Tomoya Takano

Postdoctral Fellowship
Earthquake Research Institute
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Personal Data

Place of Birth: Japan
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Research Interests

My research focuses on understanding dynamic processes of the Earth' s structure based on analysis of seismic data. I am particularly interested in how the crust responds to external perturbations (e.g. earthquakes, volcano activities, tides, rainfall) using ambient seismic noise.

Positions Held

5/2019 – 3/2020	Visiting Researcher at ISTerre, Universite Grenoble Alpes
4/2019 – 3/2022	Postdoctoral Fellowship of Japan Society for the Promotion of Science, Earthquake Research Institute, University of Tokyo
4/2018 – 10/2018	Visiting student at ISTerre in Grenoble university (Supervisor: Prof. Florent Brenguier and Prof. Michel Campillo)
3/2017 – 3/2017	Internship at Meteorological Research Institute
4/2017 – 3/2019	Research Fellow of the Japan Society for the Promotion of Science (DC2)
10/2015 – 3/2016	Technical Staff at Department of Geophysics, Tohoku University
4/2014 – 9/2015	Marin electronics engineer at Japan Radio Co., Ltd.

Educational Background

4/2016 – 3/2019	Ph.D. Geophysics, Tohoku University
4/2012 – 3/2014	M.S. Geophysics, Tohoku University
4/2008 – 3/2012	B.S. Geophysics, Tohoku University

Thesis Titles

Ph.D.	Temporal changes in seismic velocity of shallow structures at active volcanoes as inferred from analyses of ambient noise correlations
M.S.	Detection of seismic velocity changes caused by the Earth tides by seismic interferometry method
B.S.	Estimation of seismic velocity changes by using auto correlation functions of ambient noise recorded at Hi-net stations

Prior Employment

4/2014 – 9/2015	Japan Radio Co., Ltd. (as a marine electronics engineer)
10/2015 – 3/2016	Technical Staff at Tohoku University

Awards

Tohoku University Presidential Award, Tohoku University, Japan, 2019

Outstanding student paper award, 2018, Japan Volcanological Society, 2018

Outstanding presentation award, 2017, Japan Seismological Society, 2017

Journal Highlights by *J. Geophys. Res.*, about the papar, Takano *et al.*, 2017, *J. Geophys. Res.*, 2017

Grants

4/2019 – 3/2022	**Tomoya Takano (PI)**, Development of different size of array: Toward estimating stress sensitivity in deeper region, *Japan Society for the Promotion of Science* (*JSPS*), Postdoctoral Fellow, (15,960,000 JPY ≈ 144,000 USD)
4/2017 – 3/2019	**Tomoya Takano (PI)**, Characteristics of stress sensitivity of seismic velocity changes by using seismic interferometry, *Japan Society for the Promotion of Science* (*JSPS*), Doctoral Course Students, 17J02025, (6,400,000 JPY ≈ 58,000 USD)

Publications

Journal Articles

1. **T. Takano**, F. Brenguier, M. Campillo, A. Peltier, T. Nishimura, 2019, Noise-based passive ballistic wave seismic monitoring on an active volcano, *Geophysical Journal International*, *in review (moderate)*
2. Brenguier, F., R. Courbis, A. Mordret, X. Campman, B. Boué, M. Chmiel, **T. Takano**, T. Lecocq, W. Van der Veen, S. Postif, and D. Hollis, 2019, Noise-based Ballistic Body-wave Passive Seismic Monitoring, *Geophysical Journal International*, *in review (moderate)*
3. **Takano, T.**, T. Nishimura, H. Nakahra, H. Ueda, E. Fujita, 2019, Sensitivity of seismic velocity changes to the tidal strain at different lapse-times: Data analyses of a small seismic array at Izu-Oshima volcano, *Journal of Geophysical Research: Solid Earth*, *124* (3), 3011-3023, https://doi.org/10.1029/2018JB016235
4. **Takano, T.**, T. Nishimura, H. Nakahara, 2017, Seismic velocity changes concentrated at the shallow structure as inferred from correlation analyses of ambient noise during volcano deformation at izu-oshima, japan, *Journal of Geophysical Research: Solid Earth*, *122* (8), 6721-6736, doi:10.1002/2017JB014340

5. **Takano, T.**, T. Nishimura, H. Nakahara, Y. Ohta, and S. Tanaka, 2014, Seismic velocity changes caused by the earth tide: Ambient noise correlation analyses of small-array data, *Geophysical Research Letters*, *41* (17), 6131-6136, doi:10.1002/2014GL060690

Proceedings

1. **Takano, T.**, F. Brenguier, M. Camillo, T. Nishimura, 2019, Temporal changes of ballistic wave velocity on Piton de la Fournaise volcano, *IUGG General Assembly*, Montreal, Canada, July 2019.

2. **Takano, T.**, T. Nishimura, H. Nakahara, 2018, Seismic velocity changes in response to different direction of tidal strain, *EGU General Assembly*, Vienna, Austria, April 2018.

