Stanford

Gerald Mavko

Professor (Research) of Geophysics, Emeritus

Curriculum Vitae available Online

Bio

BIO

I work to discover and understand the relationship between geophysical measurements and the rock and fluid properties that they sample in the Earth. My students and I have begun to understand the impact of rock type, porosity, pore fluids, temperature, and stress on seismic wave propagation and electromagnetic response. We are also working to quantify the links between geophysical measurements and the sedimentary and diagenetic processes that determine rock mineralogy and texture. Ultimately, this work allows us to better infer, from geophysical images, the composition and physical conditions at depth.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Geophysics

ADMINISTRATIVE APPOINTMENTS

- Project Officer/Physicist, U.S. Air Force, (1974-1976)
- Postdoctoral Fellow/Lecturer Geophysics, Stanford University, (1977-1978)
- Geophysicist/Project Chief, U.S. Geological Survey, Menlo Park, (1978-1984)
- Vice President of Research and Development; Senior Research Geophysicist, Entropic Geophysical, Cupertino, (1984-1989)
- Acting Associate Professor of Geophysics, Stanford University, (1989-1993)
- Associate Professor (Research) of Geophysics, Stanford University, (1993-1998)
- Professor (Research) of Geophysics, Stanford University, (1998- present)

HONORS AND AWARDS

- Tau Beta Pi, Phi Kappa Phi honorary fraternities (1971)
- National Science Foundation Graduate Fellowship, NSF (1972)
- First in class, Engineering Physics, Cornell University (1972)
- National Science Foundation Postdoctoral Fellowship, NSF (1977)
- National Research Council Research Associate-ship, U.S. Geological Survey (1978)
- Honorable Mention for SEG Best Poster Award, SEG (1991)
- Outstanding Contribution SEG 65th Annual Meeting, SEG (1996)
- Honorable Mention for the best paper, Geophyiscs (1998)
- Nominated for the Reginald Fessenden Award of the Society of Exploration Geophysicists, Society of Exploration Geophysicists (2000)
- School of Earth Sciences Excellence in Teaching Award, Stanford University (2000)

- Honorary Membership Award, Society of Exploration Geophysicists. (2001)
- Distinguished Lecturer, Soc. of Exploration Geophysicists (2006 - present)
- Frontiers of Hydrocarbons Medal, ENI (2014)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Director of Graduate Studies, Geophysics, Stanford University (2014 - present)
- Admissions Chair, Geophysics, Stanford University (2011 - present)
- Associate Chair, Geophysics, Stanford University (2006 - 2008)
- Member, American Assoc. Petroleum Geologists (2005 - present)
- Building Space Coordinator, Earth Sciences, Stanford University (2005 - 2005)
- Member, International Advisory Board, University of Bergen, Norway (2004 - present)
- University Research Administration Steering Committee, Stanford University (2002 - 2005)
- Invited Instructor, BP, Shell, Norsk Hydro (2000 - 2001)
- Invited Instructor, Royal-Dutch Shell, Schlumberger (1999 - 1999)
- DOE Review Panel, DOE (1998 - 1999)
- Freshman/Sophomore advisor, Stanford University (1997 - present)
- Committee on Research, Stanford University (1997 - 2001)
- Instructor, SEG Continuing Education Program (1996 - present)
- Member, Member, Society of Petroleum Engineers (1994 - present)
- Member, European Association of Geoscientists and Engineers (1991 - present)
- Co-Director, Stanford Rock Physics and Borehole Geophysics Project, Stanford University (1990 - present)
- Member, Member, American Geophysical Union, Society of Exploration Geophysics (1972 - present)

PROFESSIONAL EDUCATION

- Ph.D, Stanford University , Geophysics (1977)
- M.S., Stanford University , Geophysics (1974)
- B.S., Cornell University , Engineering Physics with distinction (1972)

LINKS

- Stanford Rock Physics & Borehole Geophysics Project: https://pangea.stanford.edu/researchgroups/srb/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research

I work to discover and understand the relationship between geophysical measurements and the rock and fluid properties that they sample in the Earth. My students and I have begun to understand the impact of rock type, porosity, pore fluids, temperature, and stress on seismic wave propagation and electromagnetic response. We are also working to quantify the links between geophysical measurements and the sedimentary and diagenetic processes that determine rock mineralogy and texture. Ultimately, this work allows us to better infer, from geophysical images, the composition and physical conditions at depth.

