Tsuji** (2014), Azimuthal anisotropy of Rayleigh waves in the crust of southern Tohoku area, Japan, *Journal of Geophysical Research*, Vol.119, Issue 12, 8964-8975, doi: 10.1002/2014JB011567.
60. F. Jiang and **T. Tsuji** (2014), Changes in pore geometry and relative permeability caused by carbonate precipitation in porous media, *Physical Review E*, 90, 053306, doi: 10.1103/PhysRevE.90.053306.
59. M. Y. N. Khakim, **T. Tsuji**, and T. Matsuoka (2014), Lithology-controlled subsidence and seasonal aquifer response in the Bandung basin, Indonesia, observed by synthetic aperture radar interferometry, *International Journal of Applied Earth Observation and Geoinformation*, Vol.32, 199-207, doi: 10.1016/j.jag.2014.04.012.
58. K. Kitamura, F. Jiang, A. J. Valocchi, S. Chiyonobu, **T. Tsuji**, and K.T. Christensen (2014), The study of heterogeneous two-phase flow around small-scale heterogeneity in porous sandstone by measured elastic wave velocities and lattice Boltzmann method simulation, *Journal of Geophysical Research*, Vol.119, Issue 10, 7564-7577.
57. **T. Tsuji**, J. Ashi, and Y. Ikeda (2014), Strike-slip motion of a mega-splay fault system in the Nankai oblique subduction zone, *Earth, Planets and Space*, 66, 120.
56. R. Kamei, G. Pratt, and **T. Tsuji** (2014), Misfit functionals in Laplace-Fourier domain waveform inversion, with application to wide-angle ocean bottom seismograph data, *Geophysical Prospecting*, doi: 10.1111/1365-2478.12127.

55. F. Jiang, **T. Tsuji**, C. Hu (2014), Elucidating the role of interfacial tension for hydrological properties of two-phase flow in natural sandstone by an improved lattice Boltzmann method, *Transport in Porous Media*, Vol.104, Issue 1, pp 205-229, doi:10.1007/s11242-014-0329-0.
54. **T. Tsuji**, R. Kamei, and G. Pratt (2014), Pore pressure distribution of a mega-splay fault system in the Nankai Trough subduction zone: Insight into up-dip extent of the seismogenic zone, *Earth and Planetary Science Letters*, Vol.396, 165-178, doi:10.1016/j.epsl.2014.04.011.
53. A. Miyakawa, S. Saito, Y. Yamada, H. Tomaru, M. Kinoshita, and **T. Tsuji** (2014), Gas hydrate saturation at Site C0002 of IODP Expeditions 314 and 315 in the Kumano Basin, Nankai Trough, *Island Arc*, 23, 142-156, doi:10.1111/iar.12064, 2014.
52. K. Ishitsuka, Y. Fukushima, **T. Tsuji**, Y. Yamada, T. Matsuoka and P.H. Gao (2014), Natural surface rebound of the Bangkok plain and aquifer characterization by persistent scatterer interferometry, *Geochemistry, Geophysics, Geosystems*, Vol.15, Issue 4, pp. 965-974.
51. Y. Shigei, **T. Tsuji**, T. Matsuoka, M. Ikeda, N. Nishizaka, and Y. Ishikawa (2014), Seismic-derived quality factor for lithology classification around the Median Tectonic Line, *Society of Materials Science, Japan (JSMS) Journal*, Vol.63 No.3 pp.250-257, 2014.
50. S. Chiyonobu, T. Nakajima, Y. Zhang, **T. Tsuji**, and Z. Xue (2013), Effect of reservoir heterogeneity of Haizume Formation, Nagaoka Pilot Site, based on high-resolution sedimentological analysis, *Energy Procedia*, 37, 3546-3553.
49. M.Y.N. Khakim, **T. Tsuji**, and T. Matsuoka (2013), Detection of Localized Surface Heave at Oil Sands Field by Differential SAR Interferometry, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 99, 1-11, doi:10.1109/JSTARS.2013.2254471.
48. T. Ikeda, **T. Tsuji**, and T. Matsuoka (2013), Window-controlled CMP cross-correlation analysis for surface waves on laterally heterogeneous media, *Geophysics*, 78(6), EN95-EN105, 2013.
47. Y. Yamada, R. Masui, and **T. Tsuji** (2013), Characteristics of a tsunamigenic megasplay fault in the Nankai Trough, *Geophysical Research Letters*, 40, 4594-4598.
46. K. Becker, A.T. Fisher, and **T. Tsuji** (2013), New Packer Experiments and Borehole Logs in Upper Oceanic Crust: Evidence for Ridge-parallel Continuity in Crustal Hydrogeological Properties, *Geochemistry, Geophysics, Geosystems*, 14, doi:10.1002/ggge.20201.
45. R. Kamei, G. Pratt, and **T. Tsuji** (2013), On acoustic waveform tomography of wide-angle OBS data - Strategies for preconditioning and inversion, *Geophysical Journal International*, 194, 1250-1280, doi:10.1093/gji/ggt.
44. Y. Hashimoto, N. Doi, and **T. Tsuji** (2013), Difference in acoustic properties at seismogenic fault along a subduction interface: Application to estimation of effective pressure and fluid pressure ratio, *Tectonophysics*, 600, 134-141, doi.org/10.1016/j.tecto.2013.03.016, 2013.
43. **T. Tsuji**, S. Kodaria, J. Ashi, and J-O. Park (2013), Widely distributed thrust and strike-slip faults within subducting oceanic crust in the Nankai Trough off the Kii Peninsula, Japan, *Tectonophysics*, 600, 52-62, doi:10.1016/j.tecto.2013.03.0142.
42. Y. Ito, R. Hino, M. Kido, H. Fujimoto, Y. Osada, D. Inazu, Y. Ohta, T. Iinuma, M. Ohzono, S. Miura, M. Mishina, K. Suzuki, **T. Tsuji**, and J. Ashi (2012), Episodic slow slip events in the Japan subduction zone before the 2011 Tohoku-Oki earthquake, *Tectonophysics*, , 600, 14-26, doi:10.1016/j.tecto.2012.08.022.

