



Biondo Biondi

Barney and Estelle Morris Professor

Geophysics

 Curriculum Vitae available Online

Bio

BIO

My students and I devise new algorithms to improve the imaging of active and passive seismic data. Images obtained from seismic data are the primary source of information on the structural and stratigraphic complexities in Earth's subsurface and on many subsurface dynamic processes. These images are constructed by processing seismic wavefields recorded at the Earth's surface and generated by either active-source (e.g., vibroseis trucks) experiments or by natural (e.g., ocean waves) and anthropogenic (e.g., vehicle traffic) sources. Because our datasets are enormous, and wavefield propagation needs to be accurately modeled to achieve high-resolution imaging, we need to harness the power of the latest computational hardware to test our methods on field data. Therefore, mapping imaging algorithms into high-performance architecture is an essential component of our research. The amount and quality of information that we can extract from seismic data are directly linked to the temporal and spatial sampling of the sources and the receivers. In the past several years, we have been working on methods to process data recorded by using fiber cables as seismic sensors. Fiber-optic seismic recording promises to enable cost-effective continuous seismic monitoring at a large scale. A particularly exciting possibility is leveraging preexisting telecommunication infrastructure to record seismic data with dense arrays in urban environments continuously. In 2016 we pioneered that idea by recording data under the Stanford campus. Since then, we recorded data in San Jose and on a 48-km array under Stanford and neighboring cities.

ACADEMIC APPOINTMENTS

- Professor, Geophysics
- Member, Bio-X
- Member, Institute for Computational and Mathematical Engineering (ICME)

ADMINISTRATIVE APPOINTMENTS

- Chair of the Geophysics Department, Stanford University, (2019-2022)
- Director, Stanford Earth imaging Project, Stanford University, (1998- present)
- Co-Director, Stanford Earth Sciences Algorithms and Architectures Initiative, Stanford University, (2010- present)
- Program Director, Computational Geoscience Degree Program, Stanford University, (2011-2018)
- Member, Ad-hoc Faculty Committee on the Stanford Research Computing Facility, Stanford University, (2011-2012)
- Co-Director, Center for Computational Earth and Environmental Sciences, Stanford University, (2010-2019)
- Member, Stanford Senate Committee on Research, (2009-2010)
- Member, Earth Sciences Council, Stanford University, (2007-2010)
- Member, Stanford Senate Committee on Research, Stanford University, (2007-2008)

- Member, School of Earth Sciences Web Advisory Committee, Stanford University, (2006-2007)
- Member of the Faculty Advisory Panel of the Stanford CEES, Stanford University, (2005- present)
- Member of the Academic Oversight Committee of the Graduate Program in EEES, Stanford University, (2005-2009)
- Member of the School of Earth Sciences Academic Program (Graduate) Committee, Stanford University, (2004-2005)
- Member of the School of Earth Sciences Computational Initiative Committee, Stanford University, (2004-2005)
- Instructor at the Mathematical Geophysics (Summer) School, Stanford University, (2002-2002)
- Member of Teaching and Information Technology Geophysics Department Committee, Stanford University, (2000-2003)
- Organizing Committee, Stanford Mathematical Geophysics (Summer) School, Stanford University, (1998-2003)
- Instructor at the Mathematical Geophysics (Summer) School, Stanford University, (1998-1998)

