Curriculum Vitae

Name: Alexey Stovas
Position: Professor, IPT NTNU, Trondheim, Norway
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Professional societies:

Active Member, *European Association of Exploration Geophysics*
Active Member, *Society of Exploration Geophysicists*

Associate Editor in *Geophysical Prospecting; ISRN Geophysics; International Journal of Geophysics; Seismic Technologies*

Visiting researcher:

1997-98	Karlsruhe University, Karlsruhe, Germany
2004- 2006, 2009-2017	University of Texas, Austin, USA
2010	University of Pau, France
2011, 2012	University of Bordeaux, France
2012-2015	KAUST, Saudi Arabia
2012	University of Grenoble, France
2011, 2013	University of Kyoto, Japan
2014	University of Prague, Czech Republic
2015	University of Toulouse, France
2015	University of Hamburg, Germany
2016, 2017	University of Edinburgh, UK
2017	University of Lyon, France

Professional activity:

2001-…	Reviewer for *Geophysics, Geophysical Prospecting, Computer Methods in Applied Mechanics and Engineering and Geophysical Journal International*
2004-…	Reviewer and chairperson for *EAGE* and *SEG* Annual Meetings.
2009	Convenior for *SIAM2009 (Germany).*
2012-…	Convenior for *15IWSA (Bahrein), 16IWSA (Brazil), 17IWSA (USA).*
2014-…	Convenior for *SPWLA* workshop (*Czech Republic*).
2016-…	Convenior for *Geoinformatics* (*Ukraine*).

Awards

2016	Best reviewer of the year in *Geophysics*
2017	Outstanding reviewer of the year in *Journal Geophysical International*

International Projects

- *Source Rock*
- *ATLASS*
- *ROSE*
- *GeoEnhance*
- *Integrated Operation Center*
- *Petromaks2*

Professional interests
- Seismic imaging
- Anisotropy
- Seismic wave propagation in complex media
- Reservoir characterization from seismic data
- 4D seismic
- Seismic modelling

Selected published papers (115)

1. Madatov A., and Stovas, A., 1984, Possibilities for revealing the reflection waves dynamic under the low velocity zone, *Geophysical Journal*, no.1 (in Russian).
2. Stovas, A., 1987, The multiplies in F-K migration, *Geophysical Journal*, no.9 (in Russian).
3. Stovas, A., 1987, Wave approximations in the migration theory. A Fresnel approximation, *Russian Geology and Geophysics*, no.7 (in Russian).
4. Stovas, A., 1988, Spectral analysis of CMP stacking, *Russian Geology and Geophysics*, no.1 (in Russian).
5. Stovas, A., 1989, Dynamic distortions of seismic image, 1989, *Geophysical Journal*, no.4 (in Russian).
6. Stovas, A., 1990, Geometrical interpretation of wave approximations, *Geophysical Journal*, no.1 (in Russian).
7. Stovas, A., 1990, Optimization of wave approximations in the problems of seismic image construction, *Izvestia of Academy of Sciences of USSR, ser.Physics of the Earth*, no.5 (in Russian).
8. Stovas, A., 1990, Principle of image focusing in the migration processing schemes, 1990, *Russian Applied Geophysics*, no.123 (in Russian).
9. Stovas, A., 1991, CMP stacking and inverse wave continuation before stack, *Russian Geology and Geophysics*, no.2 (in Russian).
10. Stovas, A., 1991, Dynamic distortions by realization of non-stationary interferential systems, *Geophysical Journal*, no.4 (in Russian).
11. Stovas, A., 1991, Analysis of amplitude dynamic distortions from CMP stacking on the seismic data, *Russian Applied Geophysics*, no.124 (in Russian).
12. Stovas, A., 1992, Comparison of seismic migration methods in vertically inhomogeneous medium, *Russian Geology and Geophysics*, no.4 (in Russian).
13. Stovas, A., 1992, Born approximation in seismic migration and inversion problems for acoustic equation, *Izvestia Russian Academy of Science, Ser.Physics of the Earth*, no.3 (in Russian).
14. Stovas, A., 1992, Optimization of 45-degree Claerbout's approximation, *Russian Applied Geophysics*, no.126 (in Russian).
15. Stovas, A., 1993, Kinematical analysis of dip moveout correction, *Geophysical Journal*, 15, no.4 (in Russian).
16. Stovas, A., 1993, Analysis of DMO transformation on the base of discontinuities theory, *Russian Geology and Geophysics*, no.3 (in Russian).
17. Stovas, A., and Fomel, S.B., 1996, Integral kinematically equivalent DMO operators, *Russian Geology and Geophysics*, no.9 (in Russian).
18. Stovas, A., 1996, Elements of the theory of 3D DMO operators, *Russian Geology and Geophysics*, no.2 (in Russian).
19. Stovas, A., 1998, Wave-equation-based normal moveout, *Journal of Seismic Exploration*, **7**, 1-8.
20. Stovas, A., 1999, Integral migration to-zero-offset operator, *Russian Geology and Geophysics*, no.6 (in Russian).
21. Stovas, A., and Ursin, B., 2001, A new approximation of the reflection and transmission coefficients between two visco-elastic isotropic media, *Journal of Seismic*