41. S. Minato, T. Matsuoka, and **T. Tsuji**, (2013), Singular-value decomposition analysis of source illumination in seismic interferometry by multidimensional deconvolution, **GEOPHYSICS**, 78, Q25-Q34.
40. **T. Tsuji**, K. Kawamura, T. Kanamatsu, T. Kasaya, K. Fujikura, Y. Ito, T. Tsuru, and M. Kinoshita (2013), Extension of continental crust by anelastic deformation during the 2011 Tohoku-oki earthquake: The role of extensional faulting in the generation of a great tsunami, **Earth and Planetary Science Letters**, 364, 44-58, doi:10.1016/j.epsl.2012.12.038, 2013.
39. K. Ishitsuka, **T. Tsuji**, and T. Matsuoka (2013), Improved correlation analysis to detect liquefied area using multi-temporal SAR images -Application to the 2011 Tohoku Earthquake and the 2011 Christchurch Earthquake-, **Exploration Geophysics**, 66, 1, 25-33.
38. M.Y.N. Khakim, **T. Tsuji**, T. Matsuoka (2012), Geomechanical Modeling for InSAR-derived surface deformation at steam-injection oil sand fields, **Journal of Petroleum Science and Engineering**, 96-97, 152-161.
37. G. Kimura, S. Hina, Y. Hamada, J. Kameda, **T. Tsuji**, M. Kinoshita, A. Yamaguchi (2012), Runaway slip to the trench due to rupture of highly pressurized megathrust beneath the middle trench slope: The tsunamigenesis of the 2011 Tohoku earthquake off the east coast of northern Japan, **Earth and Planetary Science Letters**, 339-340, 32-45.
36. T. Ikeda, T. Matsuoka, **T. Tsuji**, K. Hayashi (2012), Multi-mode inversion with amplitude response of surface waves in the spatial autocorrelation method, **Geophysical Journal International**, 190, 1, 541-552.
35. S. Minato, **T. Tsuji**, T. Matsuoka, K. Obana (2012), Crosscorrelation of earthquake data using stationary phase evaluation: Insight into reflection structures of oceanic crust surface in the Nankai Trough, **International Journal of Geophysics**, 2012, 8 pages, Article ID 101545.
34. S. Minato, **T. Tsuji**, T. Matsuoka, N. Nishizaka, M. Ikeda, (2012), Global optimization by simulated annealing for common reflection surface stacking, and its application to low-fold marine data in southwest Japan, **Exploration Geophysics**, DOI: 10.1071/EG12008.
33. S. Minato, **T. Tsuji**, S. Ohmi, T. Matsuoka (2012), Monitoring seismic velocity change caused by the 2011 Tohoku-oki earthquake using ambient noise records, **Geophysical Research Letters**, 39, L09309, doi:10.1029/2012GL051405.
32. **T. Tsuji**, T.A. Johansen, B.O. Ruud, T. Ikeda, T. Matsuoka (2012), Surface-wave analysis for identifying unfrozen zones in subglacial sediments, **GEOPHYSICS**, 77, 3, EN17–EN27.
31. **T. Tsuji**, K. Takai, H. Oiwane, Y. Nakamura, Y. Masaki, H. Kumagai, M. Kinoshita, F. Yamamoto, T. Okano, and S. Kuramoto (2011), Hydrothermal fluid flow system around the Iheya North Knoll in the mid-Okinawa Trough based on seismic reflection data, **Journal of Volcanology and Geothermal Research**, 213-214, 41-50.
30. R. Kamei, R.G. Pratt, and **T. Tsuji** (2011), Waveform Tomography Imaging of a Megasplay Fault System in the Seismogenic Nankai Subduction Zone, **Earth and Planetary Science Letters**, 317-318, 1, 343-353.
29. K. Ishitsuka, **T. Tsuji**, and T. Matsuoka (2012), Detection and mapping of soil liquefaction associated with the 2011 Tohoku earthquake using SAR Interferometry, **Earth Planets and Space**, 64, 1267-1276.
28. A.T. Fisher, **T. Tsuji**, K. Petronotis, C.G. Wheat, K. Becker, J.F. Clark, J. Cowen, K. Edwards, H. Jannasch, and the IODP Expedition 327 and Atlantis Expedition AT18-07 Shipboard Parties (2012), IODP Expedition 327 and Atlantis Expedition AT 18-07: Observatories and Experiments on the Eastern Flank of the Juan de Fuca Ridge, **Scientific Drilling**, 13, 4-11, ISSN: 1816-8957.

