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EDUCATION:

1987 Ph.D. Geology and Geophysics, University of Hawaii at Manoa
1979 M.Sc. Applied Geophysics, Indian School of Mines, Dhanbad, India
1977 B.Sc. Applied Geophysics, Indian School of Mines, Dhanbad, India

PROFESSIONAL EXPERIENCE:

09/07- *John A. and Katherine G. Jackson Chair* in Applied Seismology
08/04- **Professor**, Dept. of Geological Sciences, The University of Texas at Austin
08/04- **Research Professor**, Institute for Geophysics, The University of Texas at Austin
09/07- **Faculty member**, Graduate Studies Committee, *Computational and Applied mathematics*, UT Austin.
09/06-08/07 Weeks Endowed Fellow, Dept. of Geological Sciences, The University of Texas at Austin
09/03-08/06 Jackson Endowed Fellow, Institute for Geophysics, The University of Texas at Austin
99/98-98/04 Senior Research Scientist, Institute for Geophysics, The University of Texas at Austin
01/02-08/03 Fellow of Edwin Allday Centennial Chair in Subsurface Geology, Department of Geological Sciences, The University of Texas at Austin
09/92-08/98 Research Scientist, Institute for Geophysics, The University of Texas at Austin
09/89-08/92 Research Associate, Institute for Geophysics, The University of Texas at Austin
09/87-09/89 Project Seismologist, Woodward-Clyde Consultants, Pasadena, California
09/82-05/87 Graduate Research Assistant, University of Hawaii
07/81-08/82 Geophysicist, OMNI Tape Company, Houston, Texas
09/79-06/81 Geophysicist, INDICOS Computer Services, Bombay, India

VISITING POSITIONS:

09/01 - Associated Faculty, Mission Oriented Seismic Research Program, University of Houston.
11/01-12/01 Visiting Professor, Section Applied Geophysics, Delft University of Technology, Netherlands.
07/98-08/98 Consultant, Upstream Strategic Research Group, MOBIL Oil Company, Dallas, Texas
06/98-07/98 Consultant, Rock Physics/Seismic Attributes Group, AMOCO Research Center, Tulsa, Oklahoma
08/93 Visiting Scientist, NRL-SSC, Bay St. Louis, Missouri
06/87-08/87 Research Seismologist, Hawaii Institute of Geophysics
02/85-06/85 Geophysical Intern, SOHIO Petroleum Company, Dallas, Texas

TEACHING EXPERIENCE:

Inverse Theory (GEO384M)
 Advanced Theoretical Seismology (GEO 391)
 Seismology II (GEO 390D)
 Seismology III
 Solid Earth Geophysics (GEO354/GEO384D)
 Linear systems and inverse methods
 Seminar courses on seismic migration and inversion
 Asymptotic methods in seismic wave propagation
 Mathematical Methods in Geophysics
 Quantitative Seismic Interpretation

INDUSTRY SHORT COURSES:

“Global optimization methods in geophysical inversion,” SBGF 2001, ONGC, Delft, Germany.
 “Seismic modeling, migration, and inversion” (one-week short course taught at companies) (ONGC 2003, 2004, 2005; Oil India 2007)
 “Seismic modeling and inversion: the state of the art”–SBGF 2005 (Sep. 10), SPG 2006 (Jan. 8)
 “Seismic inversion: theory and practice”
 “Pre-stack time and depth migration” (one-week short course taught at ONGC, Jan. 2006; Dec 2008)
 “Pre- and Post-stack Inversion” (one-week short course taught at ONGC, Dec. 2006; Jan 2008; Dec 2008)
 “AVO and Seismic Attributes” (one-week short course taught at ONGC, Dec. 2006; Dec 2007; Dec 2008)
 “Elastic wave theory,” (two-day short course taught at Conoco-Phillips. Houston, Oct. 2007).
 “Innovative techniques for reservoir characterization using seismic data “(one week short course taught at ONGC India Jan 2008)
 “Seismic Inversion” – one week short course taught at China University of Petroleum (Sept 2009)

CURRENT RESEARCH INTERESTS:

- Theoretical and Computational Seismology: Wave propagation, Anisotropy, Synthetic seismograms.
- Exploration Geophysics: Seismic Processing, AVO, Imaging, GPR, Post and Pre-stack inversion, Reservoir characterization.
- Inverse Theory and Optimization.
- Computational Methods: Supercomputing and parallel computation applications in Geophysics, uncertainty in climate models.