HONORS AND AWARDS

- Honorable Mention award for Best Paper Presented at the 2019 SEG Annual Meeting (co-author), Society of Exploration Geophysicists (2019)
- Honorable mention for Best Paper in Geophysics from SEG (co-author), Society of Exploration Geophysicists (2016)
- Honorable mention for Best Paper in Geophysics from SEG (co-author), Society of Exploration Geophysicists (2009)
- Distinguished Instructor Short Course, Society of Exploration Geophysicists and the European Association of Geoscientists and Engineers (2007)
- Louis Cagniard Award for the best poster presentation (co-author), European Association of Geoscientists and Engineers (2005)
- Reginald Fessenden Award, Society of Exploration Geophysicists (2004)
- Outstanding Contribution SEG 65th Annual Meeting, Society of Exploration Geophysicists (1996)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Invited speaker, Executive Exploration Forum, Schlumberger, Montecarlo, Monaco (2012 - 2012)
- Invited speaker, Workshop, Inversion-based High Resolution Imaging of Reservoirs, Meeting of Society of Exploration Geophysicists (2012 - 2012)
- Short Course Instructor, Pemex, Villahermosa, Mexico (2012 - 2012)
- Short Course Instructor, Ion Geophysical, Houston, Texas (2012 - 2012)
- Short Course Instructor, TGS; Houston, Texas (2012 - 2012)
- Short Course Instructor, Pemex, Villahermosa, Mexico (2011 - 2011)
- Short Course Instructor, Saudi Aramco, Dhaharain, Saudi Arabia (2011 - 2011)
- Short Course Instructor, Society of Exploration Geophysicists - Continuing Education , New Orleans, Louisiana (2011 - 2011)
- Short Course Instructor, WesternGeco-Schlumberger - Area Geophysicist University , Houston, Texas (2011 - 2011)
- Convenor, SEG (Summer) Research Workshop: Subsalt Exploration and Development: Four years later, what's new in acquisition, imaging and interpretation? (2010 - 2010)
- Invited speaker, Workshop: Full wave-equation methods for complex imaging challenges, Meeting of Society of Exploration Geophysicists (2009 - 2009)
- Invited speaker, Workshop: Reverse-Time Migration- Problems and Promises, Meeting of Society of Exploration Geophysicists (2009 - 2009)
- Keynote speaker, Research Workshop: SubSalt Imaging - focus on azimuth, European Association of Geoscientists and Engineers (2009 - 2009)
- Invited speaker, Workshop: Computing trends in O&G and Earth Sciences, Meeting of European Association of Geoscientists and Engineers (2008 - 2008)
- Invited speaker, Workshop: Reducing Cycle Time from seismic acquisition to interpretation, Meeting of European Association of Geoscientists and Engineers (2008 - 2008)
- Keynote speaker, Workshop: Interpreting Depth-Imaged Data – Case studies, examples, and pitfalls from the interpreters, Meeting of Society of Exploration Geophysicists (2008 - 2008)
- Member, Editorial Board of the Journal on Imaging Sciences published by the Society for Industrial and Applied Mathematics (2007 - present)
- Short Course Instructor, Saudi Aramco, Dhaharain, Saudi Arabia (2007 - 2007)

- Short Course Instructor, Saudi Aramco, Dhaharain, Saudi Arabia (2006 - 2006)
- Keynote speaker, Seismic Imaging Symposium, Veritas-DGC, Calgary, Canada (2006 - 2006)
- Chairman, SEG/EAGE (Summer) Research Workshop: Subsalt Exploration & Development: Imaging, interpretation & drilling- What have we learned (2006 - 2006)
- Distinguished Scientist Lecture, BP Technology Center, Houston, Texas (2005 - 2005)
- Invited speaker, Workshop on Computational Geosciences, Colorado School of Mines (2005 - 2005)
- Invited speaker, Department seminar at Rice University (2005 - 2005)
- Short Course Instructor, PDVSA, Puerto La Cruz, Venezuela (2005 - 2005)
- Invited speaker Workshop, Geophysical Imaging, Rensselaer Polytechnic Institute (2005 - 2005)
- Invited speaker Workshop, Estimation of accurate velocity macro-models in complex structures, Meeting of European Association of Geoscientists and Engineers (2004 - 2004)
- Invited speaker, International Conference Scientific Computing In Petroleum Industry, Beijing, China (2004 - 2004)
- Invited speaker, Workshop, Estimation of accurate velocity macro-models in complex structures, Meeting of European Association of Geoscientists and Engineers (2004 - 2004)
- Keynote speaker, Salt Tectonics Symposium at ExxonMobil Exploration Company, Houston, Texas (2004 - 2004)
- Convenor, EAGE-SEG (Summer) Research Workshop: Processing and imaging of seismic data using explicit or implicit velocity model information (2003 - 2003)
- Invited speaker, 12th International Workshop of IUGG's Commission on Controlled-Source Seismology (2003 - 2003)
- Convenor, SEG Workshop Passive Seismic Imaging (2003 - 2003)
- Invited speaker, Geophysical Society of Houston (2002 - 2002)
- Invited speaker, Special session: Depth Imaging, Meeting of Canadian Society of Exploration Geophysicists (2002 - 2002)
- Invited speaker, Interactive session: Wave equation versus ray based methods, Meeting of European Association of Geoscientists and Engineers (2002 - 2002)
- Invited speaker, Geophysical Society of Houston (2001 - 2001)
- Invited speaker, Southeastern Geophysical Society (2001 - 2001)
- Invited speaker, Heiland Lecture at Colorado School of Mines (2001 - 2001)
- Convenor, SEG Workshop Seismic Imaging beyond Kirchhoff (2001 - 2001)
- Convenor, SEG Workshop Changing the way we work: e-business & the Internet (2001 - 2001)
- Invited speaker, International seminar on seismic migration and inversion, Seoul National University, South Korea. (2001 - 2001)
- Invited speaker, Incorporated Research Institutions for Seismology (IRIS) Workshop (2000 - 2000)
- Invited speaker, Workshop: Prestack Depth Imaging: Prospects and Challenges, Meeting of European Association of Geoscientists and Engineers (2000 - 2000)
- Invited Speaker, New Approaches to Seismic Imaging Workshop, 6th International Congress of the Brazilian Geophysical Society (1999 - 1999)
- Short Course Instructor, Daqing, China (1998 - 1998)
- Convenor, EAGE-SEG (Summer) Research Workshop Depth Imaging of Seismic Reservoir Attributes (1998 - 1998)
- Member, Research Committee of the Society of Exploration Geophysicists Research Committee (1996 - present)

