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**PUBLICATIONS (Refereed Papers; \*Student, Post-Doc First Author)**

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**In Press****In Review**

- 2018 38. **Spikes, K. T.**, N. Tisato, T. E. Hess, and J. W. Holt, 2018, Comparison of geophone and surface-deployed DAS seismic data: *Geophysics*.
- 2018 37. Amalokwu, K., **K. Spikes**, and K. Wolf, 2018, On the effect of kerogen on the bulk electrical and elastic properties of organic-rich shales: *Geophysical Journal International*.
- 2018 36. \*Dahl, E. J. H., K. Amalokwu, and **K. T. Spikes**, 2018, Velocity dispersion model for global and local flow: *Geophysical Journal International*.
- 2018 35. \*Dahl, E. J. H., and **K. T. Spikes**, 2018, Local and global fluid effects on flexural waves: *Geophysics*.

**In Preparation**

- 2018 34. **Spikes, K. T.**, 2018, Least-squares optimized rock-physics models with variable data error estimates: Quantifiable error in data and error in match between model and data.
- 2018 33. **Spikes, K. T.**, and M. K. Sen, 2018, Anisotropic analysis of seismic data for time-lapse pressure and saturation discrimination.
- 2018 32. **Spikes, K. T.**, and M. E. Naraghi, 2018, Numerical porosity variations and computed elastic property trends.

**Published**

- 2018 31. \*Liu, H., M. K. Sen, and **K. T. Spikes**, 2018, 3D simulation of seismic wave propagation in fractured media using an integral method accommodating irregular geometries: *Geophysics*, 83, 1, WA121–WA136, doi: 10.1190/geo2017-0060.1.
- 2017 30. Ramos, M. J., D. N. Expinoza, C. Torres-Verdin, K. T. Spikes, S. E. Laubach, 2017, Stress-dependent dynamic-static transforms of anisotropic Mancos Shale: 51<sup>st</sup> US Rock Mechanics/Geomechanics Symposium.
- 2017 29. \*Dahl, E. J. H., and **K. T. Spikes**, 2017, Local and global fluid effects on sonic wave modes: *Geophysics*, 82, 6, doi: 10.1190/geo2017-0080.1.
- 2017 28. \*Gupta, M., **K. Spikes**, and B. Hardage, 2017, Characterization of naturally fractured Arbuckle Group in the Wellington Field, Kansas, using S-wave amplitude variation with offset: *Interpretation*, 5, 1, T49–T63, doi: 10.1190/INT-2016-0061.1.
- 2017 27. \*Naraghi, M. E., **K. T. Spikes**, and S. Srinivasan, 2016, 3-D reconstruction of porous media from a 2-D section and comparison of transport and elastic properties: *Proceedings of the SPE Western Regional Meeting*: SPE-180489.
- 2017 26. **Spikes, K. T.**, 2017, Lithology and fluid facies identification form post-stack seismic inversion: *Proceedings of the Offshore Technology Conference*, DOI: 10.4043/27685-MS, *Invited Paper*.
- 2016 25. **Spikes, K. T.**, 2016, Statistical rock-property estimates from inverted impedances and rock-physics modeling: *Proceedings of the Offshore Technology Conference*, DOI: 10.4043/26882-MS, *Invited Paper*.
- 2016 24. \*Ren, Q., and **K. T. Spikes**, 2016, Modeling the effects of micro-scale complexity on the anisotropy of the Eagle Ford Shale: *Interpretation*, 4, 2, SE13–SE25, DOI: 10.1190/INT-2015-0120.1.
- 2016 23. \*Jiang, M., and **K. T. Spikes**, 2016, Application of rock-physics modeling, grid searching, and prestack seismic inversion in seismic reservoir characterization of the Haynesville Shale: *Journal of Geophysics and Engineering*, 13, 220–233, DOI: 10.1088/1742-2132/13/3/220.
- 2015 22. \*Carter, R. W., and **K. T. Spikes**, 2015, Double difference rock physics inversion for porosity and CO<sub>2</sub> saturation at the Cranfield injection site: *Interpretation*, 3, 2, SM23–SM35, DOI: 10.1190/INT-2014-0123.1.
- 2014 21. **Spikes, K. T.**, 2014, Error estimates of elastic components in stress-dependent VTI media: *Journal of Applied Geophysics*, 108, 110–123, 10.1016/j.jappgeo.2014.06.015.

