Nori Nakata

Norimitsu Nakata

Principal Research Scientist
Department of Earth, Atmospheric and Planetary Sciences
Massachusetts Institute of Technology
77 Massachusetts Ave., Cambridge, MA 02139

Phone	+1-617-452-2816
Email	nnakata@mit.edu
Homepage	http://www.mit.edu/~nnakata/

Staff Scientist
Energy Geosciences Division
Lawrence Berkeley National Laboratory
1 Cyclotron Road M/S 74R316C, Berkeley, CA 94720

Phone	+1-510-486-6346
Email	nnakata@lbl.gov
Homepage	https://eesa.lbl.gov/profiles/nori-nakata

Positions Held

11/2020–present	Staff Scientist, Lawrence Berkeley National Laboratory, Energy Geosciences Division
01/2019–present	Principal Research Scientist, Massachusetts Institute of Technology, Department of Earth, Atmospheric and Planetary Sciences
08/2016–12/2018	Lissa and Cy Wagner Assistant Professor, University of Oklahoma, School of Geology and Geophysics
09/2013–08/2016	George Thompson Postdoctoral Fellow, Stanford University, Department of Geophysics
01/2012–08/2013	Research assistant at Center for Wave Phenomena, Colorado School of Mines
08/2010–12/2011	Visiting Researcher at Center for Wave Phenomena, Colorado School of Mines
4/2010–12/2011	Research Fellow of the Japan Society for the Promotion of Science (DC1)
12/2009–1/2010	Internship at Jgi, Inc.
1/2009–3/2009	Visiting Researcher at Center for Wave Phenomena, Colorado School of Mines
11/2008–12/2008	Internship at Jgi, Inc.
8/2008–9/2008	Internship at Jgi, Inc.

Educational Background

1/2012–8/2013	Ph.D., Colorado School of Mines, Department of Geophysics, Center for Wave Phenomena
4/2010–12/2011	Ph.D. (transfer to CSM) , Kyoto University, Department of Urban Management
4/2008–3/2010	M.Eng., Kyoto University, Civil and Earth Resources Engineering
4/2004–3/2008	B.Eng., Kyoto University, Global Engineering

Theses Titles

Ph.D.	Seismic interferometry for temporal monitoring
M.Eng.	Virtual world in Geophysics: synthesized data by interferometry and simulation
B.Eng.	Subsurface structures from train induced elastic waves using seismic interferometry

Publications

see attached lists with 1 book, 49 + 1 journal articles, 125 conference proceedings, 33 invited talks, and 1 patent.

Teaching

Seismic Exploration	University of Oklahoma	GPHY4874	Fall
Geophysical Signal Processing	University of Oklahoma	GPHY4970	Fall
Seismic Imaging	University of Oklahoma	GPHY6873	Spring
Seismic Rays and Waves	University of Oklahoma	GPHY6970	Spring
Wave Phenomena	University of Oklahoma	GPHY6970	Fall and Spring
Introduction to Seismology	Stanford University	GEOPHYS 130	2014 Fall
Advanced Enginering Mathematics	Colorado School of Mines	MATH348	2012 Fall

Advising

Current students

Raymond Ng, PhD, 2017–, University of Oklahoma

Hilary Chang, PhD, 2019–, Massachusetts Institute of Technology

Current Postdocs

Tong Bai, 2020–, Massachusetts Institute of Technology

Jun Hu, 2020–, Massachusetts Institute of Technology

Bin Lyu, 2020–, Massachusetts Institute of Technology

Former students

Jianhang Yin, MSc, 2017, Diffraction imaging using Geometric-mean Reverse-Time Migration and Common Reflection Surface, University of Oklahoma

Stephen Marsh, MSc, 2018, Development of a state-wide velocity profile in Oklahoma using ambient noise seismic tomography, University of Oklahoma

Peiyao Li, MSc, 2018, Towards the usage of quarry blasts as active seismic source, University of Oklahoma

Alexandro Vera-Arroyo, MSc, 2019, The mechanical characterization of subsurface lithologies using an integrated approach; combining laboratory studies, borehole and drilling data and seismic information to explain hydrocarbon production in mature fields, University of Oklahoma

Awards & recognition

1. Young Scientist Award, Seismological Society of Japan, 2017
2. Mendenhall prize (outstanding graduating PhD student), Dept. of Geophysics, Colorado School of Mines, 2013
3. Outstanding student presentation award, 2013 Japan Geoscience Union Meeting, Chiba, May, 2013
4. Research highlight by *Nature* about the paper, Nakata and Snieder, *J. Geophys. Res.*, 2012
5. SLS travel grant for SEG 80th Annual Meeting from SEG Foundation, October, 2010
6. Kyoto-university travel grant for visiting Colorado School of Mines, January, 2009
7. Outstanding presentation award, Idea Competition in SEGJ 60th anniversary, Tokyo, October, 2008

Grants

2018–2022	Jacob Walter and **Nori Nakata (co-PI)**, TIME (Thwaites Interdisciplinary Margin Evolution) - The Role of Shear Margin Dynamics in the Future Evolution of Thwaites Drainage Basin, *NSF* (512,170 USD, only OU part; Total is 3M USD)
2019–2021	**Nori Nakata (PI)**, Development of passive seismic methods for source imaging and velocity estimation with an application to Bokhtar data, *Total* (369,204 USD)
2020	**Nori Nakata (PI)**, Quantifying uncertainty in earthquake source parameters using the Large-N LASSO Array: Collaborative research with MIT and Boston University, *USGS* (72,924 USD)
2020-2027	**Nori Nakata (PI)**, Research collaboration between ITB and MIT for Developement of Processing Tools of DAS data in the connection to Gundih CCUS Pilot Project, *MIT-Indonesia Research Alliance, MIRA* (240,000 USD)
2020-2021	**Nori Nakata (PI)**, Developement of active and passive seismic imaging methods for land data using both body and surface waves, *INPEX CORPORATION* (89,975 USD)
pending	**Nori Nakata (PI)** and Michael Fehler, Research collaboration between ITB and MIT for electricity installed capacity improvement using geothermal resource in Flores Island - Indonesia, *MIT-Indonesia Research Alliance, MIRA* (240,000 USD)
pending	**Nori Nakata (PI)**, Collaborative Research: GCR: Using vehicle fleets to monitor nationwide transportation infrastructure, *NSF* (585,464 USD)
pending	Matej Pec, Shuhei Ono, **Nori Nakata** and Stephen Brown, High fidelity monitoring for carbon sequestration: Integrated geophysical and geochemical investigation of field and laboratory data, *MIT Energy Initiative* (749,856 USD)
2019–2020	**Nori Nakata (PI)**, Shallow crustal heterogeneity in Southern California estimated from earthquake coda waves,*SCEC* (25,000 USD)
2019–2020	**Nori Nakata (PI)**, High-frequency ground-motion prediction using a 3D subsurface structure at the Diablo Canyon, California,*SCEC* (30,000 USD)
2017–2018	**Nori Nakata (PI)**, Imaging 3D subsurface structure at Diablo Canyon, California, using ambient field recorded by a very dense array for high-frequency ground motion prediction, *SCEC* (20,641 USD)
2017–2018	**Nori Nakata (PI)**, Ambient field analysis of earthquake ground motion at Groningen gas field, *Shell* (47,167 USD)
2017–2018	**Nori Nakata (PI)**, Microseismic Monitoring in the Shale oil field at Fukumezawa, Akita, Japan, *Japan Petroleum Exploration Co., Ltd.* (8,728 USD)
2017–2018	**Nori Nakata (PI)**, Assessment of the complicated faulting characterization and post-earthquake relaxation after the M5.8 Pawnee Earthquake on September 3, 2016, *Faculty Investment Program (FIP), University of Oklahoma* (10,000 USD)
2016–2017	**Nori Nakata (PI)**, Xiaowei Chen, and Jefferson Chang (Collaborative research with Cornell, Columbia, Oklahoma State universities), NSF RAPID: Monitoring aftershocks for the Mw5.8 Pawnee earthquake, *National Science Foundation (NSF ID: 1664286)* (23,001 USD)
2016–2017	**Nori Nakata (PI)**; Assessment of the 4D fault rupture characterization and post-earthquake relaxation caused by the M5.8 Pawnee earthquake, *Mewbourne College Dean Award, University of Oklahoma* (115,000 USD)
2016–2017	Greg Beroza and **Nori Nakata**, Stochastic characterization of crustal structure for high-frequency ground motion prediction using dense-array observations, *South California Earthquake Center (SCEC Award #16296)* (30,000 USD)