SERVICE:

Member, Research Committee , Society of Exploration Geophysicists.

Associate Editor, *Geophysics*, *Seismic Migration section*, June 06-present.

Associate Editor, *Geophysics*, *Seismic Modeling and Wave Propagation section*, June 06-present.

Associate Editor, *Journal of Seismic Exploration*, 2005-present.

- Member, Editorial Board**, International Journal of Geophysics, 2008-present
- Member, Editorial Board (Advisory Committee)**, *Journal of Indian School of Mines*, 2006-present.
- Associate Editor**, *Computational Seismology and Geodynamics*, American Geophysical Union, 1997-present.
- Member**, European Academy of Sciences
- Member**, American Geophysical Union (AGU)
- Member**, European Association of Geoscientists and Engineers (EAGE)
- Member**, Society of Exploration Geophysicists (SEG)
- Member**, Society of Industrial and Applied Mathematics (SIAM)
- Member**, *International Committee*, Society of Exploration Geophysicists (past)
- Member**, *Computer Application Committee*, Society of Exploration Geophysicists (past).
- Member, Technical Program Committee (key contact - seismic inversion)**, Society of Exploration Geophysicists' annual meeting, Houston, Texas, 2009.
- Co-convenor**, Workshop on 'Seismic Interferometry', SEG annual meeting, Houston, Texas, Oct. 09.
- Co-convenor**, Workshop on 'Bayesian method for geological model building', EAGE meeting, Amsterdam, The Netherlands, July 09.
- Co-chair, Technical Program Committee, SEG representative**, Society of Petroleum Geophysicists' annual meeting, Hyderabad, India, 2008.
- Member, Technical Program Committee (key contact - seismic inversion)**, Society of Exploration Geophysicists' annual meeting, San Antonio, Texas, 2007.
- Co-chair, Technical Program Committee, SEG representative**, Society of Petroleum Geophysicists' annual meeting, Kolkata India, 2006.
- Co-chair, Technical Program Committee, SEG representative**, Society of Petroleum Geophysicists' annual meeting, Hyderabad, India, 2004.
- Member, Technical Program Committee**, Society of Exploration Geophysicists' annual meeting, San Antonio, Texas, 2001.
- Invited Participant**, National Research Council (NRC) planning workshop on 'How uncertainty is related to ocean science models?' Sept. 99, Washington D.C.
- Member, External Review Board** of the Marine Geosciences Division Basic and Applied Research programs, Office of Naval Research, 1999.
- Invited Participant** (Unclassified), DARPA Geophysics seminar on *Detection of Underground Facilities*, Mar. 99.
- Invited panel member**, DOE workshop on *Global inversion of Geophysical Data*, San Jose, California, Feb. 99.
- Invited Participant**, two-week workshop on *Inverse Problems* at the Institute of Mathematics and Its applications at the University of Minnesota (03/06/95–03/17/95).

Current UT/UTIG Committees:

Member, Appointments committee [tenure and promotion committee], Jackson School of Geosciences, 2009-2012.

Chairman, Geophysics Curricular Group, Dept. of Geological Sciences

Chairman, Graduate curriculum committee, Dept. of Geological Sciences

Chairman, Internal JSG Hires, **UTIG**

Member, Exploration Geophysics Search Committee, Dept. of Geological Sciences

Member, Endowed chair nomination committee, Dept. of Geological Sciences

Member, KAUST (King Abdullah University of Science and Technology) computational geosciences faculty search committee, Institute of computational and engineering sciences, UT Austin.

Member, KAUST (King Abdullah University of Science and Technology) computational geosciences director search committee, Institute of computational and engineering sciences, UT Austin.

