Nana YOSHIMITSU

Kyoto University, Department of Civil and Earth Resources Engineering
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EDUCATIONAL BACKGROUND

Apr. 2010 – Mar. 2013	Doctor, Ritsumeikan University, Japan, Graduate School of Science and Engineering, Advanced Physics Course Advisor: Prof. Hironori Kawakata
Apr. 2008 – Mar. 2010	Master, Ritsumeikan University, Japan, Graduate School of Science and Engineering, Advanced Physics Course
Apr. 2004 – Mar. 2008	Bachelor, Ritsumeikan University, Japan, College of Science and Engineering, Department of Physical Sciences
Apr. 2003 – Mar. 2004	Unemployed
Apr. 2000 – Mar. 2003	Hirano Senior High School Attached to Osaka Kyoiku University

THESES TITLES

Doctor of Science Mar., 2013	Study on applicability of the rock fracture experiments to seismology
Master of Science Mar., 2010	Temporal changes in amplitude, velocity, and attenuation of broadband P waves transmitting through a fracturing Westerly granite sample under a tri-axial condition
Bachelor of Science Mar., 2008	Temporal change of wave spectrum amplitude passing through a fault including M2~3 source area, using repeating earthquakes, South African gold mine

RESEARCH EXPERIENCE

Mar., 2021 –	Kyoto University, Department of Civil and Earth Resources Engineering Assistant Professor
Jun., 2018 – Feb., 2021	The University of Tokyo, Earthquake Research Institute Project Assistant Professor
Apr., 2018 – May., 2018	The University of Tokyo, Earthquake Research Institute Postdoctoral Researcher

May., 2016 – Mar., 2018	Stanford University, Department of Geophysics Postdoctoral Research Fellow
Apr., 2016	US Geological Survey, Menlo Park Visiting Researcher (Unemployed)
Apr., 2013 – Mar., 2016	The University of Tokyo, Earthquake Research Institute, Japan JSPS Research Fellow (PD)
Apr., 2010 – Mar., 2013	Ritsumeikan University, Graduate School of Science and Engineering, Japan JSPS Research Fellow (DC1)

TEMPORAL RESEARCH EXPERIENCE

Sep., 2024	Los Alamos National Laboratory Visiting scientist
Aug.-Oct., 2023	Los Alamos National Laboratory Visiting scientist

PEER-REVIEWED PUBLICATIONS

1. Li, Y., Fukuyama, E., **Yoshimitsu, N.** (2025)**,** Comprehensive 3-D Modeling of Mining-Induced Fault Slip: Impact of Panel Length, Panel Orientation and Far-Field Stress Orientation. Rock Mech Rock Eng. https://doi.org/10.1007/s00603-025-04469-w

2. Li, Y., Fukuyama, E., **Yoshimitsu, N.** (2024), Mining-induced fault failure and coseismic slip based on numerical investigation. Bull Eng Geol Environ 83, 386. https://doi.org/10.1007/s10064-024-03888-3

3. **Yoshimitsu, N.**, T. Maeda, T. Sei (2023), Evaluation of the Seismic Parameters through Markov Chain Monte Carlo Method in the Bayesian framework, Earth Planets Space, 75, 33, https://doi.org/10.1186/s40623-023-01770-2.

4. Ohsaki, M., **N. Yoshimitsu**, S. Hirano, E. Fukuyama (2022), Photoelastic Experimental Approach Using Agar Gel to Simulate a Stress Field of Fluid Injection Induced Earthquakes, Zishin, 75, 83-91, https://doi.org/10.4294/zisin.2021-17. (in Japanese)

5. Yoshimitsu, N. (2021), Bridge the gap between laboratory scale to natural scale using near fault observations, Zishin, 74, 67-75, https://doi.org/10.4294/zisin.2020-19. (in Japanese)

6. **Yoshimitsu, N.**, W. L. Ellsworth, G. C. Beroza (2019), Robust stress drop estimates of potentially induced earthquakes in Oklahoma, Journal of Geophysical Research: Solid Earth, 124. https://doi.org/10.1029/2019JB017483.

7. Yoon, C., **N. Yoshimitsu**, W. L. Ellsworth, G. C. Beroza (2019), Foreshocks and Mainshock Nucleation of the 1999 Mw 7.1 Hector Mine, California, Earthquake, Journal of Geophysical Research: Solid Earth, 124. https://doi.org/10.1029/2018JB016383.

8. **Yoshimitsu, N.**, T. Furumura, T. Maeda (2016), Geometric effect on a laboratory-scale wavefield inferred from a three-dimensional numerical simulation, Journal of Applied Geophysics, 132, 184-192, doi:10.1016/j.jappgeo.2016.07.002.