Grants *(cont.)*

2015–2016	Greg Beroza and **Nori Nakata**, Characterizing spatial variability of ground motion using very dense arrays, *South California Earthquake Center (SCEC Award #15213)* (31,000 USD)
2013–present	Nori Nakata, support of workstations and new storage systems, *SuperMicro Inc.* (equivalent to 20,000 USD/year)
2013–2015	**Nori Nakata (PI)**, George Thompson Fellow, *Stanford University* (125,000 USD)
2010–2011	**Norimitsu Nakata (PI)**, Time-lapse monitoring by applying seismic interferometry to Hi-net data, *Japan Society for the Promotion of Science (JSPS), 22-5857* (5,600,000 JPY $\approx$ 56,000 USD)

Professional activities

Journal Editors

2018–present	Associate editor of *Journal of Geophysical Research*
2016–2018	Associate editor of *Journal of Applied Geophysics*
2017	Guest editor for the Focus Section of *Seismological Research Letter* (the M5.8 2016 Pawnee earthquake in Oklahoma)
2016	Guest editor for the August 2016 special issue of *INTERPRETATION* (Ambient noise)
2015	Guest editor for the August 2015 special issue of *The Leading Edge* (Microseismic source mechanisms)

Committee & Organizers

2019	Science Committee for the fifth international conference on applied geophysics in Czech Republic
2019	Organizer for a post-convention workshop at EAGE Near-surface geophysics (Geophysics for geohazards workshop)
2018	Passive Seismic Section Committee in the SEG annual meeting
2018	Local committee for the ICDP workshop on Drilling Investigation of Seismogenic Crust in Oklahoma
2017	Science committee in *Eastern Section SSA annual meeting*
2014	Organizer for a post-convention workshop at the 2014 annual meeting of SEG (Microseismic source mechanisms)

Session Conveners

American Geophysical Union

2019	Ambient-noise seismology
2019	Methodological innovations and applications in seismic wave physics, including wave scattering, attenuation estimation and earthquake ground motion
2018	Ambient field seismology: theoretical and methodological innovations
2017	Ambient field seismology: theoretical and methodological innovations
2017	Ground translation, strain, rotation: using wavefield gradients for seismic applications
2016	Late breaking session: 3 September 2016 M5.8 Pawnee Earthquake, Oklahoma
2016	Imaging the Earth II: From Data to Processes on regional to global scales
2016	Reliability of the Green's function extracted from ambient noise
2015	Progress in Ambient Seismic Field Studies Driven by Complete Wavefields Initiatives

Society of Exploration Geophysicists

2020-present	Committee for SEG membership
2019	Machine Learning Section; Geophysics: Novel Concepts
2018	Passive Seismic Section; Detection, Location and Characterization
2018	Passive Seismic Section; Microseismic Case Studies 2

Seismological Society of America

2018	3D/4D seismic imaging and their interpretation for seismic hazard assessment
2018	Recent advances in dense array seismology
2017	Theoretical and methodological innovations for 3D/4D seismic imaging of near-surface, crustal, and global scales
2016	Theoretical and methodological innovations for 3D/4D seismic imaging of near-surface, crustal, and global scales
2015	Seismic imaging and monitoring of Near-surface, and Crustal and Global Scales: Recent Advances and Future Directions
2014	Advances in seismic imaging and monitoring

Other societies

2018	AOGS; Imaging the Earth: from data to interpretation

Other activities

2010–2011	Committee chairman at SEG Kyoto University student chapter
2009–2010	Treasurer at SPE Kyoto University student chapter

Publications

Book

1. **Nori Nakata**, Lucia Gualtieri, and Andreas Fichtner, *Seismic Ambient Noise*, Cambridge University Press, 2019.

Journal Articles

s1 Bin Lyu and **Nori Nakata**; Passive seismic imaging and velocity inversion workflow based on full wave-equation methods, *Geophys. J. Int. (under review)*.

1. Malcolm C. A. White, Hongjian Fang, **Nori Nakata**, and Yehuda Ben-Zion; PyKonal: A Python package for solving the Eikonal equation in spherical and Cartesian coordinates using the Fast Marching Method, *Seismol. Res. Lett.*, doi.org/10.1785/0220190318.

2. Fangyu Li, Tong Bai, **Nori Nakata**, Bin Lyu and WenZhan Song; Efficient seismic source localization using simplified Gaussian beam time reversal imaging, *IEEE Transactions on Geoscience and Remote Sensing*, doi:10.1109/TGRS.2020.2964744.

3. Rie Nakata, David Lumley, Gary Hampson, Kurt Nihei, and **Nori Nakata**; Waveform-based estimation of Q and scattering properties for zero-offset VSP data, *Geophysics*, **85**(4), R365–R379, doi:10.1190/GEO2019-0369.1.

4. Jing Jian, Roel Snieder, and **Nori Nakata**; Extracting the response of the Bay Bridge, California, from earthquake induced shaking, *Bull. Seismol. Soc. Am.*, **110**(2), 556–564, doi:10.1785/0120190231.

5. Norman H. Sleep and **Nori Nakata**; Nonlinear rheology at shallow depths with reference to the 2016 Kumamoto earthquake, *Bull. Seismol. Soc. Am. (in press)*.

6. Xin Liu, Gregory C. Beroza, and **Nori Nakata**; Isolating and suppressing the spurious non-diffuse contributions to ambient seismic field correlations, *J. Geophys. Res.*, **124**, 9653–9663, 2019.

7. Jianhang Yin and **Nori Nakata**; Diffraction imaging using geometric-mean reverse-time migration and common reflection surface, *Geophysics*, **84**(4), S335–S364, doi:10.1190/GEO2018-0455.1, 2019.

8. Christopher W. Johnson, Frank Vernon, **Nori Nakata**, and Yehuda Ben-Zion; Atmospheric processes modulating noise in Fairfield Nodal 5 Hz Geophones, *Seismol. Res. Lett.*, **90**(4), 1612–1618, doi:10.1785/0220180383, 2019.

9. **Nori Nakata** and Kiwamu Nishida; Body wave exploration, *chapter for book Seismic Ambient Noise edited by Nori Nakata, Lucia Gualtieri and Andreas Fichtner*, 2019.

10. Rafal Czarny, Zenon Pilecki, **Nori Nakata**, Elzbieta Pilecka, Krzysztof Krawiec, Paulina Harba, and Maciej Barnaś; Imaging of the three-dimensional S-wave velocity structure disturbed by underground mining using seismic interferometry with ambient seismic noise, *Engineering Geology*, **251**, 115–127, 2019.

11. Yuji Kim and **Nori Nakata**, Geophysical inversion versus machine learning in inverse problem, *The leading edge*, December, 894–901, 2018.

12. Yixiao Shen, **Nori Nakata**, and Gregory C. Beroza; On the nature of higher-order ambient seismic field correlations, *J. Geophys. Res.*, **123**(9), 7969–7982, 2018.

13. Chenyu Li, Zefeng Li, Zhigang Peng, Chengyuan Zhang, **Nori Nakata**, and Tim Sickbert; Long-duration events detected by the IRIS community wavefield demonstration experiment in Oklahoma: Tremor or train signals?, *Seismol. Soc. Lett.*, **89**(5), 1652–1650, 2018.