Teaching

I teach courses for graduate and undergraduate students on rock physics--the study of the physical properties of rocks and how they can be detected and mapped using seismic and electrical methods. This includes theory, laboratory measurements, and field data analysis. I also lead seminars in which students present and critique their ongoing research in rock physics.

Professional Activities

Associate chair, Department of Geophysics (2006-2008); distinguished lecturer, Society of Exploration Geophysicists (2006); honorary membership, Society of Exploration Geophysicists (2001); nominated for Reginald Fessenden Award, Society of Exploration Geophysicists (2000); School of Earth Sciences Excellence in Teaching Award (2000)

Publications

PUBLICATIONS

- **Mineral substitution: Separating the effects of fluids, minerals, and microstructure on P- and S-wave velocities** *GEOPHYSICS*
  Saxena, N., Mavko, G., Hofmann, R., Dolan, S., Bryndzia, L. T.
  2016; 81 (2): D197-D210
- **The embedded-bound method for estimating the change in rock moduli under pore fill and mineral phase substitution** *GEOPHYSICS*
  Saxena, N., Mavko, G.
  2015; 80 (3): L1-L10
- **Fluid substitution in multimineralic rocks with large mineral stiffness contrast** *GEOPHYSICS*
  Saxena, N., Mavko, G., Mukerji, T.
  2015; 80 (3): L11-L33
- **Effects of fluid-shear resistance and squirt flow on velocity dispersion in rocks** *GEOPHYSICS*
  Saxena, N., Mavko, G.
  2015; 80 (2): D99-D110
- **Impact of change in pore-fill material on P-wave velocity** *GEOPHYSICS*
  Saxena, N., Mavko, G.
  2014; 79 (6): D399-D407
- **Exact equations for fluid and solid substitution** *GEOPHYSICS*
  Saxena, N., Mavko, G.
  2014; 79 (3): L21-L32
- **Implications of pore microgeometry heterogeneity for the movement and chemical reactivity of CO2 in carbonates** *GEOPHYSICS*
  Vialle, S., Dvorkin, J., Mavko, G.
  2013; 78 (5): L69-L86
- **Embedded-bound method for estimating the change in bulk modulus under either fluid or solid substitution** *GEOPHYSICS*
  Mavko, G., Saxena, N.
  2013; 78 (5): L87-L99
- **Change in effective bulk modulus upon fluid or solid substitution** *GEOPHYSICS*
  Saxena, N., Mavko, G., Mukerji, T.
  2013; 78 (4): L45-L56
- **Relaxation shift in rocks containing viscoelastic pore fluids** *GEOPHYSICS*
  Mavko, G.
  2013; 78 (3): M19-M28
- **Estimating Brown-Korringa constants for fluid substitution in multimineralic rocks** *GEOPHYSICS*
  Mavko, G., Mukerji, T.
  2013; 78 (3): L27-L35