Exploration, **9**, 223-233.

22. Ursin, B., and Stovas, A., 2002, Reflection and transmission responses of a layered isotropic visco-elastic medium, *Geophysics*, **67**, 307-323.

23. Stovas, A., 2002, Integral dip moveout operator for transversely isotropic media. The hyperbolic case, *Journal of Seismic Exploration,* **11**, 317-340.

24. Stovas, A., and Ursin, B., 2003, Reflection and transmission responses of layered transversely isotropic visco-elastic media, *Geophysical Prospecting,* **51**, 447-477.

25. Stovas, A., and Landrø, M., 2004, Optimal use of PP and PS time-lapse stacks for fluid-pressure discrimination, *Geophysical Prospecting,* **52**, 1-12.

26. Stovas, A., and Ursin, B., 2004, New traveltimes approximation for a transversely isotropic medium, *Journal of Geophysical Exploration,* **1**, 1-6.

27. Stovas, A., and Landro, M., 2005, Fluid-pressure discrimination in anisotropic reservoir rocks – a sensitivity study, *Geophysics*, **70**, no.3, O1-O11.

28. Ursin, B., and Stovas, A., 2005, Generalized Dix equations for a layered transversely isotropic medium, *Geophysics*, **70**, no.6, D77-D81.

29. Stovas, A., and Ursin, B., 2006, Parameter estimation for a linear velocity function, *Soviet Geology and Geophysics* **47**, no.5, 582-586.

30. Ursin, B., and Stovas, A., 2006, Traveltime approximations for a layered transversely isotropic medium, *Geophysics* **71**, no.2, D23-D33.

31. Stovas, A., Landrø, M., and Avseth, P., 2006, AVO attribute inversion for finely layered reservoirs, *Geophysics* **71**, no.3, C25-C36.

32. Stovas, A., and Arntsen, B., 2006, Vertical propagation of low-frequency waves in finely layered media, *Geophysics,* **71**, no.3, T87-T94.

33. Stovas, A., Landro, M., and Arntsen, 2006, Using PP and PS time-lapse stacks for fluid-pressure discrimination a sensitivity study based on 2D synthetic data from the Gullfaks Field, *Journal of Geophysics and Engineering*, no.3, 314-328.

34. Røste, T., Stovas, A., and Landrø, M., 2006, Estimation of layer thickness and velocity changes using 4D prestack seismic data, *Geophysics,* **71**, no.6, S219-S234.

35. Tygel, M., Ursin, B., and Stovas, A., 2007, Convergence of the traveltime power series for a layered transversely isotropic medium, *Geophysics*, **72**, no.2, D21-D28.

36. Stovas, A., and Ursin, B., 2007, Estimation of layer parameters for linear P- and S-wave velocity functions, *Geophysics*, **72**, no.3, U27-U30.

37. Stovas, A., Landro, M., and Janbu, M., 2007, Seismic attributes from ultra-thin layered reservoirs, *Oil and Gas*, **62**, no.2, 147-154.

38. Pedersen, O., Ursin, B. and Stovas, A.M., 2007, Wide-angle phase-slowness approximations in VTI media, *Geophysics,* **72**, no.4, S177-S185.

39. Mittet, R., Aakervik, O.M., Jensen, H.R., Ellingsrud, S., and Stovas, A., 2007, On the orientation and absolute phase of SBL receivers, *Geophysics,* **72**, no.4, F134-F155.

40. Stovas, A., 2007, Phase velocity approximation in finely layered sediments, *Geophysics,* **72**, no.5, T57-T59.

41. Stovas, A., and Ursin, B., 2007, The reflection and transmission responses of a periodic layered medium, in Geomathematics and GIS Analysis of Resources, Environment and Hazards, eds. Pegda Zhao, Fritz Agterberg and Quiming Cheng, China University of Geoscience, Beijing.