14. Zack Spica, Mathieu Perton, **Nori Nakata**, Xin Liu, and Gregory C. Beroza; Shallow V_s imaging of the Groningen area from joint inversion of multi-mode surface waves and H/V spectral ratios, *Seismol. Res. Lett.*, **89**(5), 1720–1729, 2018.

15. **Nori Nakata** and Toshihide Kashima; Time-lapse changes in seismic response of building over 20 years due to earthquakes and aging, *11th U.S. National Conference on Earthquake Engineering*, **11**, 10 pages, 2018.

16. Norman H. Sleep and **Nori Nakata**; Nonlinear body waves in the shallow subsurface, implications of flow-law rheologies, *11th U.S. National Conference on Earthquake Engineering*, **11**, 10 pages, 2018.

17. Zack Spica, **Nori Nakata**, Xin Liu, Xander Campman, Zijian Tang, and Gregory C. Beroza; The ambient seismic field analysis at Groningen Gas Field: An overview from the surface to reservoir depth, *Seismol. Res. Lett.*, **89**(4), 1450–1466, 2018.

18. **Nori Nakata** and David R. Shelly; Imaging a crustal low-velocity layer using reflected seismic waves from the 2014 earthquake swarm at Long Valley Caldera, California: the magmatic system roof?, *Geophys. Res. Lett.*, **45**, 3481–3488, doi:10.1029/2018GL077260, 2018.

19. Zack J. Spica, Mathieu Perton, **Nori Nakata**, Xin Liu, and Gregory C. Beroza; Site characterization at Groningen gas field area through joint surface-borehole H/V analysis, *Geophys. J. Int.*, **212**, 412–421, 2018.

20. Xiaowei Chen, **Nori Nakata**, Jackson Haffener, Colin Pennington, Jefferson Chang, Xiaohui He, Zhongwen Zhan, Sidao Ni, and Jacob I. Walter; The Pawnee earthquake as a result of the interplay among injection, faults and foreshocks, *Scientific Reports*, **7**, 4945, doi:10.1038/s41598-017-04992-z, 2017.

21. Norman H. Sleep and **Nori Nakata**; Nonlinear attenuation S-waves by frictional failure at shallow depths, *Bull. Seismol. Soc. Am.*, **107**(4), 1828–1848, doi:10.1785/0120160334.

22. Erol Kalkan, Hasan S. Ulusoy, W. Wen, J.P.B. Fletcher, F. Wang, and **Nori Nakata**; Site properties inferred at Delaney Park downhole array in Anchorage Alaska, *Bull. Seismol. Soc. Am.*, *(publish pending)*.

23. Xiaowei Chen and **Nori Nakata**; Preface to the Focus Section on the 3 September 2016 Pawnee, Oklahoma, Earthquake, *Seismol. Res. Lett.*, **88**, 4, 953–955, doi:10.1785/0220170078, 2017.

24. **Nori Nakata**; Near-surface S-wave velocities estimated from traffic-induced Love waves using seismic interferometry with double beamforming, *Interpretation*, **4**, 4, doi:10.1190/INT-2016-0013.1, 2016.

25. Florent Brenguier, Diane Rivet, Anne Obermann, **Nori Nakata**, Pierre Boué, Thomas Lecocq, Michel Campillo, and Nikolai Shapiro; 4-D noise-based seismology at volcanoes: Ongoing efforts and perspectives, *J. Volcanol. Geoth. Res.*, **321**, 182–195, doi:10.1016/j.volgeores.2016.04.036, 2016.

26. Norman H. Sleep and **Nori Nakata**; Nonlinear suppression of high-frequency S waves by strong Rayleigh waves, *Bull. Seismol. Soc. Am.*, **106**, 5, 2302–2312, doi:10.1785/0120160105, 2016.

27. Michael Behm, **Nori Nakata**, and Götz Bokelmann; Regional ambient noise tomography in the Eastern Alps of Europe, *Pure Appl. Geophys.*, **173**, 2813–2840, doi:10.1007/s00024-016-1314-z, 2016.

28. Sjoerd de Ridder, Florent Brenguier, Farnoush Forghani, Erica Galetti, **Nori Nakata**, and Cornelis Weemstra; Introduction to special section: Ambient noise, *Interpretation*, **4**, 3, SJi, doi:10.1190/INT-2016-0627-SPSEINTRO.1, 2016.

29. **Nori Nakata**, Pierre Boué, Florent Brenguier, Philippe Roux, Michel Campillo, and Valérie Ferrazzini; Body- and surface-wave reconstruction from seismic noise correlations between arrays at Piton de la Fournaise volcano, *Geophys. Res. Lett.*, **43**, 1047–1054, doi:10.1002/2015GL066997, 2016.

30. **Nori Nakata** and Gregory C. Beroza; Reverse-time migration for microseismic sources using the geometric mean as an imaging condition, *Geophysics*, **81**, 2, KS51–KS60, doi:10.1190/GEO2015-0278.1, 2016.

31. Rafal Czarny, Henryk Marcak, **Nori Nakata**, Zenon Pilecki, and Zbigniew lsakow; Monitoring velocity changes caused by underground coal mining using seismic noise, *Pure Appl. Geophys.*, **173**, 1907–1916, doi:10.1007/s00024-015-1234-3, 2016.

32. Mehmet Çelebi, Hasan S. Ulusoy, and **Nori Nakata**; Responses of a tall building in Los Angeles, California as inferred from local and distant earthquakes, *Earthq. spectra*, **32**, 3, 1821–1843, doi:10.1193/050515EQS065M, 2016.

33. F. Brenguier, P. Kowalski, N. Ackerley, **Nori Nakata**, et al.; Towards 4-D noise-based seismic proving of volcanoes: Perspectives from a *Large-N* experiment on Piton de la Fournaise Volcano, *Seismol. Res. Lett.*, **87**, 1, 15-25, doi: 10.1785/0220150173, 2015.

34. **Nori Nakata** and Gregory C. Beroza; Stochastic characterization of mesoscale seismic velocity heterogeneity in Long Beach, California, *Geophys. J. Int.*, **203**, 2049–2054, doi: 10.1093/gji/ggv421, 2015.

35. **Nori Nakata**, Wataru Tanaka, and Yoshiya Oda; Damage detection of a building caused by the 2011 Tohoku-Oki earthquake with seismic interferometry, *Bull. Seismol. Soc. Am.*, **105**, 5, 2411-2419, doi: 10.1785/0120140220, 2015.

36. Norman H. Sleep and **Nori Nakata**; Nonlinear attenuation from the interaction between different types of seismic waves and interaction of seismic waves with shallow ambient tectonic stress, *Geochem. Geophys. Geosyst.*, **16**, 2337–2363, doi: 10.1002/2015GC005832, 2015.

37. Rie Kamei, **Nori Nakata**, and David Lumley; Introduction to microseismic source mechanisms, *The Leading Edge*, **34**, 8, 876–880, doi:10.1190/tle34080876.1, 2015.

38. **Nori Nakata**, Jason P. Chang, Jesse F. Lawrence, and Pierre Boué; Body-wave extraction and tomography at Long Beach, CA, with ambient-noise interferometry, *J. Geophys. Res.*, **120**, 1159–1173, 2015.

39. **Nori Nakata**, Roel Snieder, and Michael Behm; Body-wave interferometry using regional earthquakes with multi-dimensional deconvolution after wavefield decomposition at free surface, *Geophys. J. Int.*, **199**, 1125–1137, doi: 10.1093/gji/ggu316, 2014.

40. **Nori Nakata** and Roel Snieder; Monitoring a building by deconvolution interferometry. II: Ambient-vibration analysis, *Bull. Seismol. Soc. Am.*, **104**, 1, 204–213, doi: 10.1786/0120130050, 2014.