- **Inverse rock physics modeling for reservoir quality prediction** *GEOPHYSICS*
  Johansen, T. A., Jensen, E. H., Mavko, G., Dvorkin, J.
  2013; 78 (2): M1-M18
- **The effect of adsorption and Knudsen diffusion on the steady-state permeability of microporous rocks** *GEOPHYSICS*
  Allan, A. M., Mavko, G.
  2013; 78 (2): D75-D83
- **Stochastic inversion of facies from seismic data based on sequential simulations and probability perturbation method** *GEOPHYSICS*
  Grana, D., Mukerji, T., Dvorkin, J., Mavko, G.
  2012; 77 (4): M53-M72
- **Laboratory measurements of the acoustic and transport properties of carbonate rocks and their link with the amount of microcrystalline matrix** *GEOPHYSICS*
  Vanorio, T., Mavko, G.
  2011; 76 (4): E105-E115
- **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*
  Tsuji, T., Dvorkin, J., Mavko, G., Nakata, N., Matsuoka, T., Nakanishi, A., Kodaira, S., Nishizawa, O.
  2011; 76 (3): WA71-WA82
- **Modeling of elasticity effects of sandstone compaction using coated inclusions** *GEOPHYSICS*
  Agersborg, R., Johansen, T. A., Mavko, G., Vanorio, T.
  2011; 76 (3): E69-E79
- **Dynamic elastic properties of coal** *GEOPHYSICS*
  Morcote, A., Mavko, G., Prasad, M.
  2010; 75 (6): E227-E234
- **Rock-physics diagnostics of depositional texture, diagenetic alterations, and reservoir heterogeneity in high-porosity siliciclastic sediments and rocks - A review of selected models and suggested work flows** *GEOPHYSICS*
  Avseth, P., Mukerji, T., Mavko, G., Dvorkin, J.
  2010; 75 (5): A31-A47
- **Improved granular medium model for unconsolidated sands using coordination number, porosity, and pressure relations** *GEOPHYSICS*
  Dutta, T., Mavko, G., Mukerji, T.
  2010; 75 (2): E91-E99
- **The influence of pore fluids and frequency on apparent effective stress behavior of seismic velocities** *GEOPHYSICS*
  Mavko, G., Vanorio, T.
  2010; 75 (1): N1-N7
- **The rock physics basis for 4D seismic monitoring of CO2 fate: Are we there yet?** *The Leading Edge*
  Vanorio, T., Mavko, G., Vialle, S., Spratt, K.
  2010; 29
- **Approximate fluid substitution for vertical velocities in weakly anisotropic VTI rocks** *GEOPHYSICS*
  Mavko, G., Bandyopadhyay, K.
  2009; 74 (1): D1-D6
- **Confocal laser scanning and atomic-force microscopy in estimation of elastic properties of the organic-rich Bazhenov Formation** *The Leading Edge*
  Ahmadov, R., Vanorio, T., Mavko, G.
  2009; 28
- **Effective medium modeling of laboratory velocity and resistivity data on carbonates from the Apulia Platform, Italy** *SEG Expanded Abstracts*
  Gomez, C., Scotellaro, C., Vanorio, T., Dvorkin, G., Mavko, G.
  2009; 28

- **Investigating Thomas-Stieber model for property estimation of thin-bedded shaly-sand reservoirs** *SEG Expanded Abstracts*
  Dejtrakulwong, P., T., Mukerji, Mavko, G.
  2009; 28
- **Effect of diagenesis on elastic and transport properties using computational rock physics in realistic pore microstructure** *SEG Expanded Abstracts*
  Sain, R., Mavko, G., and Mukerji
  2009; 28
- **Attenuation and attenuation anisotropy in laminated rocks** *SEG Expanded Abstracts*
  Bandyopadhyay, K., Dvorkin, J., Mavko, G.
  2009; 28: 2065
- **Rock physics estimation of cement volume, sorting, and net-to-gross in North Sea sandstones** *The Leading Edge*
  Avseth, P., Jorstad, A., A-J., Winjgaarden, Mavko, G.
  2009; 28
- **Compaction trends for shale and clean sandstone in shallow sediments, Gulf of Mexico** *The Leading Edge*
  Dutta, T., Mavko, G., Mukerji, T., Lane, T.
  2009; 28
- **Cross-property rock physics relations for estimating low-frequency seismic impedance trends from electromagnetic resistivity data** *The Leading Edge*
  Mukerji, T., Mavko, G., Gomez, C.
  2009; 28
- **How micrite content affects the transport, seismic, and reactive properties of carbonate rocks: Implications for 4D seismic** *SEG Expanded Abstracts*
  Vanorio, T., Mavko, G.
  2009; 28
- **Seismic inversion using low-frequency seismic impedance trend computed from CSEM data** *SEG Expanded Abstracts*
  Gomez, C., Mukerji, T., Mavko, G.
  2009; 28
- **Seismic inversion combining rock physics and multiple-point geostatistics** *GEOPHYSICS*
  Gonzalez, E. F., Mukerji, T., Mavko, G.
  2008; 73 (1): R11-R21
- **Factors affecting the sensitivity of the elastic properties to pressure on carbonate rocks** *SEG Expanded Abstracts*
  Scotellaro, C., Mavko, G.
  2008; 27
- **Elastic anisotropy, maturity, and maceral microstructure in organic-rich shales** *SEG Expanded Abstracts*
  Vanorio, T., T., Mukerji, Mavko, G.
  2008; 27
- **Analyzing thresholds for 3D reconstruction of rock from CT-scan images** *SEG Expanded Abstracts*
  Richa, M., T., Mavko, Shell Exploration
  2008; 27: 1820
- **Approximate fluid substitution in weakly anisotropic VTI rocks** *SEG Expanded Abstracts*
  Bandyopadhyay, K., Mavko, G.
  2008; 27
- **The effect of chemical and physical processes on the acoustic properties of carbonate rocks** *The Leading Edge*
  Vanorio, T., Scotellaro, C., Mavko, G.
  2008; 27
- **Estimating the hydrocarbon volume from elastic and resistivity data: A concept** *The Leading Edge*