42. Stovas, A., and Ursin, B., 2007, Equivalent time-average and effective medium for periodic layers , *Geophysical Prospecting,* **55**, no.6, 871-882.

43. Haugen, J.A., Ursin, B., and Stovas, A., 2007, Sensitivity of Dix type inverse formulas, *Journal of Geophysics and Engineering,* **4**, 404-414.

44. Stovas, A., 2008, Kinematically equivalent velocity distributions, *Geophysics*, **73**, no.5, VE369-VE375.

45. Stovas, A., and Roganov, Yu., 2009, Slowness-surface approximations for qSV-waves in transversely isotropic media, *Geophysical Prospecting*, **57**, no.1, 1-11.
46. Silva, M.B.C., Stovas, A., 2009, Correspondence between the low- and high-frequency limits for anisotropic parameters in a layered medium, *Geophysics*, **74**, no.2, WA25-WA33.
47. Silva, M.B.C., Stovas, A., 2009, Comparison of averaging methods for velocity model building from well logs, *Journal of Geophysics and Engineering,* **6**, 172-176.
48. Stovas, A., and Ursin, B., 2009, Improved geometrical spreading approximations in layered transversely isotropic media, *Geophysics*, **74**, no.5, D85-D95.
49. Stovas, A., 2009, Power-gradient velocity model, *Geophysics*, **74**, no.5, U13-U33.
50. Stovas, A., 2010, Kinematical characteristics of the factorized velocity model, *Geophysical Prospecting,* **58**, no.2, 219-227.
51. Skopintseva, L., and Stovas, A. 2010, Overburden dependent AVA inversion, *Geophysics,* **75**, no.2, C15-C23.
52. Fomel, S., and Stovas, A., 2010, The generalized non-hyperbolic moveout approximation, *Geophysics,* **75**, no.2, U9-U18.
53. Stovas, A., and Roganov, Yu., 2010, Scattering versus intrinsic attenuation in periodically layered media, *Journal of Geophysics and Engineering,* **7**, 135-142.
54. Roganov, Yu. and Stovas, A., 2010, On shear wave triplications in a multi-layered VTI medium, *Geophysical Prospecting*, **58**, no.4, 549-559.
55. Golikov, P., and Stovas, A., 2010, New weak-contrast approximation for reflection coefficients in VTI media, *Journal of Geophysics and Engineering,* **7**, 343-350.
56. Stovas, A., 2010, Generalized moveout approximation for qP- and qSV-waves in a homogeneous transversely isotropic medium, *Geophysics,* **75**, no.6, D79-D84.
57. Stovas, A., 2010, Unconstrained Dix-type inversion in a layered VTI medium, *Journal of Geophysics and Engineering,* **8**, 1-5.
58. Roganov, Yu. and Stovas, A., 2011, Caustics in a periodically layered transversely isotropic medium with vertical symmetry axis, *Geophysical Prospecting*, **59**, 375-385.
59. Stovas, A., and Roganov, Yu., 2011, Acoustic waves in layered media. From theory to seismic applications, in Waves in Fluids and Solids, ed. Ruben Pico Villa, InTech.
60. Stovas, A., 2011, The unphysical qP-wave caustics in acoustic VTI media, *Seismic Exploration Techniques*, no.4, 68-72.
61. Stovas, A., and Fomel, S., 2012, Generalized moveout approximation in tau-p domain, *Geophysics* **77**, no.2, U23-U30.
62. Stovas, A., and Fomel, S., 2012, "Shifted hyperbola" moveout approximation revisited, *Geophysical Prospecting* **60**, 395-399.
63. Golikov, P. and Stovas, A., 2012, Traveltime parameters in a tilted elliptical anisotropic medium, *Geophysical Prospecting* **60**, 433-443.
64. Stovas, A., and Alkhalifah, T., 2012, A new traveltime approximation in TTI media, *Geophysics* **77**, no.4, C37-C42.
65. Golikov, P. and Stovas, A., 2012, Asymptotic analysis of moveout approximations in a VTI medium, *Journal of Geophysics and Engineering* **9**, 428-432.
66. Roganov, Yu. and Stovas, A., 2012, Low frequency wave propagation in periodically layered media, *Geophysical Prospecting* **60**, 825-837.
67. Golikov, P. and Stovas, A., 2012, Traveltime parameters in tilted transverse isotropic media, *Geophysics* **77**, no.6, C43-C55.
68. Golikov, P, P. Avseth, A. Stovas, and R. Bachrach, 2013, Rock physics interpretation of

heterogeneous and anisotropic turbidite reservoirs, *Geophysical Prospecting* **61**, no.2, 448-457.