41. **Nori Nakata**; Combination of Hi-net and KiK-net data for deconvolution interferometry, *Bull. Seismol. Soc. Am.*, **103**, 6, 3073-3082, doi: 10.1785/0120130101, 2013.

42. **Nori Nakata**, Roel Snieder, Seiichiro Kuroda, Shunichiro Ito, Takao Aizawa and Takashi Kunimi; Monitoring a building by deconvolution interferometry. I: Earthquake-data analysis, *Bull. Seismol. Soc. Am.*, **103**, 3, 1662-1678, doi: 10.1786/0120120291, 2013.

43. **Nori Nakata** and Roel Snieder; Time-lapse change in anisotropy in Japan's near surface caused by the 2011 Tohoku-Oki earthquake, *Geophys. Res. Lett.*, **39**, L11313, doi:10.1029/2012GL051979, 2012.

44. **Nori Nakata** and Roel Snieder; Estimating near-surface shear-wave velocities in Japan by applying seismic interferometry to KiK-net data, *J. Geophys. Res.*, **117**, B01308, doi:10.1029/2011JB008595, 2012 (Research highlights: Nature, AGU).

45. **Nori Nakata** and Roel Snieder; Near-surface weakening in Japan after the 2011 Tohoku-Oki earthquake, *Geophys. Res. Lett.*, **38**, L17302, doi:10.1029/2011GL048800, 2011 (Research highlight: IRIS).

46. **Norimitsu Nakata**, Roel Snieder, Takeshi Tsuji, Ken Larner, and Toshifumi Matsuoka; Shear-wave imaging from traffic noise using seismic interferometry by cross-coherence, *Geophysics*, **76**, 6, SA97-SA106, doi:10.1190/GEO2010-0188.1, 2011.

47. Takeshi Tsuji, Jack Dvorkin, Gary Mavko, **Norimitsu Nakata**, Toshifumi Matsuoka, Ayako Nakanishi, Shuichi Kodaira, and Osamu Nishizawa; V_p/V_s ratio and shear-wave splitting in the Nankai Trough seismogenic zone: Insights into effective stress, pore pressure and sediment consolidation, *Geophysics*, **76**, 3, WA71-WA82, doi:10.1190/1.3560018, 2011.

48. **Norimitsu Nakata**, Takeshi Tsuji, Toshifumi Matsuoka; Acceleration of computation speed for elastic wave simulation using a Graphic Processing Unit, *Exploration Geophysics*, **42**, 98-104, doi:10.1071/EG10039, 2011.

49. **Norimitsu Nakata**; Speeding up large-scale seismic data processing using GPU, *Buturi-Tansa*, **62**, 2, 234-235, 2009 (in Japanese).

Conference Proceedings

1. **Nori Nakata** and Taka'aki Taira; Seismic constraints on crustal permeability inferred from tidal modulation of subsurface seismic velocity, *2019 AGU fall meeting*, San Francisco, CA, USA, 9–13 December 2019.

2. Ning Gu, **Nori Nakata**, Taka'aki Taira, Noah Randolph-Flagg, and Michael Manga; Response of Long-Valley Caldera hydrothermal system to stress transients from the 2019 Mw7.1 Ridgecrest earthquake inferred from ambient noise seismic interferometry, *2019 AGU fall meeting*, San Francisco, CA, USA, 9–13 December 2019.

3. Marianne Karplus, Galen Kaip, Steven Harder, Stephen Veitch, **Nori Nakata**, Adam Booth, Jacob I. Walter, Poul Christoffersen, Slawek Tulaczyk; Active-source seismic imaging of the West Antarctic Ice Sheet: Source performance and new images at WAIS Divide, *2019 AGU fall meeting*, San Francisco, CA, USA, 9–13 December 2019.

4. Rie Nakata, Yuichi Morita, Kimihiro Mochizuki, and **Nori Nakata**; Seismic imaging of the Izu-Oshima volcano using dense onshore-offshore datasets, *2019 AGU fall meeting*, San Francisco, CA, USA, 9–13 December 2019.

5. Oleg Poliannikov, Yusuke Mukuhira, Paul Wyer, Brian deMartin, Michael Fehler, and **Nori Nakata**; Comparative study of low-magnitude earthquake detection techniques for use with dense seismic monitoring arrays: Applications for induced seismicity monitoring, *2019 AGU fall meeting*, San Francisco, CA, USA, 9–13 December 2019.

6. **Nori Nakata**; Post-processing of ambient noise correlation for more accurate imaging and monitoring, *Workshop on Frontiers in Seismic Interferometry*, Taipei, Taiwan, 27 September 2019.

7. **Nori Nakata**; Characterization of earthquake ground motion and ambient-noise correlation using a rotational seismometer and an array-based rotational motion, *5th Workshop on International Working Group on Rotational Seismology (IWGoRS)*, Sun Moon Lake, Taiwan, 22–26 September 2019.

8. **Nori Nakata**, Rie Nakata and Ziqiu Xue; Estimation of scatterer locations and subsurface velocities using scattered tube waves observed during a crosswell survey, *89th SEG annual meeting*, San Antonio, TX, USA, 15–20 September 2019.

9. Rie Nakata, David Lumley, Gary Hampson, Kurt Nihei and **Nori Nakata**; Estimation of Q in the presence of full waveform scattering effects in VSP data, *89th SEG annual meeting*, San Antonio, TX, USA, 15–20 September 2019.

10. Yuji Kim and **Nori Nakata**; A comparison of geophysical inversion and machine learning in inverse problems, *89th SEG annual meeting*, San Antonio, TX, USA, 15–20 September 2019.

11. Yuwei Wang, **Nori Nakata**, Yusuke Kumano and Hidehiko Shimizu; Microseismic imaging of real passive data with GmRTM, *89th SEG annual meeting*, San Antonio, TX, USA, 15–20 September 2019.

12. Xiaowei Chen, Colin Pennington, Raymond Ng, **Nori Nakata**, and Jiewen Zhang; Source parameter analysis of microseismicity during hydraulic fracture – pinning stress distributions within fracture zone, *89th SEG annual meeting*, San Antonio, TX, USA, 15–20 September 2019.

13. **Nori Nakata**; Post processing of ambient noise correlation for more accurate imaging and monitoring, *89th SEG annual meeting*, San Antonio, TX, USA, 15–20 September 2019, *(invited)*.

14. **Nori Nakata**, Hongjian Fang, Malcolm White and Arben Pitarka; Shallow crustal heterogeneity in Southern California estimated from earthquake coda waves, *2019 SCEC annual meeting*, Palm Springs, CA, USA, 8–11 September 2019.

15. Abdulmohsen Alali, Kurt Marfurt and **Nori Nakata**; The effect of fracture clustering on confined fractured zones: Numerical modeling and analyses, *Petroleum Geostatics 2019*, Florence, Italy, 2–6 September 2019.

16. Alexandro Vera-Arroyo and **Nori Nakata**; Acoustic anisotropy characterization of Woodford shale and its impact on hydraulic fracturing: Numerical simulation of fractures, *2019 GSA Joint Section Meeting*, Manhattan, Kansas, USA, 25–27 March 2019.

17. Alexandro Vera-Arroyo and **Nori Nakata**; Evidence of hydrothermal veins in basement rocks, integrating potential data with rock-physics nad P-impedance seismic inversion and its relationship with salt water disposal wells at Northern Oklahoma, *2019 GSA Joint Section Meeting*, Manhattan, Kansas, USA, 25–27 March 2019.

18. **Nori Nakata** and Peiyao Li; Nonlinear instantaneous velocity change at shallow depths caused by strong motion of the 2011 Tohoku-Oki earthquake, *2018 AGU fall meeting*, Washington DC, USA, 10–14 December 2018.

19. Peiyao Li and **Nori Nakata**; Co-seismic near surface velocity variation during 2011 Tohoku-Oki earthquake, *2018 AGU fall meeting*, Washington DC, USA, 10–14 December 2018.