Gomez, C., Dvorkin, J., Mavko, G.
2008; 27

- **Measuring and monitoring heavy-oil reservoir properties** *The Leading Edge*
  Wolf., K., Vanorio, T., Mavko, G.
  2008; 27
- **How does carbonate cementation in sandstones affect seismic response** *SEG Expanded Abstracts*
  Dutta, T., Mukerji, T., Mavko, G.
  2008; 27
- **Granular dynamics simulation for estimating elastic properties of loose unconsolidated frictional packs** *SEG Expanded Abstracts*
  Sain, R., Mukerji, T., Mavko, G.
  2008; 27
- **Elastic anisotropy of clay** *SEG Expanded Abstracts*
  Bandyopadhyay, K., Vanorio, T., Mavko, G., Wenk, H-R., Voltolini, M.
  2008; 27
- **Estimating low frequency seismic impedance from CSEM resistivity using cross-property rock physics, relations** *SEG Expanded Abstracts*
  Mukerji, T., Mavko, G., Gomez, C.
  2008; 27
- **Emerging methodologies to characterize the rock physics properties of organic-rich shales** *The Leading Edge*
  Vanorio, T., Mukerji, T., Mavko, G.
  2008; 27
- **The flaw of averages and the pitfalls of ignoring variability in attribute interpretations** *The Leading Edge*
  Mukerji, T., Mavko, G.
  2008; 27
- **Probabilistic seismic inversion based on rock-physics models** *GEOPHYSICS*
  Spikes, K., Mukerji, T., Dvorkin, J., Mavko, G.
  2007; 72 (5): R87-R97
- **Elastic behaviour of North Sea chalk: A well-log study** *GEOPHYSICAL PROSPECTING*
  Gommesen, L., Fabricius, I. L., Mukerji, T., Mavko, G., Pedersen, J. M.
  2007; 55 (3): 307-322
- **Elastic-impedance analysis constrained by rock-physics bounds** *GEOPHYSICAL PROSPECTING*
  Tsuneyama, F., Mavko, G.
  2007; 55 (3): 289-306
- **Elastic-impedance analysis constrained by rock-physics bounds** *GEOPHYSICAL PROSPECTING*
  Tsuneyama, F., Mavko, G.
  2007; 55 (3): 289-306
- **Quantitative detection of fluid distribution using time-lapse seismic** *GEOPHYSICAL PROSPECTING*
  Tsuneyama, F., Mavko, G.
  2007; 55 (2): 169-184
- **Constraints on velocity-depth trends from rock physics models** *GEOPHYSICAL PROSPECTING*
  Japsen, P., Mukerji, T., Mavko, G.
  2007; 55 (2): 135-154
- **Seismic velocities of unconsolidated sands: Part 2 - Influence of sorting- and compaction-induced porosity variation** *GEOPHYSICS*
  Zimmer, M. A., Prasad, M., Mavko, G., Nur, A.
  2007; 72 (1): E15-E25
- **Quantifying spatial trend of sediment parameters in channelized turbidite, West Africa** *SEG Expanded Abstracts*
  Dutta, T., Mukerji, T., Mavko, G.