3. **Takano, T.**, T. Nishimura, H. Nakahara, 2017, Estimation of strain sensitivity of seismic velocity changes using the Earth tide: Analyses of seismic small array data at Izu-Oshima volcano, Japan, *AGU Fall meeting*, New Orleans, Louisiana, USA, December 2017.

4. **Takano, T.**, T. Nishimura, H. Nakahara, H. Ueda, E. Fujita, 2017, Estimation of strain sensitivity of seismic velocity changes using the Earth tide: Noise correlation analyses of small seismic array data at Izu-Oshima volcano, *Seismological Society of Japan Fall meeting*, S01-08, Kagoshima, Japan, October, 2017 (in Japanese)

5. **Takano, T.**, T. Nishimura, H. Nakahara, H. Ueda, E. Fujita, 2017, Strain sensitivity of seismic velocity changes at the shallow part of Izu-Oshima volcano: Ambient noise correlation analyses of small seismic array data, *Volcanological Society of Japan Fall Meeting*, SSS11-P12, Kumamoto, Japan, September, 2017 (in Japanese)

6. **Takano, T.**, T. Nishimura, H. Nakahara, H. Ueda, E. Fujita, 2017, Estimation of strain sensitivity of seismic velocity changes by using the tidal strain at Izu-Oshima volcano, *Scattered wave workshop*,S17-21, Tokyo, Japan, September, 2017 (in Japanese)

7. **Takano, T.**, T. Nishimura, H. Nakahara, 2017, Stress sensitivity of seismic velocity changes in depth as inferred from noise correlation analyses at Izu-Oshima volcano, Japan, *IASPEI*, Kobe, Japan, July 2017.

8. **Takano, T.**, T. Nishimura, H. Nakahara, 2017, Seismic velocity changes at the shallow structure during volcanic deformation at Izu-Oshima, Japan, *Ambient Noise Imaging and Monitoring 2017*, Cargese, France, June, 2017

9. **Takano, T.**, T. Nishimura, H. Nakahara, 2017, Seismic velocity changes localized at the shallow structure: Noise correlation analyses during volcanic deformation at Izu-Oshima, Japan, *GP-EES*, Sendai, Japan, June 2017.

10. **Takano, T.**, T. Nishimura, H. Nakahara, 2017, Estimation of seismic velocity changes in response to the earth tide: Noise correlation analysis at 13 active volcanoes in Japan, *Japan Geoscience Union Meeting*, SSS11-P12, Chiba, Japan, May, 2017 (in Japanese)

11. **Takano, T.**, T. Nishimura, H. Nakahara, Y. Ohta, and S. Tanaka, 2013, Detecting temporal changes of seismic velocity in response to tidal strain: analysis of a small array data at Iwate volcano, *AGU Fall meeting*, San Francisco, California, USA, December 2013.

12. **Takano, T.**, T. Nishimura, H. Nakahara, 2016, Estimation of stress sensitivity of seismic velocity changes at Izu-Oshima volcano: Analyses of JMA seismic data with seismic interferometry , *Scattered wave workshop*, Tokyo, Japan, September, 2016 (in Japanese)

13. **Takano, T.**, T. Nishimura, H. Nakahara, 2016, Characteristics of seismic velocity changes on volcanoes using noise correlation method: Analyses of JMA seismic data, *Japan Geoscience Union Meeting*, SVC47-23, Chiba, Japan, May, 2016 (in Japanese)

14. **Takano, T.**, T. Nishimura, H. Nakahara, Y. Ohta, S. Tanaka, 2013, Detecting temporal changes of seismic velocity in response to tidal strain : analysis of a small array data at Iwate volcano, *AGU Fall meeting*, San Francisco, California, USA, December 2013.

15. **Takano, T.**, T. Nishimura, H. Nakahara, Y. Ohta, S. Tanaka, 2013, Estimation of strain sensitivity of seismic velocity changes using the Earth tide: Noise correlation analyses of small seismic array data at Izu-Oshima volcano, *Seismological Society of Japan Fall meeting*, S01-08, Yokohama, Japan, October, 2013 (in Japanese)

16. **Takano, T.**, T. Nishimura, H. Nakahara, Y. Ohta, S. Tanaka, 2013, Detection of seismic velocity changes caused by the Earth tide with seismic interferometry: Analyses of small seismic array data at the foot of Mt. Iwate, *Scattered wave workshop*, Tokyo, Japan, September, 2013 (in Japanese)

17. **Takano, T.**, T. Nishimura, H. Nakahara, S. Tanaka, 2013, An attempt of detecting seismic velocity changes caused by the Earth tide with auto correlation functions of ambient noise, *Japan Geoscience Union Meeting*, SVC47-23, Chiba, Japan, May, 2013 (in Japanese)

Editorial Activities

Reviewed for

Geophysical Research Letters (1)

Teaching

2016 Fall, Teaching assistant, Exercises in Mechanics, Tohoku University

2012 Spring, Teaching assistant, Experiments in Geophysics, Tohoku University

Last updated: July 29, 2019