- 2014                    20. \*Moyano, B., T. A. Johansen, R. Agersborg, and **K. T. Spikes**, 2014, Diagnostics of seismic time lapse effects of sandstones based on laboratory data: *Geophysics*, **70**, 5, D275–D287, DOI: 10.1190/GEO2013-0167.1.

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2011                    11. **Spikes, K. T.**, 2011, Modeling elastic properties and assessing uncertainty of fracture parameters in the Middle Bakken Siltstone: *Geophysics*, **76**, 4, E117–E126, DOI: 10.1190/1.3581129.

2007                    10. **Spikes, K.**, T. Mukerji, J. Dvorkin, and G. Mavko, 2007, Probabilistic seismic inversion based on rock-physics models, *Geophysics*, **72**, R87–R97, DOI: 10.1190/1.2760162.

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#### PUBLICATIONS (Non-Refereed Papers)

- 2018            8. **Spikes, K.**, and Y. Li, 2018, Introduction to this special section: Cross-disciplinary applications of geophones: *The Leading Edge*, **37**, 9, 654, DOI: 10.1190/tle37090654.1.
- 2017            7. **Spikes, K.**, W. Gouveia, and M. Nasser, 2017, Introduction to this special section: Reservoir characterization: *The Leading Edge*, **36**, 11, 885, DOI: 10.1190/tle36110855.1.
- 2015            6. Xu, C., C. Torres-Verdin, **K. Spikes**, and T. Ramirez, 2015, Introduction to special section: Geologic, geophysical, and petrophysical interpretation of core data and well logs: *Interpretation*, **3**, 1, Sai-SAii, DOI: 10.1190/INT2014-1212-SPSEINTRO.1.
- 2012            5. Stewart, R., **K. Spikes**, J. Sisson, S. Hall, J. Huang, and S. Danbom, 2012, Outstanding in the field: Hands-on geophysical education: *The Leading Edge*, **31**, 3, 278–284.
- 2009            4. **Spikes, K. T.**, 2009, Statistical classification of seismic amplitude for saturation and net-to-gross estimates, *The Leading Edge*, **28**, 1436–1445, DOI: 10.1190/1.3272698.
- 2008            3. **Spikes, K.**, J. Dvorkin, and M. Schneider, 2008, From seismic traces to rock properties: Physics-driven inversion, *The Leading Edge*, **27**, 456–461, DOI: 10.1190/1.2907175.
- 2007            2. Shragge, J. and **K. Spikes**, 2007, Stanford and University of Bucharest geoarchaeology field camp, *The Leading Edge*, **26**, 14, DOI: 10.1190/tle26010014.1.
- 2005            1. **Spikes, K. T.**, and J. P. Dvorkin, 2005, Gassmann-consistency of velocity-porosity transforms, *The Leading Edge*, **24**, 581–584, DOI: 10.1190/1.1946209.
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##### *In Press*