20. Raymond Ng and **Nori Nakata**; Impact of wind turbines and wind coupling to the seismic field, *2018 AGU fall meeting*, Washington DC, USA, 10–14 December 2018.

21. Xin Liu, Gregory C. Beroza, **Nori Nakata**, and Zack Spica; Attenuation estimation with uncertainty based on seismic noise interferometry: Application to a dense array in Groningen, Netherlands, *2018 AGU fall meeting*, Washington DC, USA, 10–14 December 2018.

22. Rie Kamei and **Nori Nakata**; Estimating Q and scattering properties based on waveform information, *2018 AGU fall meeting*, Washington DC, USA, 10–14 December 2018.

23. **Nori Nakata**; Precursory dynamic triggering as an indicator of the rupture in the 2016 Mw7.0 Kumamoto earthquake sequence, *12th joint meeting of UJNR panel on Earthquake Research*, Kumamoto, Japan, 24–26 October 2018.

24. **Nori Nakata**; Extended imaging conditions for passive seismic data with GmRTM, *88th SEG annual meeting*, Anaheim, CA, USA, 14–19 October 2018.

25. Rie Kamei, David Lumley, and **Nori Nakata**; Waveform-based source-parameter estimation for elastic full waveform inversion, *88th SEG annual meeting*, Anaheim, CA, USA, 14–19 October 2018.

26. Bin Lyu, **Nori Nakata**, and Kurt J. Marfurt; A reverse-time migration workflow of passive source with joint imaging conditions, *88th SEG annual meeting*, Anaheim, CA, USA, 14–19 October 2018.

27. **Nori Nakata** and David R. Shelly; Single-station reflection imaging of a low-velocity layer at Long Valley Caldera, California: The magmatic system roof?, *2018 SSJ annual meeting*, Fukushima, Japan, 9–11 October 2019.

28. **Nori Nakata**; Nonlinear instantaneous velocity change at shallow depths caused by strong motion of the 2011 Tohoku-Oki earthquake, *2018 SSJ annual meeting*, Fukushima, Japan, 9–11 October 2019 *(invited)*.

29. Christopher W. Johnson, Haoran Meng, Frank L. Vernon, **Nori Nakata** and Yehuda Ben-Zion; Characteristics of ground motion generated by interaction of wind gusts with trees, structures and other obstacles above the surface, *2018 SCEC annual meeting*, Palm Springs, CA, USA, 8–12 September 2016.

30. **Nori Nakata**; Characterization of high-wavenumber subsurface random heterogeneity using a very dense array at Diablo Canyon, California, *2018 SCEC annual meeting*, Palm Springs, CA, USA, 8–12 September 2016.

31. **Nori Nakata** and Toshihide Kashima; Time-lapse changes in seismic response of building over 20 years due to earthquakes and aging, *11th U.S. National Conference on Earthquake Engineering (NCEE) meeting*, Los Angeles, California, USA, 25–29 June 2018.

32. Norman H. Sleep and **Nori Nakata**; Nonlinear body waves in the shallow subsurface, implications of flow-law rheologies, *11th U.S. National Conference on Earthquake Engineering (NCEE) meeting*, Los Angeles, California, USA, 25–29 June 2018.

33. **Nori Nakata** and Stephen Marsh; Towards the development of the community velocity model for Oklahoma using seismic ambient noise, *2018 Asia Oceania Geosciences Society (AOGS) annual meeting*, Honolulu, Hawaii, USA, 03–08 June 2018.

34. **Nori Nakata** and David R. Shelly; Single-station imaging of a low-velocity layer using reflected waves from the 2014 earthquake swarm at Long Valley Caldera, California, *2018 SSA annual meeting*, Miami, Florida, USA, 14–17 May 2018.

35. Rie Kamei and **Nori Nakata**; Estimating Q and scattering using waveform inversion and imaging, *2018 SSA annual meeting*, Miami, Florida, USA, 14–17 May 2018 *(invited)*.

36. Xin Liu, Gregory C. Beroza, and **Nori Nakata**; Applications of blind signal separation to ambient seismic field cross-correlation, *2018 SSA annual meeting*, Miami, Florida, USA, 14–17 May 2018.

37. Yixiao Sheng, **Nori Nakata**, and Gregory C. Beroza; On the nature of higher-order ambient seismic field correlations, *2018 SSA annual meeting*, Miami, Florida, USA, 14–17 May 2018.

38. **Nori Nakata**; Interaction of injection, faults and foreshocks for the 2016 M5.8 Pawnee earthquake, *ICDP Workshop on Drilling Investigation of Seismogenic Crust in Oklahoma (DISCO)*, Norman, Oklahoma, USA, 3–5 May 2018.

39. Maggie Martin and **Nori Nakata**; Estimating the empirical magnitude-ambplitude relationship for Oklahoma earthquakes, *University of Oklahoma, Honors College, Undergraduate Research day*, Norman, Oklahoma, USA, 7 April 2018.

40. Bailey E. Hein and **Nori Nakata**; Topography estimation of the core mantle boundary with ScS reverberations and diffraction waves, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

41. Chenyu Li, Zefeng Lig, Zhigang Peng, Chengyuan Zhang, and **Nori Nakata**; Detecting microseismicity and long-duration tremor-like events from the Oklahoma wavefield experiment, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

42. Zack Spica, **Nori Nakata**, Xin Liu, and Greg Beroza; H/V spectral ratio tomography at Groningen gas field, the Netherlands, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

43. Xin Liu, Gregory Beroza, and **Nori Nakata**; Separating non-diffuse component from ambient seismic noise cross-correlation in southern California, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

44. Xiaowei Chen, **Nori Nakata**, and Colin Pennington; Near-field observations of microearthquake source properties and site characteristics, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

45. Rie Kamei, David Lumley, and **Nori Nakata**; Coupled source parameter and velocity estimation for elastic waveform inversion, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

46. Raymond Ng and **Nori Nakata**; Source characterization of a small earthquake cluster at Edmond, Oklahoma using a very dense array, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

47. Jianhang Yin and **Nori Nakata**; Microseismic imaging using geometric-mean reverse-time migration for hydraulic fracturing monitoring, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

48. Stephen Marsh and **Nori Nakata**; Seismic tomography and the development of a state velocity profile, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

49. **Nori Nakata**; Spatial coherency of seismic waves for microseismic detection/location/characterization: Application of 2016 IRIS Wavefield experiment in Oklahoma, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

50. **Nori Nakata**, Celine Hadziioannou, Heiner Igel; Single-station 6C beamforming, *2017 AGU fall meeting*, New Orleans, Louisiana, USA, 11–15 December 2017.

51. **Nori Nakata**; Data mining of IRIS Wavefield experiment in Oklahoma for seismicity and structural imaging, *2017 ES-SSA annual meeting*, Norman, Oklahoma, USA, 8–10 October 2017.

52. Brett Carpenter, Ze'ev Reches, Xiaowei Chen, Ahmad Ghassemi and **Nori Nakata**; Drilling investigation of seismogenic crust in Oklahoma (DISCO), *2017 ES-SSA annual meeting*, Norman, Oklahoma, USA, 8–10 October 2017.

53. Sebastian Gomez Alba, **Nori Nakata**, and Carlos Alberto Vargas; Detecting induced earthquakes by template matching technique during the Puerto Gaitan (Colombia) sequence from 2014 to 2016, *2017 ES-SSA annual meeting*, Norman, Oklahoma, USA, 8–10 October 2017, *best presentation award*.

54. Raymond Ng and **Nori Nakata**; Small earthquake cluster detection at Edmond, Oklahoma using a very dense temporary array, *2017 ES-SSA annual meeting*, Norman, Oklahoma, USA, 8–10 October 2017.

55. Stephen Marsh and **Nori Nakata**; Towards crustal S-wave velocity modeling in Oklahoma, *2017 ES-SSA annual meeting*, Norman, Oklahoma, USA, 8–10 October 2017.