69. Stovas, A., and Alkhalifah, T., 2013, The TTI slowness surface approximation, *Geophysical Prospecting* **61**, no.3, 568-573.
70. Vinje, V., Stovas, A., and D.Reynaud, 2013, Preserved-traveltime smoothing, *Geophysical Prospecting* **61**, no.sup1, 380-390.
71. Stovas, A., Roganov, Yu., Duffaut, K., and A.Carter, 2013, Low-frequency layer-induced anisotropy, *Geophysics* **78**, no.5, C89-C100.
72. Waheed, U., T.Alkhalifah and A.Stovas, 2013, Diffraction traveltime approximations for TI media with an inhomogeneous background, *Geophysics* **78**, no.5, C139-C147.
73. Stovas, A., and T.Alkhalifah, 2013, Mapping of moveout in TTI media, *Geophysical Prospecting*, **61**, no.6, 1171-1177.
74. Roganov, Yu., and A.Stovas, 2013, Low frequency velocity dispersion and reflection coefficientin a periodically layered medium, Zbirnyk naukovyh prac UkrDGRI, no.4, 24-28.
75. Dupuy, B., and A.Stovas, 2013, Wave attenuation and dispersion in patchy saturated gas Reservoirs: Influence of frequency and saturation on AVO attributes, *Poromechanics* V, 51-60.
76. Dupuy, B., and A.Stovas, 2014, Influence of frequency and saturation on AVO attributes for patchy saturated rocks, *Geophysics*, **79**, no.1 B19-B36.
77. Stovas, A., and T.Alkhalifah, 2014, Mapping of moveout approximations in TI media, *Geophysics*, **79**, no.1, C19-C26.
78. Stovas, A., and T.Alkhalifah, 2014, Analytical approximations of diving wave imaging in constant gradient medium, *Geophysics*, **79**, no.4, S131-S140.
79. Hao, Q., and A.Stovas, 2014, P-wave diffraction and reflection traveltimes for a homogeneous 3D TTI model, *Journal of Seismic Exploration*, **23**, no.5, 405-429.
80. Roganov, V., Stovas, A., and Yu.Roganov, 2014, Analysis of pass and stop bands in a periodically layered medium, *Seismic Exploration Techniques*, no. 2, 34-41.
81. Pigulevskiy, P., Nikitash, L., and A.Stovas, 2014, On the role of potential methods to study the salt and reef structures in the Dnieper-Donets basin, *Vestnik of National University in Kiev*, **63**, no.4, 25-29.
82. Roganov, Yu., and A.Stovas, 2014, Low-frequency normal wave propagation in a periodically layered medium with weak-contrast in elastic properties, *Geophysical Prospecting*, **62**, no.4, 1205-1210.
83. Hao, Q., Stovas, A., and T.Alkhalifah, 2015, The offset-midpoint traveltime pyramid in 3D HTI media, *Geophysics*, **80**, no.1, T51-T62.
84. Hao, Q., and A.Stovas, 2015, The offset-midpoint traveltime pyramid in TTI media, *Geophysical Prospecting*, **63**, no.3, 587-596.
85. Xu, S., and A.Stovas, 2015, Curvature and anisotropy estimation through the CRS approximation, *Journal of Geophysics and Engineering*, **12**, 934-945.
86. Stovas, A., 2015, Azimuthally dependent kinematic properties of orthorhombic media, *Geophysics,* **80**, no.6, C107-C122.
87. Stovas, A., and S.Fomel, 2016, Mapping of moveout attributes using local slopes, *Geophysical Prospecting*, **64**, no.1, 31-37.
88. Dupuy, B, and Stovas, A., 2016, Effect of dispersive patchy saturated sands layers on the reflection and transmission responses of a periodic layered medium, *Geophysical Prospecting* **64**, no.2, 299-319.
89. Hao, Q, and Stovas A. 2016. Analytic calculation of phase and group velocities of P-wave

in orthorhombic media, *Geophysics* **81**, no.3, C79-C97.

90. Hao, Q, and Stovas A. 2016. P-wave slowness surface approximation for tilted orthorhombic media, *Geophysics* **81**, no.3, C99-C112.

91. Ivanov, Yu., and Stovas A. 2016. Upscaling in orthorhombic media: Behaviour of elastic parameters in heterogeneous fractured earth, *Geophysics* **81**, no.3, C113-C126.