2007; 26

- **To fluid-substitute or not to fluid-substitute: How pore shape and chemical processes affect Gassmann's predictability** *SEG Expanded Abstracts*
  Scotellaro, C., Vanorio, T., Mavko, G.
  2007; 26
- **The effect of mineral composition and pressure on carbonate rocks** *SEG Expanded Abstracts*
  Scotellaro, C., Vanorio, T., Mavko, G.
  2007; 26
- **Rock physics modeling constrained by sequence stratigraphy** *The Leading Edge*
  Dutta, T., T., Mukerji, Mavko, G.
  2007; 26
- **Evolution of elastic properties and fabric tensor in a deposition model using granular dynamics simulation** *SEG Expanded Abstracts*
  Sain, R., Mukerji, T., Mavko, G., Keehm, Y.
  2007; 26
- **Rock physics-based integration of geologic and geophysical data for fracture characterization** *The Leading Edge*
  Sava, D., Mavko, G.
  2007; 26
- **PSEI modeling of bitumen sand - implications for reservoir characterization and monitoring** *SEG Expanded Abstracts*
  Wolf, K., Mavko, G.
  2007; 26
- **Seismic velocities of unconsolidated sands: Part 1 - Pressure trends from 0.1 to 20 MPa** *GEOPHYSICS*
  Zimmer, M. A., Prasad, M., Mavko, G., Nur, A.
  2007; 72 (1): E1-E13
- **Seismic reflections of gas hydrate from perturbational forward modeling** *GEOPHYSICS*
  Cordon, I., Dvorkin, J., Mavko, G.
  2006; 71 (6): F165-F171
- **Modeling attenuation in reservoir and nonreservoir rock** *The Leading Edge*
  Dvorkin, J. P., Mavko, G.
  2006; 25: 194-197
- **Rock physics and multiple-point geostatistics for seismic inversion** *76th Annual International Meeting SEG*
  Gonzalez, E. F., Mavko, G., Mukerji, T.
  2006: 2047–51
- **Image analysis and pattern recognition for porosity estimation from thin sections** *76th Annual International Meeting SEG*
  Richa, R., Mukerji, T., Mavko, G., Keehm, Y.
  2006: 1968–72
- **Attenuation and velocity dispersion modeling of bitumen saturated sand** *76th Annual International Meeting SEG*
  Wolf, K., Mukerji, T., Mavko, G.
  2006: 1993–97
- **Combined porosity, saturation, and net-to-gross estimation from rock physics template** *76th Annual International Meeting*
  Avseth, P., van Wijngaarden, A., Mavko, G., Johansen, T. A.
  2006: 1856–60
- **Rock-physics model-based seismic inversion** *76th Annual International Meeting SEG*
  Spikes, K. T., Dvorkin, J., Mavko, G.
  2006: 1645–49
- **Seismic Fluid Prediction in Heterogeneous Reservoirs** *EAGE 68th Meeting*
  Avseth, P. A., van Wijngaarden, , A. J., Johansen, T. A., Mavko, G.