56. **Nori Nakata**; Near-surface velocity imaging using traffic induced high-frequency ground motion, *87th SEG annual meeting*, Houston, Texas, USA, 24–28 September 2017.

57. Jianhang Yin and **Nori Nakata**; Diffraction imaging with geometric-mean reverse-time migration, *87th SEG annual meeting*, Houston, Texas, USA, 24–28 September 2017.

58. Abdulmohsen Alali, Yuji Kim, and **Nori Nakata**; Sensitivity analysis of velocity with diffraction focusing in the image domain, *87th SEG annual meeting*, Houston, Texas, USA, 24–28 September 2017.

59. Yixiao Sheng, **Nori Nakata**, and Gregory C. Beroza; On the properties of higher-order ambient field correlation, *2017 SCEC annual meeting*, Palm Springs, California, USA, 10–12 September 2017.

60. Xin Liu, Gregory C. Beroza, and **Nori Nakata**; Separating non-diffuse component from ambient seismic noise cross-correlation in southern California, *2017 SCEC annual meeting*, Palm Springs, California, USA, 10–12 September 2017.

61. **Nori Nakata** and Gregory C. Beroza; Towards a high-resolution velocity model with a very dense array at Diablo Canyon, *2017 SCEC annual meeting*, Palm Springs, California, USA, 10–12 September 2017.

62. Zhigang Peng, Chenyu Li, Zefeng Li, Chengyuan Zhang, and **Nori Nakata**; Detecting micro-seismicity and long-duration tremor-like events from the Oklahoma wavefield experiment, *2017 SCEC annual meeting*, Palm Springs, California, USA, 10–12 September 2017.

63. **Nori Nakata** and Norman H. Sleep; Nonlinear attenuation caused by the wave interaction in the near surface, *2017 JpGU annual meeting*, Chiba, Japan, 20–25 May 2017.

64. **Nori Nakata**, Xiaowei Chen, Jefferson C. Chang; Local effort for global contribution: Seismic observations of recent Oklahoma moderate earthquake sequences and for future, *2017 SSA annual meeting*, Denver, Colorado, USA, 18–20 April 2017 *(invited)*.

65. **Nori Nakata**; Data mining of IRIS Wavefield experiment in Oklahoma, *2017 SSA annual meeting*, Denver, Colorado, USA, 18–20 April 2017 *(invited)*.

66. Roel Snieder, Christoph Sens-Schoenfelder, **Nori Nakata**, and Xun Li; Time-lapse changes in seismic velocity log-time recovery of earth materials, *2017 SSA annual meeting*, Denver, Colorado, USA, 18–20 April 2017 *(invited)*.

67. Xin Liu, Gregory C. Beroza, and **Nori Nakata**; Estimating the effect of non-diffuse noise on ambient seismic noise cross-correlations in southern California, *2017 SSA annual meeting*, Denver, Colorado, USA, 18–20 April 2017.

68. Xiaowei Chen, Colin Pennington, **Nori Nakata**, Jacob Walter, Jackson Hafferner; Revealing full spectrum of triggering processes in induced seismicity, *Workshop on induced seismicity*, Basel, Swizerland, March 2017.

69. Bailey E. Hein and **Nori Nakata**; When will ScS wave reflection show, what's inside (the Earth)?, *2017 CPSGG Research Symposium*, Norman, Oklahoma, USA, 9 March 2017 *(Best undergraduate presentation award)*.

70. Zack Spica, **Nori Nakata**, and Gregory C. Beroza; Ambient field analysis at Groningen gas field, *2016 AGU Fall meeting*, San Francisco, California, USA, 12–16 December 2016.

71. **Nori Nakata**, Gregory C. Beroza, and William L. Ellsworth; Seismicity and structure changes following the 2016 Kumamoto earthquake, *2016 AGU Fall meeting*, San Francisco, California, USA, 12–16 December 2016.

72. **Nori Nakata**; Seismicity and structure responses following the 2016 Kumamoto earthquake, *11th Joint meeting U.S.-Japan Natural Resources Panel on Earthquake Research*, Napa, CA, USA, 16–18 November 2016 *(invited)*.

73. **Nori Nakata**, Gregory C. Beroza, Junzhe Sun, and Sergey Fomel; Migration-based passive source imaging for continuous data, *86th SEG annual meeting*, Dallas, TX, USA, 15–21 October 2016.

74. Junzhe Sun, Zhiguang Xue, Sergey Fomel, Tieyuan Zhu, and **Nori Nakata**; Full waveform inversion of passive seismic data with unknown sources, *86th SEG annual meeting*, Dallas, TX, USA, 15–21 October 2016.

75. **Nori Nakata** and Gregory C. Beroza; Assessment of predictive values of site response based on GMPE approaches using a Large-N array, *2016 SCEC annual meeting*, Palm Springs, CA, USA, 11–14 September 2016.

76. **Nori Nakata**, Celine Hadziioannou, and Heiner Igel; Single-station 6C beamforming, *4th meeting of the International Working Group on Rotational Seismology (IWGoRS)*, Tutzing, Germany, 20–23 June 2016.

77. **Nori Nakata** and Gregory C. Beroza; Characterization of spatial variability of ground motion using a very dense array at Long Beach, California, *2016 SSA annual meeting*, Reno, Nevada, USA, 20–22 April 2016.

78. **Nori Nakata**, Gregory C. Beroza, and Victor M. Cruz-Atienza; Imaging low-frequency earthquakes with geometric-mean reverse time migration, *2015 AGU Fall meeting*, San Francisco, California, USA, 14–18 December 2015.

79. **Nori Nakata**, Pierre Boué, and Gregory C. Beroza; Body-wave retrieval and imaging from ambient seismic fields with very dense arrays, *2015 AGU Fall meeting*, San Francisco, California, USA, 14–18 December 2015 *(invited)*.

80. Florent Brenguier, **Nori Nakata**, et al; Towards 4-D noise-based seismic probing of volcanoes: Perspectives from a Large-N Nodal experiment on Piton de la Fournaise volcano, *2015 AGU Fall meeting*, San Francisco, California, USA, 14–18 December 2015.

81. **Nori Nakata** and Gregory C. Beroza; Data-driven characterization of subsurface structure with dense arrays at Long Beach and Diablo Canyon, California, USA, *International Workshop on Best Practices in Physics-based Fault Rupture Models for Seismic Hazard Assessment of Nuclear Installations*, Vienna, Austria, 18–20 November 2015.

82. **Nori Nakata** and Gregory C. Beroza; Reverse-time migration for microseismic sources using the geometric mean as an imaging condition, *85th SEG annual meeting*, New Orleans, Louisiana, USA, October 2015.

83. **Nori Nakata** and Gregory C. Beroza; Stochastic characterization of 3D mesoscale seismic velocity heterogeneity in Long Beach, California, *SCEC annual meeting*, Palm Springs, CA, USA, September 2015.

84. **Nori Nakata**; Analysis of ambient noise continuously recorded by 2D dense arrays, *Symposium on energy and environmental geosciences*, Tokyo, Japan, May 2015 (in Japanese).

85. **Nori Nakata** and Gregory C. Beroza; Two-way reverse-time imaging for seismic sources, *2015 SSA Annual Meeting*, Pasadena, California, USA, April 2015.

86. Norman H. Sleep and **Nori Nakata**; Nonlinear interaction of strong S-waves, surface waves, P-waves, and near-field velocity pulses in the shallow subface leading to nonlinear attenuation, *2015 SSA Annual Meeting*, Pasadena, California, USA, April 2015.

87. **Nori Nakata**, Jason P. Chang, and Jesse F. Lawrence; P diving wave tomography using ambient noise recorded at Long Beach, *2014 AGU Fall meeting*, San Francisco, California, USA, December 2014.