Member, UTIG search committee

Member, JSG Energy initiative search committee

Member, UTIG Fellowship committee

Member, Graduate admissions and support committee (UTIG representative)

Member, Graduate studies committee (GSC), Department of Geological Sciences

Member, Graduate studies committee (GSC), Computational and Applied Math Program, UT Austin

Member, Graduate studies sub-committee (GSSC), three-year term, Computational and Applied Math Program, UT Austin, **Area C: Mathematical modeling of a natural, engineered, or other system.**

Past UT/UTIG Committees:

Member, Steering Committee, Jackson School of Geosciences 2003–2005

Chairman, UTIG Computer committee 2000–2005

Co-chairman, UTIG Seminar committee 2003–2005

AWARDS AND HONORS:

Recipient of John A. and Katherine G. Jackson Chair in Applied Seismology, 09/07

Joseph C. Walter Jr. Award for Research Excellence - 2007

Listed in Marquis *Who's Who*

Recipient of Weeks Endowed Fellowship, Dept of Geological Sciences at the Jackson School of Geosciences, UT Austin.

Recipient of Jackson Endowed Senior Fellowship at the Jackson School of Geosciences, UT Austin.

“Free gas and gas hydrate saturation estimation from multi-component seismic data offshore Oregon,” Paper by Kumar, Sen, and Bangs awarded an outstanding student paper award at the AGU fall meeting 2004 in San Francisco, California.

“Joint stochastic inversion of pre-stack seismic data and well logs for high-resolution reservoir delineation and improved production forecast.” Paper by Varela, Torres-Verdin, and Sen presented at SEG 2003 in Dallas was selected as best paper presented by a student at SEG2003. Recognition was presented during SEG2004 in Denver, Colorado.

“Multilayer AVO inversion using genetic algorithms.” Paper by Sen and Stoffa presented at the SEG/EAEG Summer Research Workshop ‘92, selected the best paper on AVO inversion.

Recipient of SEG Scholarships, 1984-85, 1985-86, 1986-87.

Recipient of ISM silver medal for ranking first in first class in B.Sc. and M.Sc. at Indian School of Mines.

Recipient of J. Watumul Foundation Award for the most outstanding student in Geology and Geophysics at the University of Hawaii, 1986.

Recipient of National Merit Scholarship, Gov’t. of India at the undergraduate level.

PH.D. ADVISOR:

L. N. Frazer, University of Hawaii

SCIENTISTS WITH WHOM I HAVE COLLABORATED (OUTSIDE UTIG):

Current

M. F. Wheeler, Clint Dawson, H. Klie—UT Computational and Applied Math

J. T. Fokkema, C. P. A. Wapenaar—Delft University of Technology, Netherlands

S. Fomel—UT Bureau of Economic Geology

R. Tatham, UT Geology

S. Srinivasan, UT Petroleum Engineering

U. Dutta, N. N. Biswas, University of Alaska, Fairbanks.

Doug Foster, Dave Lane, Partha Routh, Dan Whitmore – Conoco-Phillips, Houston.

Past

R. Ferguson, University of Calgary

Art Weglein—University of Houston

C. S. Rai, C. Sondergeld—University of Oklahoma

L. Lake—UT Dept. of Petroleum Engg, C. Torres-Verdin—UT Dept. of Petroleum Engr.,

C. Connor –Southwest Research Institute, San Antonio, C. Sondergeld—Amoco, Tulsa (Now at the University of Oklahoma, Tulsa), C. Rai—Amoco, Tulsa (Now at the University of Oklahoma, Tulsa)

S. K. DeSarkar—Mobil, Dallas, B. Secret—BP, Houston, R. Chapman—DREP, Canada.

J. Gettrust—NRL/SSC, D. Lindwall -NRL/SSC, W. T. Wood—NRL/SSC.

D. Helmberger—CalTech, L. Burdick—Woodward-Clyde.

UTIG Collaborators (present and past):

N. Bangs, C. Frohlich, C. Jackson, K. McIntosh, J. Pulliam, S. Grand—UT Department of Geological Sciences, P. L. Stoffa, L. Zhao.

PATENT

Sen, M. K., P. L. Stoffa, and F. Liu, 2003, *Angle dependent surface multiple attenuation for two-component marine bottom sensor data*, United States Patent number 6,654,693 granted on 11/25/03.

PUBLICATIONS**Books:**

Sen, M. K., and P. L. Stoffa, 1995, *Global Optimization Methods in Geophysical Inversion*, Elsevier Science Publications, Netherlands.