27. K. Ishitsuka, **T. Tsuji**, T. Matsuoka, T. Mizuno (2012), Surface displacement induced by liquefaction of the 2011 Tohoku-Oki earthquake in Tokyo bay area using INSAR analysis, *JSCE journal*, 68,1,175-182,2012.04
26. N. Nakata, R. Snieder, **T. Tsuji**, K. Larner, and T. Matsuoka (2011), Shear-wave imaging from traffic noise using seismic interferometry by cross-coherence, *Geophysics*, Vol.76, No.6, SA97-SA106, doi:10.1190/GEO2010-0188.1.
25. **T. Tsuji**, R. Hino, Y. Sanada, K. Yamamoto, J.-O. Park, T. No, E. Araki, N. Bangs, R. von Huene, G. Moore, and M. Kinoshita (2011), In situ stress state from walkaround VSP anisotropy in the Kumano basin southeast of the Kii Peninsula, Japan, *Geochem. Geophys. Geosyst.*, 12, Q0AD19, doi:10.1029/2011GC003583.
24. **T. Tsuji**, J. Dvorkin, G. Mavko, N. Nakata, T. Matsuoka, A. Nakanishi, S. Kodaira, and O. Nishizawa (2011), Vp/Vs ratio and seismic anisotropy in the Nankai Trough seismogenic zone: Insights into effective stress, pore pressure and sediment consolidation, *Geophysics*, 76, No.3, WA71-WA82.
23. T. Ikeda, T. Matsuoka, **T. Tsuji**, K. Hayashi (2011), Spatial auto-correlation (SPAC) method for higher modes considering different correlation distance, *Butsuri-tansa (Japanese SEG Journal)*, Vol.64, No.2, 127-138.
22. Y. Ito, **T. Tsuji**, Y. Osada, M. Kido, D. Inazu, Y. Hayashi, H. Tsushima, R. Hino, and H. Fujimoto (2011), Frontal wedge deformation near the source region of the 2011 Tohoku-Oki earthquake, *Geophysical Research Letters*, 38, L00G05, doi:10.1029/2011GL048355.
21. N. Nakata, **T. Tsuji**, and T. Matsuoka (2011), Acceleration of computation speed for elastic wave simulation using graphic processing unit, *Exploration Geophysics*, 42, 98-104.
20. S. Minato, T. Matsuoka, **T. Tsuji**, D. Draganov, J. Hunziker, and K. Wapenaar (2011), Seismic interferometry using multidimensional deconvolution and crosscorrelation for crosswell seismic reflection data without borehole sources, *Geophysics*, 76, SA19-SA34.
19. **T. Tsuji**, Y. Ito, M. Kido, Y. Osada, H. Fujimoto, J. Ashi, M. Kinoshita, and T. Matsuoka (2011), Potential Tsunamigenic Faults of the 2011 Tohoku Earthquake, *Earth Planets and Space*, 63, 831-834.
18. H. Kumagai, S. Tsukioka, H. Yamamoto, **T. Tsuji**, K. Shitashima, M. Asada, F. Yamamoto, and M. Kinoshita (2010), Hydrothermal plumes imaged by high-resolution side-scan sonar on a cruising AUV, Urashima, *Geochem. Geophys. Geosyst.*, 11, Q12013, doi:10.1029/2010GC003337.
17. **T. Tsuji**, H. Yamaguchi, T. Ishii, and T. Matsuoka (2010), Mineral Classification from Quantitative X-ray Maps using Neural Network: Application to Volcanic Rocks, *Island Arc*, 19, 105-119.
16. A. Miyakawa, **T. Tsuji**, T. Matsuoka, T. Yamamoto (2010), Self-organizing maps classification of soil properties in levee using different geophysical data, *JSCE journal (Japanese Journal)*, Vol. 66, No. 1, 89-99.
15. S. Minato, **T. Tsuji**, T. Noguchi, K. Shiraishi, T. Matsuoka, Y. Fukao, and G. Moore (2009), Estimation of detailed temperature distribution of sea water using seismic oceanography, *Butsuri-tansa (Japanese SEG Journal)*, 62, 509-520.
14. **T. Tsuji**, J-O. Park, G. Moore, S. Kodaira, Y. Fukao, S. Kuramoto, and N. Bangs (2009), Intraoceanic Thrusts in the Nankai Trough off the Kii Peninsula: Implications for Intraplate Earthquakes, *Geophysical Research Letters*, 36, L06303, doi:10.1029/2008GL036974.
13. **T. Tsuji**, K. Yamamoto, T. Matsuoka, Y. Yamada, K. Onishi, A. Bahar, I. Meilano, and H.Z. Abidin (2009), Earthquake Fault of the 26 May 2006 Yogyakarta Earthquake Observed by SAR Interferometry, *Earth Planets Space (E-letter)*, 61, e29-e32.