88. Pierre Boué, Laurent Stehly, **Nori Nakata**, and Gregory C. Beroza; Empirical sensitivity kernels of noise correlations with respect to virtual sources, *2014 AGU Fall meeting*, San Francisco, California, USA, December 2014.

89. **Nori Nakata**, Jason P. Chang, and Jesse F. Lawrence; Body-wave extraction and tomography at Long Beach, CA, with ambient-noise interferometry, *84th SEG annual meeting*, Denver, Colorado, USA, October 2014

90. Jason P. Chang, **Nori Nakata**, Robert G. Clapp, Biondo Biondi, and Sjoerd de Ridder; High-frequency surface and body waves from ambient noise cross-correlations at Long Beach, CA, *84th SEG annual meeting*, Denver, Colorado, USA, October 2014.

91. **Nori Nakata**, Kiwamu Nishida, and Hitoshi Kawakatsu; Wave propagation between F-net and NEC-ESSArray retrieved from ambient noise, *SCEC annual meeting*, Palm Springs, CA, USA, September 2014.

92. Pierre Boué, Laurent Stehly, **Nori Nakata**, and Gregory C. Beroza; Empirical seisitivity kernels of noise correlations with respect to virtual sources, *SCEC annual meeting*, Palm Springs, CA, USA, September 2014.

93. **Nori Nakata**; Body-wave extraction from ambient noise recorded by a dense array, *Scattered wave workshop*, Tokyo, Japan, September 2014

94. **Nori Nakata**; Frequency-dependent time-lapse velocity changes caused by the 2011 Tohoku-Oki earthquake, *Joint SEG/AGU Summer Research Workshop: Advances in Active+Passive "Full Wavefield" seismic imaging: from reservoirs to plate tectonics*, Vancouver, Canada, July 2014

95. Kazuya Shiraishi and **Nori Nakata**; Seismic interferometry in image domain using reverse time migration, *130th SEGJ Conference*, Tokyo, May 2014 (in Japanese)

96. Jason P. Chang, Taylor Dahlke, **Nori Nakata**, and Biondo Biondi; Resolving subsurface structure from cross-correlations of continuously recorded ambient noise at Long Beach, CA, *Spring 2014 Conference; Big Data for Energy and Environment*, Stanford, CA, USA, May 2014

97. **Nori Nakata** and Jesse Lawrence; Depth constraint of velocity changes caused by the 2011 Tohoku-Oki earthquake, *2014 SSA Annual Meeting*, Anchorage, Alaska, USA, April 2014

98. **Nori Nakata** and Roel Snieder; Monitoring a building using deconvolution interferometry from earthquake and ambient-noise data, *2014 SSA Annual Meeting*, Anchorage, Alaska, USA, April 2014

99. Michael Behm, **Nori Nakata**, Irene Bianchi, and Götz Bokelmann; Love and Rayleigh wave dispersion from regional ambient noise tomography in the Eastern Alps of Europe, *2014 EGU General Assembly*, EGU2014-6021, Vienna, Austria, April 2014

100. **Nori Nakata**; Application of deconvolution interferometry with both Hi-net and KiK-net data, *2013 AGU Fall Meeting*, San Francisco, California, USA, December, 2013

101. Michael Behm, **Nori Nakata** (speaker), Götz Bokelmann, and Simon Lloyd; Ambient noise tomography in the Eastern Alps of Europe, *2013 AGU Fall Meeting*, San Francisco, California, USA, December, 2013

102. **Nori Nakata** and Roel Snieder; Interferometry with passive seismic data: Imaging and Monitoring, *EAGE/SEG Forum 2013, Turning noise into geological information: The next big step?*, Lisbon, Portugal, November, 2011

103. **Nori Nakata** and Roel Snieder; Body-wave interferometry using local earthquakes with multidimensional deconvolution and wavefield decomposition at free surface, *83rd SEG annual meeting*, Houston, Texas USA, September 22-27, 2013

104. **Nori Nakata** and Roel Snieder; Time-lapse changes in velocity and anisotropy after the 2011 Tohoku earthquake estimated by seismic interferometry (invited), *2013 Japan Geoscience Union Meeting*, Chiba, May, 2013 (in Japanese)

105. Roel Snieder and **Nori Nakata** (speaker); Time-lapse changes in velocity and anisotropy in Japan's near surface after the 2011 Tohoku earthquake (invited), *2012 AGU Fall Meeting*, San Francisco, California, USA, December, 2012

106. **Nori Nakata** and Roel Snieder; Time-lapse change in near-surface shear-wave velocities caused by rainfall and large earthquakes detected by applying seismic interferometry to earthquake data, *82nd SEG annual meeting*, Las Vegas, Nevada, USA, November 4-9, 2012

107. Roel Snieder, **Nori Nakata**, Filippo Broggini, Kees Wapenaar, and Jyoti Behura; Development in seismic interferometry: Time-lapse monitoring and autofocusing of internal multiples (invited), *82nd SEG annual meeting*, Las Vegas, Nevada, USA, November 4-9, 2012

108. Roel Snieder, Filippo Broggini, **Nori Nakata**, and Kees Wapenaar; Autofocusing of wave fields (invited), *IUGG Conference of Mathematical Geophysics*, Edinburgh, Scotland, June, 2012

109. Roel Snieder, **Nori Nakata**, Masatoshi Miyazawa, and Kees Wapenaar; Seismic interferometry; who needs a seismic source?, *Summer School of Waves in Complex Media*, Heraklion, Greece, June, 2012

110. **Nori Nakata** and Roel Snieder; Weakening of the near surface in Japan after the 2011 Tohoku-Oki earthquake detected by deconvolution interferometry, *2012 SSA Annual Meeting*, San Diego, California, USA, April, 2012

111. **Nori Nakata**, Roel Snieder, Seiichiro Kuroda, Conrad Newton, Shunichiro Ito, Takao Aizawa, Takashi Kunimi, and Toshifumi Matsuoka; Time-lapse monitoring a building with deconvolution interferometry applied to earthquake and ambient noise data, *AGU 2011 fall meeting*, San Francisco, California, USA, December, 2011

112. **Nori Nakata** and Roel Snieder; Monitoring near-surface shear-wave velocities in Japan using KiK-net data, *The 10th SEGJ International Symposium*, 294-297, Kyoto, Japan, November, 2011

113. Roel Snieder, **Nori Nakata**, Kees Wapenaar, and Evert Slob; Extracting the earth response from noise and complex earthquake data, *162nd meeting of the Acoustical Society of America*, San Diego, California, USA, November, 2011

114. **Nori Nakata**, Roel Snieder, Ken Larner, Takeshi Tsuji, and Toshifumi Matsuoka; Shear-wave imaging from traffic noise using seismic interferometry by cross-coherence, *SEG 2011 annual meeting*, 1580-1585, San Antonio, Texas, USA, Septermber, 2011

115. Roel Snieder, **Norimitsu Nakata**, Takeshi Tsuji, Toshifumi Matsuoka; Shear wave imaging with seismic interferometry of traffic noise, 2010 AGU Fall Meeting, 948670, San Francisco, California, USA, December, 2010

116. Takeshi Tsuji, **Norimitsu Nakata**, Toshifumi Matsuoka, Jack Dvorkin, Ayako Nakanishi, Shuichi Kodaira;Vp/Vs and shear-wave splitting at the seismogenic plate subduction zone: Insight into effective-stress and pore pressure distribution, SEG Annual meeting, 1635-1640, Denver, Colorado, USA, October, 2010

117. Akihisa Takahashi, **Norimitsu Nakata**, Shinji Kawasaki, Ziqiu Xue, Toshifumi Matsuoka; 4D response evaluation criteria for permanent OBC monitoring, SEG D&P Forum, Boston, USA, July, 2010

118. **Norimitsu Nakata**, Takeshi Tsuji, Toshifumi Matsuoka; Acceleration of the simulation of elastic wave propagation using GPU, The Bali 2010 International Geosciences Conference and Exposition, IGCE10-OS-072, Bali, Indonesia, July, 2010