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- 2018            49. \*Tang, D. G. and **K. T. Spikes**, 2018, Measuring local phase slowness in the Bend Arch-Fort Worth Basin. SEG Expanded Abstracts, 804–808. doi: 10.1190/segam2018-2998373.1.
- 2018            48. Bader, S., K. Spikes, and S. Fomel, 2018, Missing well-log data prediction using Bayesian approach in the relative-geologic time domain. SEG Expanded Abstracts, 804–808. doi: 10.1190/segam2018-2997278.1.
- 2017            47. Amalokwu, K., **K. T. Spikes**, and K. Wolf, 2017, Improving shale characterization through joint elastic-electrical effective medium modeling: Unconventional Resources Technology Conference, Austin, Texas, 24-26 July 2017, 2502-2509, doi: 10.15530/urtec-2017-2690184.
- 2017            46. \*Dahl, E., and **K. T. Spikes**, 2017, A local and global flow fluid-effect model for saturated-porous rocks. SEG Expanded Abstracts, 3563–3568. doi: 10.1190/segam2017-17565606.1.
- 2017            45. \*Liu, H., M. K. Sen, and K. T. Spikes, 2017, Azimuthal seismic scattering analysis of fractures: SEG Expanded Abstracts, 3249–3254, doi: 10.1190/segam2017-17789554.1.
- 2017            44. **Spikes, K. T.**, and M. E. Naraghi, 2017, Deformation of digital images and trends of porosity versus numerical elastic properties: International Geophysical Conference, Qingdao, China, 17-20 April 2017: 1119–1123, doi: 10.1190/IGC2017-285.
- 2017            43. \*Tang, D., and **K. T. Spikes**, 2017, Segmentation of shale SEM images using machine learning: SEG Expanded Abstracts, 3898–3902, doi: 10.1190/segam2017-17738502.1.
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- 2016            41. \*Liu, H., M. K. Sen, and **K. T. Spikes**, 2016, Numerical modeling of seismic wave propagation through fractures with nonuniform height and density in 3D: SEG Expanded Abstracts, 3876-3880. doi: 10.1190/segam2016-13961971.1.
- 2016            40. \*Dahl, E. J. H., and **K. T. Spikes**, 2016, Dispersion in sonic wave modes caused by global and local flow: SEG Expanded Abstracts, 784-789. doi: 10.1190/segam2016-13843555.1.