12. **T. Tsuji**, K. Yamamoto, Y. Yamada, T. Matsuoka, and T. Asakura (2009), Damage mechanisms of mountain tunnels in the 2007 Niigata Chuetsu-oki earthquake: Insight from SAR interferometry, *JSCÉ journal* (Japanese Journal), Vol. 65, No. 4, pp.989-997.
11. G. Moore, J-O. Park, N.L. Bangs, S.P. Gulick, H.J. Tobin, Y. Nakamura, S. Sato, **T. Tsuji**, T. Yoro, H. Tanaka, S. Uraki, Y. Kido, Y. Sanada, S. Kuramoto, and A. Taira (2009), Structural and seismic stratigraphic framework of the NanTroSEIZE Stage 1 transect Proc. IODP, 314-315-316: College Station, TX (Integrated Ocean Drilling Program Management International, Inc.), doi:10.2204/iodp.proc.314315316.102.2009.
10. **T. Tsuji**, H. Tokuyama, P. Costa Pisani, and G. Moore (2008), Effective stress and pore pressure in the Nankai accretionary prism off the Muroto Peninsula, southwestern Japan, *Journal of Geophysical Research – Solid Earth*, 113, B11401, doi:10.1029/2007JB005002.
9. **T. Tsuji**, and G. J. Iturrino (2008), Velocity-porosity relationships of oceanic basalt from eastern flank of the Juan de Fuca ridge: The effect of crack closure on seismic velocity, *Exploration Geophysics*, 39, 41-51.
8. Y. Yamamoto, T. Kurihara, T. Tokiwa, H. Ueda, S. Nakae, K. Wakita, H. Hara, T. Uchino, H. Ueno, Y. Kamata, Y. Yamada, A. Miyakawa, **T. Tsuji** (2007) Large-scale convolute lamination and flame structures in the Plio-Pleistocene Hara Formation, Chikura Group, Central Japan, *Jour. Geol. Soc. Japan* (Japanese Geological Journal), Vol.113, XV2-XV3.
7. **T. Tsuji**, Y. Nakamura, H. Tokuyama, M. F. Coffin, K. Koda (2007), Oceanic crust and Moho of the Pacific Plate in the eastern Ogasawara Plateau region, *Island Arc*, 16, 361-373.
6. Y. Nakamura, T. Noguchi, **T. Tsuji**, S. Ito, H. Niino, T. Matsuoka (2006), Simultaneous seismic reflection and physical oceanographic observations of oceanic finestructure in the Kuroshio extension front, *Geophysical Research Letters*, 33, L23605, doi:10.1029/2006GL027437.
5. **T. Tsuji**, G. Kimura, S. Okamoto, F. Kono, H. Mochinaga, T. Saeki, H. Tokuyama (2006), Modern and ancient seismogenic out-of-sequence thrusts in the Nankai accretionary prism: Comparison of laboratory-derived physical properties and seismic reflection data, *Geophysical Research Letters*, 33, L18309, doi:10.1029/2006GL027025.
4. **T. Tsuji**, T. Noguchi, H. Niino, T. Matsuoka, Y. Nakamura, H. Tokuyama, S. Kuramoto, N..Bangs (2005), Two-dimensional mapping of finestructures in the Kuroshio Current using seismic reflection data, *Geophysical Research Letters*, 32, L14609, doi:10.1029/2005GL023095.
3. **T. Tsuji**, T. Matsuoka, Y. Yamada, Y. Nakamura, J. Ashi, H. Tokuyama, S. Kuramoto, N. Bangs (2005), Initiation of plate boundary slip in the Nankai Trough off the Muroto peninsula, southwest Japan, *Geophysical Research Letters*, 32, L12306, doi:10.1029/2004GL021861.
2. **T. Tsuji**, T. Maiguma, N. Kobayashi, M. Yamada (2005), A method for evaluating the earthquake resistant capacity of small-scale buildings by means of microtremors analysis, *Butsuri-tansa*, 58, 195-205.
1. **T. Tsuji**, T. Matsuoka, Y. Nakamura, H. Tokuyama, S. Kuramoto, N. Bangs (2004), Physical properties along the plate boundary decollement in the Nankai Trough using seismic attribute analysis with Kohonen self-organizing map, *Butsuri-tansa*, 57, 121-134.