9. Naoi, M., M. Nakatani, T. Kgarume, S. Khambule, T. Masakale, L. Ribeiro, J. Philipp, S. Horiuchi, K. Otsuki, K. Miyakawa, A. Watanabe, H. Moriya, O. Murakami, Y. Yabe, H. Kawakata, **N. Yoshimitsu**, A. Ward, R. Durrheim, and H. Ogasawara (2015), Quasi-Static Slip Patch Growth to 20 m on a Geological Fault Inferred from Acoustic Emissions in a South African Gold Mine, Journal of Geophysical Research, 120(3), 1692-1707, doi:10.1002/2014JB011165.

10. **Yoshimitsu, N.**, H. Kawakata, N. Takahashi (2014), Magnitude -7 level earthquakes: A new lower limit of self-similarity in seismic scaling relationships, Geophysical Research Letters, 41(13), 4495-4502, doi:10.1002/2014GL060306.

11. Fukuyama, E., K. Mizoguchi, F. Yamashita, T. Togo, H. Kawakata, **N. Yoshimitsu**, T. Shimamoto, T. Mikoshiba, M. Sato, C. Minowa, T. Kanezawa, H. Kurokawa, and T. Sato (2014), Large-scale biaxial friction experiments using a NIED large-scale shaking table –design of apparatus and preliminary results–, Report of the National Research Institute for Earth Science and Disaster Prevention, 81, 15-35.

12. Kawakata, H., **N. Yoshimitsu**, E. Fukuyama, K. Mizoguchi, F. Yamashita, T. Togo, M. Sato, and I. Doi (2013), Characteristics of transmitting waves across a fault plane during stick slip tests using a large shaking-table, Proceedings of 6th International Symposium on In-Situ Rock Stress, Sendai, Japan, 1156-1161.

13. Kawakata, H., T. Okuno, I. Doi, **N. Yoshimitsu**, N. Takahashi, Manabu Takahashi (2013), Three dimensional structure of a fault generated during a triaxial compressive test with a granite sample, Proceedings of the 13th Japan Symposium on Rock Mechanics & 6th Japan-Korea Joint Symposium on Rock Engineering, Okinawa, Japan, 969-972.

14. Naoi, M., M. Nakatani, S. Horiuchi, Y. Yabe, J. Philipp, T. Kgarume, G. Morema, S. Khambule, T. Masakale, L. Ribeiro, K. Miyakawa, A. Watanabe, K. Otsuki, H. Moriya, O. Murakami, H. Kawakata, **N. Yoshimitsu**, A. Ward, R. Durrheim, and H. Ogasawara (2013), Frequency-magnitude distribution of $-3.7 \leqq Mw \leqq 1$ mining-induced earthquakes around a mining front and b-value invariance with post-blast time, Pure and Applied Geophysics, doi: 10.1007/s00024-013-0721-7.

15. **Yoshimitsu, N.**, H. Kawakata, A., Yamamoto, H., Ogasawara, and Y., Iio (2012), Temporal changes in attenuation of S waves through a fault zone in a South African gold mine, Geophysical Journal International, 191(3), 1317-1324, doi: 10.1111/j.1365-246X. 2012.05678.x.

16. Durrheim, R.J., H. Ogasawara, M. Nakatani, Y. Yabe, H. Kawakata, M. Naoi, A.K. Ward, S.K. Murphy, J. Wienand, P. Lenegan, A.M. Milev, O. Murakami, **N. Yoshimitsu**, T. Kgarume, A. Cichowicz (2012), Establishment of SATREPS experimental sites in South African gold mines to monitor phenomena associated with earthquake nucleation and rupture, Proceedings of the Sixth International Seminar on Deep and High Stress Mining (ed. Yves Potvin), Perth, Australia, 173-187.

17. **Yoshimitsu, N.** and H. Kawakata (2011), Temporal changes in the Q of broadband P waves transmitting through a fracturing Westerly Granite sample under triaxial compressive conditions, Bulletin of Seismological Society of America, 101(1), 421-426, https://doi.org/10.1785/0120100117.

18. Kawakata, H., **N. Yoshimitsu**, and N. Takahashi (2011), Development of a broadband transducer assembly under triaxial compressive conditions, Proceedings of the 10th SEGJ International Symposium, Kyoto, 9-12.

19. **Yoshimitsu, N.**, H. Kawakata, and N. Takahashi (2009), Broadband P waves transmitting through fracturing Westerly granite before and after the peak stress under a triaxial compressive condition, Earth Planets Space, 61, e21-e24, doi:10.1186/BF03353173.

