



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, Institute for Computational and Mathematical Engineering (ICME)

ADMINISTRATIVE APPOINTMENTS

- Chair of the Geophysics Department, Stanford University, (2019- present)
- Director, Stanford Exploration 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- present)
- 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

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)

2021-22

- 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)
- Know Your Planet: Big Earth: EARTH 1B (Win)
- Reflection Seismology: GEOPHYS 385A (Aut, Win, Spr, Sum)

2020-21

- 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)

2019-20

- 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)

Josue Fonseca, Jingxiao Liu

Doctoral Dissertation Advisor (AC)

Hassan Almomin, Milad Bader, Thomas Cullison, Stuart Farris, Julio Frigerio, Paige Given, Haipeng Li, Min Jun Park, Rahul Sarkar, Joe Stitt, Jonathan Voyles, Siyuan Yuan

Doctoral (Program)

Rustam Akhmadiev

Publications

PUBLICATIONS

- **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*
Cabrales-Vargas, A., Sarkar, R., Biondi, B. L., Clapp, R. G.
2022; 87 (1): R1-R12
- **Denosing 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)
- **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., Perton, 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., Byram, B. C., Ruiter, 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*
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*
Biondi, B., Almomin, A.
2012: 2727–2731
- **Tomographic Full Waveform Inversion: Practical and Computationally Feasible Approach** *Proceedings of the 82d Annual International Meeting, Society of Exploration Geophysicists*
Almomin, A., Biondi, B.
2012: 2983–2987
- **Fast 3D migration-velocity analysis by wavefield extrapolation using the prestack exploding-reflector model** *GEOPHYSICS*
Guerra, C., Biondi, B.
2011; 76 (5): WB151-WB167
- **Target-oriented wavefield tomography using synthesized Born data** *GEOPHYSICS*
Tang, Y., Biondi, B.
2011; 76 (5): WB191-WB207
- **Subsalt velocity analysis by target-oriented wavefield tomography: A 3D field data example** *81st Annual International Meeting, Society of Exploration Geophysicists*
Tang, T., Biondi, B.
2011: 3958–63
- **Wave-equation inversion of time-lapse seismic data sets** *81st Annual International Meeting, Society of Exploration Geophysicists*
Ayeni, G., Biondi, B.
2011: 4149–54
- **Least-squares reverse time migration/inversion for ocean bottom data: A case study** *Proceedings of the 81st Annual International Meeting, Society of Exploration Geophysicists*
Wong, M., Ronen, S., Biondi, B.
2011: 2369–2373
- **Migration velocity analysis for anisotropic models** *Proceedings of the 81st Annual International Meeting, Society of Exploration Geophysicists*
Li, Y., Biondi, B.
2011: 201–6
- **Velocity estimation by image-focusing analysis** *GEOPHYSICS*
Biondi, B.
2010; 75 (6): U49-U60
- **Target-oriented joint least-squares migration/inversion of time-lapse seismic data sets** *GEOPHYSICS*
Ayeni, G., Biondi, B.

2010; 75 (3): R61-R73

- **Joint least-squares inversion of up- and down-going signal for ocean bottom data sets** *80th Annual International Meeting, Society of Exploration Geophysicists*
Wong, M., Biondi, B., Ronen, S.
2010: 2752–2756
- **3-D Seismic Imaging** *Investigations in Geophysics*
Biondi, B.
edited by Gardner, G.
Society of Exploration Geophysicists.2010; 14 (2nd Edition)
- **Target oriented tomography using Born data**
Tang, Y., Biondi, B.
2010: 4066–70
- **Velocity Estimation by Image Focusing Analysis** *80th Annual International Meeting, Society of Exploration Geophysicists*
Biondi, B.
2010: 4066–70
- **Low frequency passive seismic interferometry for land data** *80th Annual International Meeting, Society of Exploration Geophysicists*
de Ridder, S., Biondi, B.
2010: 4041–46
- **Fast 3D velocity updates using the pre-stack exploding reflector model** *80th Annual International Meeting, Society of Exploration Geophysicists*
Guerra, G., Biondi, B.
2010: 4375–79
- **Efficient Seismic Monitoring of Hydrocarbon Reservoirs Using Multiple Shooting Vessels** *Offshore Technology Conference*
Ayeni, G., Tang, Y., Biondo, B.
2010
- **Speeding up seismic image segmentation** *80th Annual International Meeting, Society of Exploration Geophysicists*
Halpert, A., Clapp, R., Biondi, B.
2010: 1276–80
- **3D plane-wave migration in tilted coordinates: A field data example** *GEOPHYSICS*
Shan, G., Clapp, R., Biondi, B.
2009; 74 (6): WCA199-WCA209
- **Imaging by target-oriented wave-equation inversion** *GEOPHYSICS*
Valenciano, A. A., Biondi, B. L., Clapp, R. G.
2009; 74 (6): WCA109-WCA120
- **Joint target-oriented wave-equation inversion of multiple time-lapse seismic data sets** *79th Annual International Meeting, Society of Exploration Geophysicists*
Ayeni, G., Biondi, B.
2009: 3825–29
- **Wave-equation tomography using image-space phase encoded data** *79th Annual International Meeting, Society of Exploration Geophysicists*
Guerra, C., Tang, Y., Biondi, B.
2009: 3964–68
- **Least-squares migration/inversion of blended data** *79th Annual International Meeting, Society of Exploration Geophysicists*
Tang, Y., Biondi, B.
2009: 2859–63
- **Seismic image segmentation with multiple attributes** *79th Annual International Meeting, Society of Exploration Geophysicists*
Halpert, A., Clapp, R. G., Biondi, B.
2009: 3700–3704
- **Joint preconditioned least-squares inversion of simultaneous source time-lapse seismic data sets** *79th Annual International Meeting, Society of Exploration Geophysicists*

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- Ayeni, G., Tang, Y., Biondi, B.
2009: 3914–18
- **Plane-wave migration in tilted coordinates** *GEOPHYSICS*
Shan, G., Biondi, B.
2008; 73 (5): S185-S194
 - **Wave-equation angle-domain common-image gathers for converted waves** *GEOPHYSICS*
Rosales, D. A., Fomel, S., Biondi, B. L., Sava, P. C.
2008; 73 (1): S17-S26
 - **Prestack Depth Migration and Velocity Model Building** *Geophysics reprint series*
edited by Jones, I. F., Bloor, R. I., Biondi, B. L., Etgen, J. T.
Society of Exploration Geophysicists.2008
 - **Image segmentation for velocity model construction and updating** *78th Annual International Meeting, Society of Exploration Geophysicists*
Halpert, A., Clapp, R. G., Lomask, J., Biondi, B.
2008: 3088–92
 - **Angle-domain common-image gathers for steep reflectors** *78th Annual International Meeting, Society of Exploration Geophysicists*
Shan, G., Biondi, B.
2008: 3068–72
 - **Wavepath tomography for model building and hazard detection** *78th Annual International Meeting, Society of Exploration Geophysicists*
Bevc, D., Fliedner, M. M., Biondi, B.
2008: 3098–4002
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