PROFESSIONAL EDUCATION

- Ph.D, Stanford University , Geophysics (1990)
- M.S., Stanford University , Geophysics (1987)
- M.Sc., Politecnico di Milano , Electrical Engineering (1984)

LINKS

- Stanford Exploration Project: <http://sep.sites.stanford.edu/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research

My students and I devise new algorithms to improve the imaging of reflection seismic data. Images obtained from seismic data are the main source of information on the structural and stratigraphic complexities in Earth's subsurface. These images are constructed by processing seismic wavefields recorded at the surface of Earth and generated by either active-source experiments (reflection data), or by far-away earthquakes (teleseismic data). The high-resolution and fidelity of 3-D reflection-seismic images enables oil companies to drill with high accuracy for hydrocarbon reservoirs that are buried under two kilometers of water and up to 15 kilometers of sediments and hard rock. To achieve this technological feat, the recorded data must be processed employing advanced mathematical algorithms that harness the power of huge computational resources. To demonstrate the advantages of our new methods, we process 3D field data on our parallel cluster running several hundreds of processors.

Teaching

I teach a course on seismic imaging for graduate students in geophysics and in the other departments of the School of Earth Sciences. I run a research graduate seminar every quarter of the year. This year I will be teaching a one-day short course in 30 cities around the world as the SEG/EAGE Distinguished Instructor Short Course, the most important educational outreach program of these two societies.

Professional Activities

2007 SEG/EAGE Distinguished Instructor Short Course (2007); co-director, Stanford Exploration Project (1998-present); founding member, Editorial Board of SIAM Journal on Imaging Sciences (2007-present); member, SEG Research Committee (1996-present); chairman, SEG/EAGE Summer Research Workshop (2006)

Teaching

COURSES

2025-26

- 3-D Seismic Imaging: GEOPHYS 280 (Win)
- Fiber Sensing for a Sustainable Planet: GEOPHYS 150, GEOPHYS 250 (Spr)
- Reflection Seismology: GEOPHYS 385A (Aut, Win, Spr)

2024-25

- 3-D Seismic Imaging: GEOPHYS 280 (Spr)
- Geophysical Inverse Problems: ENERGY 283, GEOPHYS 281 (Win)
- Reflection Seismology: GEOPHYS 385A (Aut, Win, Spr, Sum)

2023-24

- Reflection Seismology: GEOPHYS 385A (Aut, Win, Spr)

2022-23

- 3-D Seismic Imaging: GEOPHYS 280 (Spr)
- Basic Earth Imaging: GEOPHYS 188, GEOPHYS 210 (Aut)
- Frontiers of Geophysical Research at Stanford: GEOPHYS 101, GEOPHYS 201 (Aut)
- Reflection Seismology: GEOPHYS 385A (Aut, Win, Spr, Sum)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Trey Knudson

Postdoctoral Faculty Sponsor

Cewen Liu

Doctoral Dissertation Advisor (AC)

Thomas Cullison, Haipeng Li, Joe Stitt

Master's Program Advisor

Benz Poobua

Doctoral (Program)