92. Xu, S., A.Stovas and T.Alkhalifah, 2016, Estimation of the anisotropy parameters from imaging moveout in a factorized medium, *Geophysics* **81**, no.4, C139-C150.

93. Dupuy, B., S.Garambois, A.Asnaashari, H.M.Balhareth, M.Landro, A.Stovas, J.Virieux, 2016, Estimation of rock physics properties from seismic attributes – part 2: Applications, *Geophysics*, **81**, no.4, M55-M69.

94. Hao, Q, A.Stovas and T.Alkhalifah, 2016, The offset-midpoint traveltime pyramid of P-waves in homogeneous orthorhombic media, *Geophysics* **81**, no.5, C151-C162.

95. Ivanov, Yu., and Stovas A. 2016. Reflected waves in finely layered tilted orthorhombic media, *Studia Geophysica et Geodaetica* **60**, no.3, 370-390.

96. Stovas, A., 2016, Vertical on-axis triplications in orthorhombic media, *J. Geophys. Eng.* **13**, 875–879.

97. Stovas, A., Masmoudi, N., and T.Alkhalifah, 2016, Application of perturbation theory for P-wave eikonal equation in orthorhombic media, *Geophysics*, **81**, no.6, C309-C317.

98. Ivanov, Yu. and A.Stovas, 2016, NMO velocities in tilted orthorhombic media, *Geophysics*, **81**, no.6, C319-C336.

99. Hao, Q., A.Stovas, 2016, Generalized non-hyperbolic moveout approximation for converted P-SV wave in vertically inhomogeneous VTI media, *Geophysical Prospecting*, **64**, 1469-1482.

100. Waheed, U., T.Alkhalifah, and A.Stovas, 2017, Anisotropy parameter inversion in VTI media using diffractions, *Geophysical Prospecting,* **65**, no.1, 194-203.

101. Sripanich, Y., S.Fomel, A.Stovas, and Q.Hao, 2017, 3D generalized nonhyperboloidal moveout approximation, *Geophysics*, **82**, no.2, C49-C59.

102. Ivanov, Yu., and A.Stovas, 2017, Weak-anisotropy approximation for P-wave reflection coefficient at the boundary between two TTI media, *Geophysical Prospecting* **65**, no.2, 485-502.

103. Stovas, A., 2017, Kinematic parameters of pure- and converted-waves in elastic orthorhombic media, *Geophysical Prospecting,* **65**, no.2, 426-452.

104. Stovas, A., and S.Fomel, 2017, The generalized moveout approximation: a new parameter selection, *Geophysical Prospecting,* **65**, no.3, 687-695.

105. Ivanov, Yu. and A.Stovas, 2017, S-waves singularities in tilted orthorhombic media, *Geophysics*, **82**, no.4, WA11-WA21.

106. Masmoudi, N., Stovas, A., and T.Alkhalifah, 2017, Scanning anisotropy parameters in horizontal transversely isotropic media, *Geophysical Prospecting*, **65**, no.4, 981-991.

107. Ivanov, Yu. and A.Stovas, 2017, Traveltime parameters in tilted orthorhombic medium, *Geophysics*, **82**, no.6, C187-C200.

108. Xu, S., and A.Stovas, 2017, Preserved traveltime smoothing in orthorhombic media, *Geophysical Prospecting* no.5, 1205-1217.

109. Xu, S., Stovas,A., and Q.Hao, 2017, New moveout approximation in transversely isotropic and orthorhombic media, *Geophysical Prospecting* no.5. 1218-1230.

110. Xu, S., and A.Stovas, 2017, A new parameterization for acoustic orthorhombic media,

Geophysics, 82, no.6, C229-C240.

111. Hao, Q., and A.Stovas, 2018, Approximate reflection coefficients for a thin VTI layer, Geophysics, 83, no.1, C1-C11.

112. Xu, S., and A.Stovas, 2017, 3D generalized moveout approximation for geometrical spreading, *Journal of Geophysical International* **211**(2), 1162-1175.

113. Stovas, A., 2018, Geometrical spreading in orthorhombic media, *Geophysics*, 83, no.1, C61-C73.

114. Xu, S., A.Stovas, and Y.Sripanich, 2018, A new parameterization for acoustic orthorhombic media, *Geophysics*, 83, no.1, C37-C47.

115. Xu, S., and A.Stovas, 2018, Freznel zone in VTI and orthorhombic media, *Journal of Geophysical International (accepted).*

Patents

Vinje, V., and Stovas, A., 2013, Preserved-traveltime smoothing method and device, *Patent number* 20120215501.