GRANTS (Principal Investigator)

1	2024	TEPCO Memorial Foundation $7,000
2	2024	Practical Human Resource Development Support Program Japan $16,000
3	2024	The Mining and Materials Processing Institute of Japan, Special Grant $62,000
4	2023-2026	Radioactive Waste Management Funding and Research Center $62,000
5	2023	The Yamada Science Foundation $6,200

6	2022	Kyodai-zaidan Research Grant in 2022 $10,000
7	2022	Kyodai-zaidan Research Grant in 2022 $10,000
8	2022	Kyoto University Research Grant ISHIZUE in 2022 $20,000
9.	2022	Shimadzu Science Foundation: Research and Development Grant $10,000
10	2022	Fukada Geological Institute Grant-in-Aid $5,000
11	Apr., 2019 – Mar., 2021	JSPS Grant-in-Aid for Young Scientists (B) $31,300
12	Apr., 2014 – Mar., 2017	JSPS Grant-in-Aid for Young Scientists (B) $31,300
13	Apr., 2013 – Mar., 2016	JSPS Research Fellowship for Young Scientists (PD) $31,600
14	Apr., 2010 – Mar., 2013	JSPS Research Fellowship for Young Scientists (DC1) $17,400
15	2008	The Seismological Society of Japan Overseas Travel Grant $2,000

GRANTS (Collaborative Member)

1.	Apr., 2022 – Mar., 2025	MEXT/JSPS Grants-in-Aid for Scientific Research (B) PI : Hironori KAWAKATA, $143,300
2.	Apr., 2015 – Mar., 2018	MEXT/JSPS Grants-in-Aid for Scientific Research (B) PI : Hironori KAWAKATA, $143,300
3.	Apr., 2011 – Mar., 2015	MEXT/JSPS Grants-in-Aid for Scientific Research (B) PI : Eiichi FUKUYAMA, $185,500
4.	2010 – 2015	SATREPS PI : Hiroshi OGASAWARA, $4,514,000
5.	Apr., 2009 – Mar., 2014	MEXT/JSPS Grants-in-Aid for Scientific Research (S) PI : Hiroshi OGASAWARA, $1,751,000

6.	Apr., 2006 – Mar., 2008	MEXT/JSPS Grants-in-Aid for Scientific Research (A) PI : Masao NAKATANI, $393,300

*My name is not officially included in 2, 3, and 4 because JSPS scholar was limited applying for grants, but I was involved in these projects.

AWARDS

1	Sep. 2024	L-INSIGHT Fusion Research Idea Contest, Judges' Award, Kyoto University
2	May, 2020	Young Scientist Award 2019, Seismological Society of Japan
3	May, 2014	Society of Exploration Geophysicists of Japan Outstanding Presentation Award of 2014
4	May, 2013	JpGU Meeting 2012 Student Outstanding Presentation Awards
5	Nov., 2011	Outstanding Student Presentation Award 2011, Seismological Society of Jfapan, "Relationship between corner frequency and seismic moment for AE from continuous and broadband records"
6	Nov., 2011	Outstanding Student Presentation Award 2011, Seismological Society of Japan, "Comparison between the Green's function from cross correlation of ambient noise and transmitted wave in a South African deep gold mine"
7	Dec., 2008	Application Contest Student Division Award 2008, the first prize, National Instruments Japan, "A continuous recording system of Acoustic Emission (AE) in rock fracture experiments"
8	Mar., 2008	Presentation Award of Physics, Ritsumeikan University

SCHOLARSHIPS

1.	2010 – 2013	Ritsumeikan University Research Scholarship S $15,000
2.	2009	Ritsumeikan University Research Scholarship A $7,500
3.	2008	Ritsumeikan University Research Scholarship B $3,000
4	2007	Ritsumeikan University Scholarship $7,500

INVITED TALKS

1. **Yoshimitsu, N.**, Fault growth processes explored from induced earthquakes and laboratory experiments, Hirosaki University, Aomori, Japan, January 17, 2023. (in Japanese)

2. **Yoshimitsu, N.**, Temporal changes in the structure around the fault before earthquakes -Lab and mine observation-, Northeastern University, China (online), July 21, 2022.

3. **Yoshimitsu, N.**, W. L. Ellsworth, G. C. Beroza, Toward the robust stress drop estimates for induced earthquakes in Oklahoma, Planetary Science Seminar at UC Santa Cruz, Santa Cruz, USA, December 8, 2017.

4. **Yoshimitsu, N.**, W. L. Ellsworth, G. C. Beroza, Robust stress drop estimates for induced seismicity in Oklahoma, UC Berkeley Seismology Lab, Berkeley, USA, October 2, 2017.

5. **Yoshimitsu, N.**, W. L. Ellsworth, G. C. Beroza, Stress drop estimation of potentially induced earthquakes in Oklahoma with evaluation of the fitting accuracy, Kyoto University, Kyoto, Japan, July 11, 2017.