Ivan Deiana

Publications

PUBLICATIONS

- **Urban Monitoring Using Preexisting Telecommunication Fiber-Optic Networks for Distributed Acoustic Sensing: A Review** *IEEE SENSORS JOURNAL*
Liu, J., Li, H., Li, J., Hwang, D., Aggarwal, J., Biondi, B., Noh, H.
2025; 25 (21): 39353-39370
- **Fiber-Optic Seismic Full Waveform Monitoring of Groundwater Dynamics** *GEOPHYSICAL RESEARCH LETTERS*
Li, H., Liu, J., Mao, S., Yuan, S., Clapp, R. G., Biondi, B. L.
2025; 52 (20)
- **Characterizing Vehicle-Induced Distributed Acoustic Sensing Signals for Accurate Urban Near-Surface Imaging** *SEISMOLOGICAL RESEARCH LETTERS*
Liu, J., Li, H., Yuan, S., Noh, H., Biondi, B.
2025; 96 (5): 2867-2880
- **Reservoir properties estimation before and after hydraulic stimulation using extended elastic full-waveform inversion and distributed acoustic sensing** *GEOPHYSICS*
Bader, M., Clapp, R. G., Nihei, K. T., Biondi, B.
2025; 90 (5): B221-B235
- **Urban sensing using existing fiber-optic networks.** *Nature communications*
Liu, J., Li, H., Noh, H. Y., Santi, P., Biondi, B., Ratti, C.
2025; 16 (1): 3091
- **Future SMART Cities Enabled by Fiber Sensing**
Biondi, B., Li, H., IEEE
IEEE.2025
- **Modelling uncertainty in P-wave arrival-times retrieved from DAS data: case-studies from 15 fibre optic cables** *GEOPHYSICAL JOURNAL INTERNATIONAL*
Bozzi, E., Agostinetti, N., Fichtner, A., Klaasen, S., Ugalde, A., Biondi, B., Yuan, S., Dahm, T., Isken, M., Paiz, P., Walter, F., Baird, A. F., Becerril, et al
2024; 239 (3): 1928-1942
- **Detecting local earthquakes via fiber-optic cables in telecommunication conduits under Stanford University campus using deep learning** *COMPUTERS & GEOSCIENCES*
Huot, F., Clapp, R. G., Biondi, B. L.
2024; 190

- **DeepNRMS: Unsupervised deep learning for noise-robust CO2 monitoring in time-lapse seismic images** *GEOPHYSICS*
Park, M., Frigerio, J., Clapp, B., Biondi, B.
2024; 89 (4): IM1-IM11
- **The Global DAS Month of February 2023** *SEISMOLOGICAL RESEARCH LETTERS*
Wuestefeld, A., Spica, Z. J., Aderhold, K., Huang, H., Ma, K., Lai, V., Miller, M., Urmantseva, L., Zapf, D., Bowden, D. C., Edme, P., Kiers, T., Rinaldi, et al
2024; 95 (3): 1569-1577
- **Using Vehicle-Induced DAS Signals for Near-Surface Characterization With High Spatiotemporal Resolution** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
Yuan, S., Liu, J., Noh, H., Clapp, R., Biondi, B.
2024; 129 (4)
- **Exploiting the Potential of Urban DAS Grids: Ambient-Noise Subsurface Imaging Using Joint Rayleigh and Love Waves** *Seismological Research Letters*
Ji, Q., Luo, B., Biondi, B.
2024
- **Moment tensor inversion of perforation shots using distributed-acoustic sensing** *GEOPHYSICS*
Bader, M., Clapp, R. G., Nihei, K. T., Biondi, B.
2023; 88 (6): WC37-WC45
- **Spatial Deep Deconvolution U-Net for Traffic Analyses With Distributed Acoustic Sensing** *IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS*
Yuan, S., van den Ende, M., Liu, J., Noh, H., Clapp, R., Richard, C., Biondi, B.
2023
- **Full-waveform inversion by model extension: Practical applications** *GEOPHYSICS*
Barnier, G., Biondi, E., Clapp, R. G., Biondi, B.
2023; 88 (5): R609-R643
- **Full-waveform inversion by model extension: Theory, design, and optimization** *GEOPHYSICS*
Barnier, G., Biondi, E., Clapp, R. G., Biondi, B.
2023; 88 (5): R579-R607
- **TelecomTM: A Fine-Grained and Ubiquitous Traffic Monitoring System Using Pre-Existing Telecommunication Fiber-Optic Cables as Sensors** *PROCEEDINGS OF THE ACM ON INTERACTIVE MOBILE WEARABLE AND UBIQUITOUS TECHNOLOGIES-IMWUT*
Liu, J., Yuan, S., Dong, Y., Biondi, B., Noh, H.
2023; 7 (2)
- **Target-oriented elastic full-waveform inversion through acoustic extended image-space redatuming** *GEOPHYSICS*
Biondi, E., Barnier, G., Biondi, B., Clapp, R. G.
2023; 88 (3): R269-R296
- **Turning Telecommunication Fiber-Optic Cables into Distributed Acoustic Sensors for Vibration-Based Bridge Health Monitoring** *STRUCTURAL CONTROL & HEALTH MONITORING*
Liu, J., Yuan, S., Luo, B., Biondi, B., Noh, H.
2023; 2023
- **PubDAS: A PUBLIC Distributed Acoustic Sensing Datasets Repository for Geosciences** *SEISMOLOGICAL RESEARCH LETTERS*
Spica, Z. J., Ajo-Franklin, J., Beroza, G. C., Biondi, B., Cheng, F., Gaithe, B., Luo, B., Martin, E., Shen, J., Thurber, C., Viens, L., Wang, H., Wuestefeld, et al
2023; 94 (2A): 983-998
- **Automatic interpretive image-focusing analysis** *GEOPHYSICS*
Jennings, J., Clapp, R., Araya-Polo, M., Biondi, B.
2023; 88 (2): U1-U15
- **Detection and Characterization of Microseismic Events from Fiber-Optic DAS Data Using Deep Learning** *SEISMOLOGICAL RESEARCH LETTERS*