2006

- **Elastic and petrophysical bounds for unconsolidated sediments** *76th Annual International Meeting SEG*
  Hacikoylu, P., Dvorkin, J., Mavko, G.
  2006: 1762–66
- **Reservoir-quality prediction by integrating sequence stratigraphy and rock physics** *76th Annual International Meeting SEG*
  Dutta, T., Mukerji, T., Mavko, G., Avseth, P.
  2006: 1811–15
- **Vp/Vs ratio in gas-pressured saturated sandstones** *76th Annual International Meeting SEG*
  Vanorio, T., Mavko, G.
  2006: 1545–49
- **Resistivity-velocity transforms revisited** *The Leading Edge*
  Hacikoylu, P., Dvorkin, J., Mavko, G.
  2006; 25: 1006-1009
- **Detection of stress-induced velocity anisotropy in unconsolidated sands** *The Leading Edge*
  Vega, S., Mavko, G., Nur, A., Prasad, M.
  2006; 25: 252-256
- **A new method for constraining total porosity; the new total porosity-electrical resistivity upper bound** *The Leading Edge*
  Wempe, W., Mavko, G.
  2006; 25: 714-719
- **Ultrasonic velocities of North Sea chalk samples: influence of porosity, fluid content and texture** *GEOPHYSICAL PROSPECTING*
  Rogen, B., Fabricius, I. L., Japsen, P., Hoier, C., Mavko, G., Pedersen, J. M.
  2005; 53 (4): 481-496
- **Fault and fracture systems in a fold and thrust belt: An example from Bolivia** *AAPG BULLETIN*
  Florez-Nino, J. M., Aydin, A., Mavko, G., Antonellini, M., Ayaviri, A.
  2005; 89 (4): 471-493
- **Velocity anisotropy estimation for brine-saturated sandstone and shale** *The Leading Edge*
  Tsuneyama, F., Mavko, G.
  2005; 24: 882-888
- **Chalk Background Velocity ñ Influence of Effective Stress and Texture** *67th Mtg.: Eur. Assn. Geosci. Eng.*
  Japsen, P., Mavko, G., Gommesen, L., Jacobsen, F., Vejbaek, O., Rasmussen, R., Schiott, C. R.
  2005
- **Quantitative seismic interpretation**
  Avseth, P., Mukerji, T., Mavko, G.
  Cambridge University Press.2005
- **P-Wave Attenuation in Reservoir and Non-Reservoir Rock** *67th Mtg.: Eur. Assn. Geosci. Eng.*
  Dvorkin, J., Mavko, G.
  2005
- **A theoretical estimate of S-wave attenuation in sediment** *75th Ann. Internat. Mtg.Soc. of Expl. Geophys.*
  Mavko, G., Dvorkin, J., Walls, J. D.
  2005: 1469–72
- **Modeling Seismic Response of Danish Chalk Reservoirs to Changes Induced by Production** *67th Mtg.: Eur. Assn. Geosci. Eng.*
  Dorn-Lopez, D., Sorensen, A., Mavko, G., Fabricius, I. L., Hedegaard, K.
  2005
- **The flaw of averages and the pitfalls of ignoring variability in rock physics interpretation** *75th Ann. Internat. Mtg. Soc. of Expl. Geophys.*
  Mukerji, T., Mavko, G.