6. **Yoshimitsu, N.**, W. L. Ellsworth, G. C. Beroza, Toward the accurate stress drop estimation: improve corner frequency estimation with residual evaluation, JpGU-AGU Joint Meeting 2017, Makuhari, Japan, May 25, 2017.

7. **Yoshimitsu, N**., W. L. Ellsworth, G. C. Beroza, Evaluation of the fitting accuracy for the source parameter estimation of potentially induced earthquakes in Oklahoma, Seismological Society of America 2017 Annual Meeting, Denver, USA, April 20, 2017.

8. **Yoshimitsu, N.**, W. L. Ellsworth, G. C. Beroza, Towards improved stress drop accuracy, U.S. Geological Survey Earthquake Science Center Seminars, Menlo Park, USA, March 29, 2017.

9. **Yoshimitsu, N.**, T. Furumura, T. Maeda, Laboratory seismology: Source characteristics of ultra-micro-fractures and propagation characteristics of elastic waves in a finite sample, FISH Seminar at Massachusetts Institute of Technology, Massachusetts, USA, September 11, 2015.

10. **Yoshimitsu, N.**, T. Furumura, T. Maeda, Wave propagation in laboratory-scale medium estimated by a 3D finite difference method simulation, Civil Engineering Department at Cornell University, New York, USA, September 8, 2015.

11. **Yoshimitsu, N.**, A relationship between micro fractures and natural earthquakes, Earth Observatory of Singapore, Nanyang Technological University, Singapore, May 17, 2014.

12. **Yoshimitsu, N.**, H. Kawakata, H. Ogasawara, Temporal changes in the transmitted waves through the fault zone in South African gold mine, Hirosaki University, Aomori, Japan, October 30, 2013. (in Japanese)

13. **Yoshimitsu, N.**, Award Lecture of Application Contest Student Division Award 2008, the first

prize, National Instruments Japan, A continuous recording system of Acoustic Emission (AE) in rock fracture experiments, Imperial Hotel, Tokyo, Japan, December 19, 2008.

PRESENTATIONS

I have **43** presentations in international conferences, and **61** presentations in Japanese conferences. Full presentation list is shown on my website.

Professional Activities

- Associate Editor of "Artificial Intelligence in Geosciences"
- Review History: https://www.webofscience.com/wos/author/record/613500

INTERNSHIP EXPERIENCE

Sep. 2011	Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

STUDY ABROAD

Aug. 2005	Växjö University, Sweden; Exchange Student of Ritsumeikan University

TEACHING EXPERIENCE

Kyoto University

2021-2025	Main Lecturer	Design Exercise for Global Engineering
2025	Main Lecturer	Exploration Geophysics
2023-2025	Main Lecturer	Introduction to Energy Engineering
2021-2022	Main Lecturer	Integrated Seminar on Infrastructure Engineering
2021-2025	Main Lecturer	Experimental Basics in Earth Resources and Energy Science
2021-2025	Main Lecturer	Materials testing for mineral science and technology
2021, 2023, 2025	Main Lecturer	Introduction to Global Engineering

The University of Tokyo

2018-2019	Guest Lecturer	Spring and Fall Guidance of Japanese Natural Disaster for International Students at the University of Tokyo

Stanford University

2016 fall	Guest Lecturer	Introduction to Seismology

Ritsumeikan University, Japan

2009, 2012 (each half year)	Teaching Assistant	Introduction to Theoretical Physics
2011 (half year)	Teaching Assistant	Advanced Course in Experimental Physics
2008 – 2011 (full)	Teaching Assistant	Laboratory Works in Earth Science
2009 (full)	Teaching Assistant	Earth Science
2008 (half year)	Teaching Assistant	Micro- and macroscopic physics
2007 – 2008 (full)	Teaching Assistant	Computer Assisted Language Learning

OUTREACH EXPERIENCE

2024 July	Speaker	Public dialogue
2023 Jan. 27	Facilitator	Kyoto University, Global Mobility for Early Career Researchers in Post-pandemic World
2022 Sep. 21	Invited Speaker	Kyoto University, Katsura Gender Network Event
2022	Teaching	Kyoto University 2022 Summer School
2018-2019	Guide	Summer Open Campus at Earthquake Research Institute
2015-2016	Guide	Spring Open Campus at Earthquake Research Institute
2014	Guide	Summer Open Campus at Earthquake Research Institute
2014	Panelist	“Draw a map of Ph.D.”, Symposium at Ritsumeikan University
2011	Teaching Assistant	Summer Open Campus Special Class at Ritsumeikan University
2011	Teaching Assistant	Spring Open Campus Special Class at Ritsumeikan University
2010	Interviewed	“Happy Technology, Magazine for girls in science”
2010	Support member	SSJ Earthquake Summer School of 2010