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- Huot, F., Lellouch, A., Given, P., Luo, B., Clapp, R. G., Nemeth, T., Nihei, K. T., Biondi, B. L.
2022; 93 (5): 2543-2553
- **Microseismic analysis over a single horizontal distributed acoustic sensing fiber using guided waves** *GEOPHYSICS*
Lellouch, A., Luo, B., Huot, F., Clapp, R. G., Given, P., Biondi, E., Nemeth, T., Nihei, K. T., Biondi, B. L.
2022; 87 (3): KS83-KS95
 - **Integrating deep neural networks with full-waveform inversion: Reparameterization, regularization, and uncertainty quantification** *GEOPHYSICS*
Zhu, W., Xu, K., Darve, E., Biondi, B., Beroza, G. C.
2022; 87 (1): R93-R109
 - **p True-amplitude migration through regularized extended linearized waveform inversion** *GEOPHYSICS*
Biondi, E., Meadows, M. A., Biondi, B.
2022; 87 (1): S1-S20
 - **Joint inversion of the reflectivity and the velocity model** *GEOPHYSICS*
Cabrera-Vargas, A., Sarkar, R., Biondi, B. L., Clapp, R. G.
2022; 87 (1): R1-R12
 - **Denoising for full-waveform inversion with expanded prediction-error filters** *GEOPHYSICS*
Bader, M., Clapp, R. G., Biondi, B.
2021; 86 (5): V445-V457
 - **Seismic inversion of shale reservoir properties using microseismic-induced guided waves recorded by distributed acoustic sensing** *GEOPHYSICS*
Luo, B., Lellouch, A., Jin, G., Biondi, B., Simmons, J.
2021; 86 (4): R383-R397
 - **Seismic Applications of Downhole DAS. Sensors (Basel, Switzerland)**
Lellouch, A., Biondi, B. L.
2021; 21 (9)
 - **Properties of a deep seismic waveguide measured with an optical fiber** *PHYSICAL REVIEW RESEARCH*
Lellouch, A., Biondi, E., Biondi, B. L., Luo, B., Jin, G., Meadows, M. A.
2021; 3 (1)
 - **Low-Magnitude Seismicity With a Downhole Distributed Acoustic Sensing Array-Examples From the FORGE Geothermal Experiment** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
Lellouch, A., Schultz, R., Lindsey, N. J., Biondi, B. L., Ellsworth, W. L.
2021; 126 (1)
 - **Comparison between Distributed Acoustic Sensing and Geophones: Downhole Microseismic Monitoring of the FORGE Geothermal Experiment** *SEISMOLOGICAL RESEARCH LETTERS*
Lellouch, A., Lindsey, N. J., Ellsworth, W. L., Biondi, B. L.
2020; 91 (6): 3256-68
 - **Approximate Bayesian inference of seismic velocity and pore-pressure uncertainty with basin modeling, rock physics, and imaging constraints** *GEOPHYSICS*
Pradhan, A., Dutta, N. C., Le, H. Q., Biondi, B., Mukerji, T.
2020; 85 (5): ID19-ID34
 - **Fracture properties estimation using distributed acoustic sensing recording of guided waves in unconventional reservoirs** *GEOPHYSICS*
Lellouch, A., Meadows, M. A., Nemeth, T., Biondi, B.
2020; 85 (5): M85-M95
 - **Applied 3D salt body reconstruction using shape optimization with level sets** *GEOPHYSICS*
Dahlke, T., Biondi, B., Clapp, R.
2020; 85 (5): R437-R446