SELECTED INVITED TALKS (Total: 65 invited talks)

T. Tsuji, "Multi-phase fluid behaviors with various capillary numbers, viscosity and wettability", *InterPore 10th Annual meeting*, New Orleans, USA, May 14-17, 2018.

T. Tsuji, "Mathematical descriptions of rock pore geometry and its evolution", *Forum "Math-for-*

- Industry*", Brisbane, Australia, Nov 23, 2016.
- T. Tsuji, "Digitization of Natural Rocks for Estimation of The Hydrologic and Elastic Properties", *SEG-AGU Workshop: Upper Crust Physics of Rocks*, Hilo, USA, July 13, 2016.
- T. Tsuji, "Plate boundary fault system derived from marine seismic data analyses", *Memorial lecture by recipients of young researcher's award in Seismological Society of Japan*, Kobe, Oct 26, 2015.
- T. Tsuji, "Digital rock physics: Insight into fluid flow and elastic deformation of porous media", *GeoMod2014*, Potsdam, Germany, Sep 3, 2014.
- T. Tsuji, "Deep intraoceanic faults in the Nankai Trough seismogenic zone: Insight into intraplate and interplate earthquakes", *Whole Earth Seminar (Invited seminar for whole earth science group) in University of California*, SantaCruz, Oct 26, 2010.

SHORT BIO

His researches include a wide range of topics, such as geophysics, seismology, hydrology, geology and geodesy. He estimated high-resolution seismic velocity from which he estimated pore pressure around the plate boundary faults. To monitor the seismogenic faults, he has mapped spatio-temporal variations of seismic velocity during the interplate and intraplate earthquakes by using ambient seismic noise. He further developed continuous monitoring system and deployed the system in geothermal and CO₂ storage fields. Besides geophysical works, he is interested in digital rock physics, a field rapidly growing in conjunction with quantitative interpretation of both geophysical and hydraulic data. He stayed in Stanford Univ. for ~1 year to study rock physics. Because of his wide range of research topics, he gave invited talks in several communities including mathematical society, environmental science, and space exploration.

He joins several international research projects and collaborations. In Integrated Ocean Drilling Program (IODP Expedition 327 in 2010), he served as Co-Chief scientist. He also works in several governmental and international committees.