2005 : 747–50

- **Bootstrapping AVA for Uncertainty Assessment in Lithology and Fluid Identification** *67th Mtg.: Eur. Assn. Geosci. Eng.*
  Gonzalez, E. F., Mavko, G., Mukerji, T.
  2005
- **Quantitative integration of geological and seismic data using statistical rock physics: Example for fracture characterization** *75th Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Sava, D. C., Mavko, G.
  2005: 1613–16
- **A rock physics and attenuation analysis of a well from the Gulf of Mexico** *5th Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Mavko, G., Dvorkin, J., Walls, J. D.
  2005: 1585–88
- **Automatic detection of data inconsistencies for AVA analysis: Bootstrap and LMS regression** *75th Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Gonzalez, E. F., Mukerji, T., Mavko, G.
  2005: 242–45
- **Seismic Fluid Prediction in Poorly Consolidated and Clay Laminated Sands** *67th Mtg.: Eur. Assn. Geosci. Eng.*
  Avseth, P., van Wijngaarden, A., Flesche, H., Fristad, T., Rykkje, J., Mavko, G.
  2005
- **Influence of porosity and pore fluid on acoustic properties of chalk: AVO response from oil, South Arne Field, North Sea** *PETROLEUM GEOSCIENCE*
  Japsen, P., Bruun, A., Fabricius, I. L., Rasmussen, R., Vejbaek, O. V., Pedersen, J. M., Mavko, G., Mogensen, C., Hoier, C.
  2004; 10 (4): 319-330
- **Stochastic reservoir characterization using prestack seismic data** *GEOPHYSICS*
  Eidsvik, J., Avseth, P., Omre, H., Mukerji, T., Mavko, G.
  2004; 69 (4): 978-993
- **Identification of hydrocarbons in chalk reservoirs from surface seismic data** *Geological Survey of Denmark and Greenland Bulletin*
  Japsen, P., Bruun, A., Fabricius, I., Mavko, G.
  2004; 7: 13-16
- **Pressure-solution and the rock physics diagenetic trend in quartzose sandstones** *74th Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Florez-Nino, J., Mavko, G.
  2004: 1702–5
- **A practical procedure for P-to-S ìelasticî impedance (PSEI) inversion: Well log and synthetic seismic examples for identifying partial gas saturations** *74th Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Gonzalez, E. F., Mavko, G., Mukerji, T.
  2004: 1782–85
- **Azimuthal analysis of reflectivity for fracture characterization: Rock physics modeling and field example** *74th Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Sava, D. C., Mavko, G.
  2004: 1583–86
- **A practical procedure for P-to-S "elastic" impedance (PSEI) inversion: Well log and synthetic seismic examples for identifying partial gas saturations** *74th. Ann. Internat. Mrg. Soc. of Expl. Geophys.*
  Gonzalez, E. F., Mavko, G., Mukerji, T.
  2004
- **Effect of Pore Fluid on Acoustic Properties of Chalk - AVO-Response from Oil, South Arne Field, North Sea** *66th Mtg.: Eur. Assn. Geosci. Eng.*
  Japsen, P., Bruun, A., Fabricius, I. L., Rasmussen, R., Vejbaek, O. V., Pedersen, J. M., Mavko, G., Mogensen, C.
  2004
- **Impact of flow-simulation parameters on saturation scales and seismic velocity** *GEOPHYSICS*

Sengupta, M., Mavko, G.
2003; 68 (4): 1267-1280

- **Quantifying subresolution saturation scales from time-lapse seismic data: A reservoir monitoring case study** *GEOPHYSICS*
  Sengupta, M., Mavko, G., Mukerji, T.
  2003; 68 (3): 803-814
- **Near and far offset P-to-S elastic impedance for discriminating fizz water from commercial gas,** *The Leading Edge*
  Gonzalez, E. F., Mukerji, T., Mavko, G., Michelena, R. J.
  2003; 22: 1012-1015
- **Attenuation at Patchy Saturation: A Model** *65th Mtg.: Eur. Assn. Geosci. Eng.*
  Dvorkin, J., Walls, J., Taner, T., Derzhi, N., Mavko, G.
  2003
- **Seismic wave attenuation at full water saturation** *73rd Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Dvorkin, J., Mavko, G., Walls, J.
  2003: 1684–86
- **Stratification in loose sediments and its seismic signature** *73rd Ann. Internat. Mtg. Soc. of Expl. Geophys.*
  Vega, S., Mukerji, T., Mavko, G., Prasad, M.
  2003 : 1219–22
- **Far offset P-to-S elastic impedance for lithology and partial gas saturation (fizz water) identification: Applications with well logs** *73rd Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Gonzalez, E., Mukerji, T., Mavko, G., Michelena, R.
  2003: 1446–49
- **Comparative study of velocities under hydrostatic and nonhydrostatic stress in sands** *73rd Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Vega, S., Prasad, M., Mavko, G.
  2003: 1231–34
- **Variability of fracture density along the strike azimuth of folded structures** *3rd Ann. Internat. Mtg.: Soc. of Expl. Geophys.*
  Florez-Nino, J., Aydin, A., Mavko, G., Antonellini, M., Ayaviri, A.
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