- **A pipeline approach for three dimensional time-domain finite-difference multi-parameter waveform inversion on GPUs** *COMPUTERS & GEOSCIENCES*
Le, H., Clapp, R. G., Levin, S. A., Biondi, B.
2020; 140
- **Urban Seismic Site Characterization by Fiber-Optic Seismology** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
Spica, Z. J., Pertson, M., Martin, E. R., Beroza, G. C., Biondi, B.
2020; 125 (3)
- **City-Scale Dark Fiber DAS Measurements of Infrastructure Use During the COVID-19 Pandemic.** *Geophysical research letters*
Lindsey, N. J., Yuan, S. n., Lellouch, A. n., Gualtieri, L. n., Lecocq, T. n., Biondi, B. n.
2020; 47 (16): e2020GL089931
- **Velocity-Based Earthquake Detection Using Downhole Distributed Acoustic Sensing-Examples from the San Andreas Fault Observatory at Depth** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*
Lellouch, A., Yuan, S., Ellsworth, W. L., Biondi, B.
2019; 109 (6): 2491–2500
- **Estimating Signal and Structured Noise in Ultrasound Data using Prediction-Error Filters**
Jennings, J., Jakovljevic, M., Biondi, E., Dahl, J., Biondi, B.
edited by Byram, B. C., Ruitter, N. V.
SPIE-INT SOC OPTICAL ENGINEERING.2019
- **A Seismic Shift in Scalable Acquisition Demands New Processing Fiber-optic seismic signal retrieval in urban areas with unsupervised learning for coherent noise removal** *IEEE SIGNAL PROCESSING MAGAZINE*
Martin, E. R., Huot, F., Ma, Y., Cieplicki, R., Cole, S., Karrenbach, M., Biondi, B. L.
2018; 35 (2): 31–40
- **Fiber-Optic Network Observations of Earthquake Wavefields** *GEOPHYSICAL RESEARCH LETTERS*
Lindsey, N. J., Martin, E. R., Dreger, D. S., Freifeld, B., Cole, S., James, S. R., Biondi, B. L., Ajo-Franklin, J. B.
2017; 44 (23): 11792–99
- **Time-lapse inverse theory with applications** *GEOPHYSICS*
Maharramov, M., Biondi, B. L., Meadows, M. A.
2016; 81 (6): R485-R501
- **Integrated VTI model building with seismic data, geologic information, and rock-physics modeling - Part 1: Theory and synthetic test** *GEOPHYSICS*
Li, Y., Biondi, B., Clapp, R., Nichols, D.
2016; 81 (5): C177-C191
- **Integrated VTI model building with seismic data, geologic information, and rock-physics modeling - Part 2: Field data test** *GEOPHYSICS*
Li, Y., Biondi, B., Clapp, R., Nichols, D.
2016; 81 (5): C205-C218
- **High-frequency Rayleigh-wave tomography using traffic noise from Long Beach, California** *GEOPHYSICS*
Chang, J. P., de Ridder, S. A., Biondi, B. L.
2016; 81 (2): B43-B53
- **Time-lapse inverse theory with applications** *GEOPHYSICS*
Maharramov, M., Biondi, B. L., Meadows, M. A.
2016; 81 (6): R485-R501
- **Imaging with primaries and free-surface multiples by joint least-squares reverse time migration** *GEOPHYSICS*
Wong, M., Biondi, B. L., Ronen, S.
2015; 80 (6): S223-S235
- **Ambient seismic noise tomography at Ekofisk** *GEOPHYSICS*
de Ridder, S. A., Biondi, B. L.
2015; 80 (6): B167-B176