- 2016                   39. Tisato, N., and **K. T. Spikes**, 2016, Computation of effective elastic properties from digital images without segmentation: SEG Expanded Abstracts, 3256-3260. doi: 10.1190/segam2016-13947820.1.
- 2016                   38. \*Ren, Q., M. Sen, M. E. Naraghi, S. Srinivasan, and **K. T. Spikes**, 2016, Geostatistics Guided Seismic Inversion of 3D seismic data in VTI media: Extended Abstracts of the 78th EAGE Conference and Exhibition, doi: 10.3997/2214-4609.201600966.
- 2015                   37. \*Ren, Q. and **K. T. Spikes**, 2015, Modeling the anisotropic elastic properties of the Eagle Ford Shale with complex microscale fabric: Expanded Abstracts of the 85<sup>th</sup> Annual Meeting of the SEG, 3042–3046. doi: 10.1190/segam2015-5849380.1.
- 2014                   36. \*Carter, R. and **K. T. Spikes**, 2014, Double difference rock-physics inversion for porosity and CO<sub>2</sub> saturation at the Cranfield injection site, Cranfield, MS: Expanded Abstracts of the 84<sup>th</sup> Annual Meeting of the SEG, 4977-4981, DOI: 10.1190/segam2014-0081.1.
- 2014                   35. \*Coyle, S., and **K. T. Spikes**, 2014, Rock-type model characterization of composition and fabric the Haynesville Shale: Expanded Abstracts of the 84<sup>th</sup> Annual Meeting of the SEG, 2840–2844, DOI: 10.1190/segam2014-1486.1.
- 2014                   34. Gupta, M., **K. T. Spikes**, M. Far, D. Sava, and B. Hardage, 2014, Statistical AVO intercept-gradient analysis of direct S-waves: A methodology for quantitative fracture characterization: Expanded Abstracts of the 84<sup>th</sup> Annual Meeting of the SEG, 506–511, DOI: 10.1190/segam2014-0542.1.
- 2014                   33. Gustie, P. J., R. H. Tatham, and **K. T. Spikes**, 2014, Characterization of VTI media with P-SV AVO attributes: Expanded Abstracts of the 84<sup>th</sup> Annual Meeting of the SEG, 1975–1979, DOI: 10.1190/segam2014-1542.1.
- 2014                   32. \*Liu, H., **K. T. Spikes**, and M. K. Sen, 2014, Application of discontinuous Galerkin method in seismic wave propagation: determining effect elastic properties based on rock microstructures: Expanded Abstracts of the 84<sup>th</sup> Annual Meeting of the SEG, 2888–2893, DOI: 10.1190/segam2014-0965.1.
- 2014                   31. \*Ren, Q., and **K. T. Spikes**, 2014, Anisotropic rock-physics modeling for the Haynesville Shale: Expanded Abstracts of the 84<sup>th</sup> Annual Meeting of the SEG, 2947–2951, DOI: 10.1190/segam2014-0357.1.
- 2014                   30. \*Carter, R. W., and K. T. Spikes, 2014, Integrating Rock-physics Models and 3D VSP Data to Model Injected CO<sub>2</sub> and Porosity at Cranfield Field, Mississippi, USA. Fourth EAGE CO<sub>2</sub> Geological Storage Workshop Expanded Abstracts 2014, doi: 10.3997/2214-4609.20140098.
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- 2013                   28. \*Carter, R. and **K. T. Spikes**, 2013, Joint rock physics inversion of well log and 3D VSP data to model CO<sub>2</sub> saturation and porosity at Cranfield Field, Cranfield, MS: Expanded Abstracts of the 83<sup>rd</sup> Annual Meeting of the SEG, **32**, 2397–2401, DOI: 10.1190/segam2013-0141.1.
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- 2012                   26. \*Carter, R. and **K. T. Spikes**, 2012, Modeling fluid composition in CO<sub>2</sub>-saturated sandstone using a statistical rock physics approach, Cranfield Field, Cranfield, MS, Abstract MR33A-2429 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
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- 2011                    20. Tao, Y., **K. Spikes**, and M. K. Sen, 2011, Stochastic seismic inversion using both fractal and low-frequency priors, Expanded Abstracts of the 81<sup>st</sup> Annual Meeting of the SEG, **30**, 2732–2736, DOI: 10.1190/1.3627761.
- 2010                    19. Shahin, A., R. H. Tatham, P. L. Stoffa, and **K. T. Spikes**, 2010, Comprehensive petro-elastic modeling aimed at quantitative seismic reservoir characterization and monitoring: Expanded Abstracts of the 80<sup>th</sup> Annual Meeting of the SEG, **29**, 2245–2250, DOI: 10.1190/1.3513296.
- 2010                    18. Shan, N., R. H. Tatham, M. K. Sen, **K. Spikes**, and S. C. Ruppell, 2010, Sensitivity of seismic response to variations in the Woodford Shale: Expanded Abstracts of the 80<sup>th</sup> Annual Meeting of the SEG, **29**, 2725–2729, DOI: 10.1190/1.3513409.
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- 2009                    16. **Spikes, K. T.**, 2009, Seismic-based estimates of net-to-gross using statistical classification and AVO attributes, Extended Abstracts of the 71st Annual Meeting of the EAGE.
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- 2007                    14. **Spikes, K.**, T. Mukerji, and J. Dvorkin, 2007, Stochastic rock-physics inversion for thickness, lithology, porosity, and saturation, Expanded Abstracts of the 77<sup>th</sup> Annual Meeting of the SEG, **26**, 1659–1663, DOI: 10.1190/1.2792813.
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- 2005                    12. **Spikes, K.**, J. Dvorkin, and U. Strecker, 2005, Forward-modeling methodology application to reduce AVO analysis uncertainty using well and 3D seismic data from Ibhubesi Field, Orange River Basin, RSA, Expanded Abstracts of the 75<sup>th</sup> Annual Meeting of the SEG, **24**, 1299–1302, DOI: 10.1190/1.2147924.
- 2004                    11. Johansen, T. A., **K. Spikes**, and J. Dvorkin, 2004, Strategy for estimation of lithology and reservoir properties from seismic velocities and density, Expanded Abstracts of the 74th Annual Meeting of the SEG, **23**, 1726–1729, DOI: 10.1190/1.1845162.
- 2004                    10. **Spikes, K. T.**, and J. P. Dvorkin, 2004, Pseudo-well and synthetic seismic data generation, Expanded Abstracts of the 74th Annual Meeting of the SEG, **23**, 1714–1717, DOI: 10.1190/1.1845161.
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- 2002                    7. Ralston, M. D., D. W. Steeple, **K. T. Spikes**, J. Blair, and T. Gang, 2002, Analysis of a three-component shallow seismic acquisition system, Expanded Abstracts of the 72<sup>nd</sup> Annual Meeting of the SEG, **21**, 1551–1554, DOI: 10.1190/1.1816964.
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