119. **Norimitsu Nakata**, Toshifumi Matsuoka; Virtual receivers by seismic interferometry, 122nd SEGJ Conference, 52-55, Tokyo, June, 2010 (in Japanese)

120. **Norimitsu Nakata**, Shinji Kawasaki, Akihisa Takahashi, Ziqiu Xue, Toshifumi Matsuoka; Modeling on verification of availability of time-lapse seismic survey when storing CO_2 in complex reservoirs, Japan Geoscience Union Meeting 2010, MAG021-14, Chiba, May, 2010 (in Japanese)

121. **Norimitsu Nakata**, Toshifumi Matsuoka, Takeshi Tsuji, Roel Snieder; Interferometric Imagin by Cross Coherence, SEG Annual meeting workshop "Interferometry: The evolution of a multidisciplinary field", 4215, 28, Houston, Texas, USA, October, 2009

122. **Norimitsu Nakata**; Acceleration of seismic analysis using GPU, Idea Competition in SEGJ 60th anniversary, Tokyo, October, 2008 (in Japanese)

123. **Norimitsu Nakata**, Toshifumi Matsuoka, Kyosuke Onishi, Takeshi Tsuji, Changyun Lee, Kentaro Torii, Takao Aizawa, Toshinori Kimura; Subsurface structure from train induced elastic waves using seismic interferometry, 118th SEGJ Conference, 75-78, Tokyo, May, 2008 (in Japanese)

124. Kentaro Torii, **Norimitsu Nakata** (presenter), Toshifumi Matsuoka, Takeshi Tsuji, Takao Aizawa; Seismic Interferometry using Hi-Net Data, Japan Geoscience Union Meeting 2008, S226-P016, Chiba, May, 2008 (in Japanese)

125. **Norimitsu Nakata**, Toshifumi Matsuoka, Changhyun Lee, Kentaro Torii, Toshinori Kimura; Subsurface imaging using vibrations of subway, MMIJ in Kansai, 6, 10-11, Kyoto, December, 2007 (in Japanese)

Invited talks and lectures

1. **Nori Nakata**; Big Data in Seismology: Seismic Imaging and Monitoring, *Workshop on Frontiers in Studies of Earthquakes and Faults*, Shenzhen, China, November 2017.

2. **Nori Nakata**; Data-driven seismic characterization of structures, *Kyoto University*, Kyoto, Japan, November 2017.

3. **Nori Nakata**; Building monitoring for damage evaluation using seismic waves and deconvolution interferometry, *California Institute of Technology*, Pasadena, CA, USA, October 2017.

4. **Nori Nakata**; Data mining of IRIS wavefield experiment in Oklahoma for seismicity and structure imaging, *IRIS*, Webiner, June 2017.

5. **Nori Nakata**; Seismicity and structure response following the Kumamoto earthquake, *University of Grenoble, Alps*, Grenoble, France, June 2017.
6. **Nori Nakata**; Dense geophone arrays for imaging, monitoring and ground-motion prediction, *Passive Imaging and Monitoring in wave Physics: from seismology to ultrasound*, Cargese, France, May 2017.
7. **Nori Nakata**; Big data in seismology $\sim$ Large-N and Large-T $\sim$, *Lamont-Doherty Earth Observatory*, New York, USA, November 2016
8. **Nori Nakata**; Seismic amplification and scattering in sedimentary basins, *SCEC/ERI/DPRI International Summer School on Earthquake Science*, California, USA, July 2016
9. **Nori Nakata**; Large-N array for near-surface imaging, *ETH*, Zurich, Switzerland, June 2016
10. **Nori Nakata**; Body-wave extraction from ambient noise, *LMU*, Munich, Germany, June 2016
11. **Nori Nakata**; Large-N and Large-T data are Future of seismology, *LMU*, Munich, Germany, June 2016
12. **Nori Nakata**; Large-N and Large-T data are Future of seismology, *UWA*, Perth, Australia, May 2016
13. **Nori Nakata**; Body-wave imaging using the ambient seismic field, *University of Southern California*, Los Angeles, CA, USA, March 2016.
14. **Nori Nakata**; Large-N array for ambient noise correlation, *Harvard University*, Cambridge, MA, USA, February 2016.
15. **Nori Nakata**; Data-driven characterization of subsurface structure using Large-N array, *Massachusetts Institute of Technology*, Cambridge, MA, USA, February 2016.
16. **Nori Nakata**; Data-driven characterization of subsurface structure for high-frequency ground-motion prediction with dense arrays at Long Beach and Diablo Canyon, California, USA, *Lawrence Livermore National Laboratory*, Livermore, CA, USA, February 2016.
17. **Nori Nakata**; Reverse-Time Migration for Microseismic Sources $\sim$Using the Geometric Mean as an Imaging Condition$\sim$, *University of Texas, Austin*, Austin, TX, USA, December 2015.
18. **Nori Nakata**; Body-wave imaging using the ambient seismic field, *University of Vienna*, Vienna, Austria, November 2015.
19. **Nori Nakata**; Body-wave imaging using the ambient seismic field, *King Abdulah University of Science and Technology*, Thuwal, Saudi Arabia, November 2015.
20. **Nori Nakata**; Body-wave imaging using the ambient seismic field, *Stanford University*, Stanford, CA, USA, November 2015.
21. **Nori Nakata**; Body-wave reconstruction, imaging, and monitoring from ambient seismic fields, *University of California, Berkeley*, Berkeley, CA, USA, September 2015.
22. **Nori Nakata**; Body-wave reconstruction from ambient seismic fields, *Institut des Sciences de la Terre*, Grenoble, France, May 2015.
23. **Nori Nakata**; Ambient-noise body-wave tomography at Long Beach, California, *California Institute of Technology*, Pasadena, CA, USA, April 2015.
24. **Nori Nakata**; Ambient-noise body-wave tomography at Long Beach, California, *Colorado School of Mines*, Golden, CO, USA, March 2015.

25. **Nori Nakata**; Time-lapse changes in wave velocities related to 2011 Tohoku earthquake revealved by correlation analysis, *US Geological Survey*, Menlo Park, CA, USA, April 2014.
26. **Nori Nakata**; Time-lapse changes in wave velocities related to 2011 Tohoku earthquake revealved by correlation analysis, *University of California, Santa Cruz*, Santa Cruz, CA, USA, April 2014.
27. Roel Snieder and **Nori Nakata**; Time-lapse changes in structures from garbled signals, *Colorado School of Mines*, Golden, CO, USA, November 2013.
28. **Nori Nakata**; Monitoring a building with seismic interferometry,*National Research Institute for Earth Science and Disaster Prevention (NIED)*, Japan, June 7, 2013.
29. **Nori Nakata**; How to improve quality of interferometric wavefields, *Advanced industrial science and technology (AIST)*, Japan, June 6, 2013.
30. **Nori Nakata**; Monitoring near-surface S-wave velocity applying seismic interferometry to earthquake data, *Japan Oil, Gas, and Metals National Corporation (JOGMEC)*, Japan, July 4, 2012.
31. **Nori Nakata**; Monitoring near-surface S-wave velocity applying seismic interferometry to earthquake data, *National Institute of Rural Engineering*, Japan, July 4, 2012.
32. **Nori Nakata**; Monitoring near-surface S-wave velocity applying seismic interferometry to earthquake data, *JGI, Inc.*, Japan, July 3, 2012.
33. **Nori Nakata**; Monitoring near-surface S-wave velocity applying seismic interferometry to earthquake data, *Tokyo Metropolitan University*, Japan, July 2, 2012.

Patents

1. **Norimitsu Nakata** and Gregory C. Beroza (Leland Stanford Junior University); Reverse-time migration based on geometric mean for imaging seismic sources, US Patent (provisional, US 62/148,543)