- **Near-surface Scholte wave velocities at Ekofisk from short noise recordings by seismic noise gradiometry** *GEOPHYSICAL RESEARCH LETTERS*
de Ridder, S. A., Biondi, B. L.
2015; 42 (17): 7031-7038
- **Elliptical-anisotropic eikonal phase velocity tomography** *GEOPHYSICAL RESEARCH LETTERS*
de Ridder, S. A., Biondi, B. L., Nichols, D.
2015; 42 (3): 758-764
- **Time-lapse seismic noise correlation tomography at Valhall** *GEOPHYSICAL RESEARCH LETTERS*
de Ridder, S. A., Biondi, B. L., Clapp, R. G.
2014; 41 (17): 6116-6122
- **Q-compensated reverse-time migration** *GEOPHYSICS*
Zhu, T., Harris, J. M., Biondi, B.
2014; 79 (3): S77-S87
- **Salt delineation via interpreter-guided 3D seismic image segmentation** *INTERPRETATION-A JOURNAL OF SUBSURFACE CHARACTERIZATION*
Halpert, A. D., Clapp, R. G., Biondi, B.
2014; 2 (2): T79-?
- **Advances in finite-frequency imaging and inversion - Introduction** *GEOPHYSICS*
Fichtner, A., Plessix, R., Fleury, C., Biondi, B.
2014; 79 (3): WA1-WA2
- **Simultaneous inversion of full data bandwidth by tomographic full-waveform inversion** *GEOPHYSICS*
Biondi, B., Almomin, A.
2014; 79 (3): WA129-WA140
- **Wave-equation migration velocity analysis for VTI models** *GEOPHYSICS*
Li, Y., Biondi, B., Clapp, R., Nichols, D.
2014; 79 (3): WA59-WA68
- **Q-compensated reverse-time migration** *Geophysics*
Zhu, T., Harris, J. M., Biondi, B.
2014; 79 (3): S77-S87
- **Salt delineation via interpreter-guided 3D seismic image segmentation** *Interpretation*
Halpert, A. D., Clapp, R. G., Biondi, B.
2014; 2 (2): T79-T88
- **Daily reservoir-scale subsurface monitoring using ambient seismic noise** *GEOPHYSICAL RESEARCH LETTERS*
de Ridder, S. A., Biondi, B. L.
2013; 40 (12): 2969-2974
- **Moveout-based wave-equation migration velocity analysis** *GEOPHYSICS*
Zhang, Y., Biondi, B.
2013; 78 (2): U31-U39
- **Subsalt imaging by target-oriented inversion-based imaging: A 3D field-data example** *GEOPHYSICS*
Tang, Y., Biondi, B.
2013; 78 (2): S47-S58
- **Subsalt velocity estimation by target-oriented wave-equation migration velocity analysis: A 3D field-data example** *GEOPHYSICS*
Tang, Y., Biondi, B.
2013; 78 (1): U19-U29
- **Time-lapse seismic imaging by linearized joint inversion - A Valhall Field case study** *Proceedings of the 82d Annual International Meeting, Society of Exploration Geophysicists*

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- Ayeni, G., Biondi, B.
2012: 4499–4504
- **Residual moveout-based wave-equation migration velocity analysis** *Proceedings of the 82d Annual International Meeting, Society of Exploration Geophysicists*
Zhang, Y., Biondi, B.
2012: 4261–4265
 - **Joint imaging with Streamer and OBN data** *82d Annual International Meeting, Society of Exploration Geophysicists*
Wong, M., Ronen, S., Biondi, B.
2012: 2930–34
 - **Continuous Passive Seismic Monitoring of CCS Projects by Correlating Seismic Noise - A Feasibility Study** *74th Annual International Conference, European Association of Geoscientists & Engineers*
de Ridder, S., Biondi, B.
2012
 - **Imaging with multiples using linearized full-wave inversion** *Proceedings of the 82d Annual International Meeting, Society of Exploration Geophysicists*
Wong, M., Biondi, B., Ronen, S.
2012: 3724–3728
 - **Tomographic full waveform inversion (TFWI) by combining full waveform inversion with wave-equation migration velocity analysis** *Proceedings of the 82d Annual International Meeting, Society of Exploration Geophysicists*
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