Sen, M. K., 2006, Seismic Inversion, *Society of Petroleum Engineers*, USA.

(this book was nominated for Hamilton author award at the University of Texas at Austin).

Sen, M. K., and P. L. Stoffa, 2010, *Global Optimization Methods in Geophysical Inversion*, Second Edition to be published by *Cambridge University Press*, in preparation.

Book Chapters:

Sen, M. K., 2009, Reflectivity method of seismogram synthesis, invited contribution, *Encyclopedia of Solid Earth Geophysics*, Springer, In preparation.

Sen, M. K., 2009, Geophysical Inversion and global optimization, invited contribution, *Encyclopedia of Solid Earth Geophysics*, Springer, In preparation.

Stoffa, P. L., **M. K. Sen**, R. Seif, and R. Pestana, 2009, Parallel and adaptive pre-stack plane wave migration in *Advanced Computational Infrastructures for Parallel and Distributed Adaptive Applications*, John Wiley and Sons, ed. M. Parashar, in press.

Jackson, C., **M. K. Sen**, P. L. Stoffa, and G. Huerta, 2009, Importance sampling for climate model uncertainty estimation: Parallel and adaptive strategies, *Advanced Computational Infrastructures for Parallel and Distributed Adaptive Applications*, John Wiley and Sons, ed. M. Parashar, in press.

Filina, I., D. Blankenship, L. Roy, **M. K. Sen**, T. Richter and J. Holt, 2006, Inversion of airborne gravity data acquired over subglacial lakes in East Antarctica, *"Antarctica -Contributions to Global Earth Sciences"*, edited by Dieter Fütterer, Springer Publishing House Springer Berlin Heidelberg, 129-133.

Liu, F., **M. K. Sen**, and P. L. Stoffa, 2005, Dip selective 2-D multiple attenuation operators in plane wave domain, to be published in a special volume on multiple attenuation, SEG publications.

Sena, A. R., P. L. Stoffa, and **M. K. Sen**, Migration of ground penetrating radar data in heterogeneous and dispersive media, in Oluic, M., ed., *New strategies for remote sensing*, 711-719.

Sen, M.K., P.L. Stoffa, R. Seifoullaev, and J. T. Fokkema, 2003, Airborne GPR for the detection of underground facilities, *Subsurface Sensing Technologies and Applications*, 4(1), 41-60.

Sen, M. K., 2001, Prestack inversion of plane wave seismograms: Isotropy to transverse Isotropy, special volume, *Recent advances in Exploration Geohysics, RECODER, The Canadian Society of Exploration Geophysicists*, 85-96.

Xia, G., **M. K. Sen**, and P. L. Stoffa, 1997, AVO analysis of Mobil offshore data by linearized inversion in the τ -p domain, *AVO inversion of Mobil data*, Society for Exploration Geophysicists Press, Chapter 9, p. 167-185.

Book Reviews:

Sen, M. K., 2000, Review of the book *Seismic Inversion and Deconvolution: Dual Sensor Technology* by E. A. Robinson, *EOS*, 81 (32), 368.

Sen, M. K., and P. L. Stoffa, 1996, Review of the book *Wavelets in Geophysics* by Foufoula-Georgiou and Kumar, *Mathematics and Computation*, 65 (213), 449.

Review Article:

Sen, M. K., 2004, Hyderabad Leveraging Technologies, *The Leading Edge*, 23 (3), 261-268.

Journal Publications:

1. Liu, Yang and **M. K. Sen**, 2009, Acoustic VTI modeling with a time-space domain dispersion-relation-based finite-difference-based scheme, *Geophysics*, submitted.
2. DeBasabe, J., and **M. K. Sen**, 2009, Stability of the high-order finite element methods for acoustic or elastic wave propagation with high-order time stepping, *Geophysical Journal International*, Submitted.
3. Bansal, R., and **M. K. Sen**, 2009, Ray-Born inversion for anisotropy parameters, *Geophysical Journal International*, Submitted.
4. Sil, S., R. P. Srivastava, and **M. K. Sen**, 2009, Observation of anisotropy in the multi-component node data from Atlantis field, Gulf of Mexico, *Geophysical Prospecting*, Submitted.
5. Liu, Yang and **M. K. Sen**, 2009, A new efficient absorbing boundary condition for numerical modeling of wave propagation, *Geophysics*, In revision.
6. Srivastava, R. P., and **M. K. Sen**, 2009, Stochastic pre-stack seismic inversion using fractal based priors, *Geophysics*, In revision.
7. Dutta, U., **M. K. Sen**, N. N. Biswas, and Y. Zhang, Waveform modeling of earthquake data for delineating the sedimentary structure of the Anchorage basin, Alaska, *14th world conference on earthquake engineering*, Beijing, China, in press.
8. Liu, Yang and **M. K. Sen**, 2009, Advanced finite-difference methods for seismic modeling, *Geohorizons*, In Press.
9. Srinivasan, S and **M. K. Sen**, 2009, Stochastic modeling of facies distribution in a carbonate reservoir in the Gulf of Mexico, *Geohorizons*, In press.

2009

10. Liu, Yang and **M. K. Sen**, 2009, A new time-space domain finite-difference method for acoustic wave propagation, *Journal of Computational Physics*, 228, 8779-8806.
11. Srivastava, R. P., and **M. K. Sen**, 2009, Stochastic post-stack seismic inversion using fractal based priors, *Journal of Geophysics and Engineering*, 6, 412-425.
12. Liu, Yang and **M. K. Sen**, 2009, An implicit staggered-grid finite-difference method for seismic modeling, *Geophysical Journal International*, doi: 10.1111/j.1365-246X.2009.04305.x.

13. Sil, S., and **M. K. Sen**, 2009, Seismic critical angle anisotropy analysis in tau-p domain, *Geophysics*, 74(4), A53-A57. [**One of the 20 research articles with the most full-text downloads during the month of July 2009**]
14. Vedanti, N., and **M. K. Sen**, 2009, Seismic inversion tracks in-situ combustion: a case study from Balol field, India, *Geophysics*, 74(4), B103-B112. [**One of the 20 research articles with the most full-text downloads during the month of July 2009 and August 2009**]
15. Liu, Yang and **M. K. Sen**, 2009 A practical implicit finite difference method: example from seismic modeling, *Journal of Geophysics and Engineering*, 6, 231-249.
16. Ma, J., **M. K. Sen**, and X. Chen, 2009, Multiple attenuation using inverse data processing in the coupled plane wave domain, *Geophysics*, 74(4), V75-V81.
17. Jin, L., **M. K. Sen**, and P. L. Stoffa, 2009, Fusion based classification method and its application, *Journal of Seismic Exploration*, 18(2), 103-117.
18. DeBabsabe, J., and **M. K. Sen**, 2009, New developments in finite element methods of seismic wave propagation simulation, invited paper, special section on seismic modeling, *The Leading Edge*, invited paper, special section on seismic modeling, 28(5), 562-567. [**One of the 10 research articles with the most full-text downloads during the month of May 2009**]
19. **Sen, M. K.** and A. Pal, 2009, A reflectivity method for laterally varying media: homogeneous layers with curved interfaces, *Geophysical Journal International*, doi: 10.1111/j.1365-246X.2009.04172.
20. Liu, Yang and **M. K. Sen**, 2009, Numerical modeling of wave equation by truncated high-order finite difference method, *Earthquake Science*, 22, 205-213.
21. Ma, J., **M. K. Sen**, and X. Chen, 2009, Multiple attenuation using inverse data processing in the plane wave domain, *Chinese J. of Geophysics* (in Chinese with English abstract), 52(3), 808-816.
22. Hong, T., and **M. K. Sen**, 2009, A new MCMC algorithm for seismic waveform inversion and corresponding uncertainty analysis, *Geophysical Journal International*, doi: 10.1111/j.1365-246X.2008.04052.x.
23. Jin, L., P. L. Stoffa, **M. K. Sen**, and R. Seif, 2009, Pilot point parameterization in stochastic inversion for reservoir properties using time-lapse seismic and production data, *Journal of Seismic Exploration*, 18, 1-20.
24. Dutta, U., **M. K. Sen**, N. N. Biswas, and Y. Zang, 2009, Investigation of shallow sedimentary structure of the anchorage basin, Alaska, using simulated annealing inversion of site response data, *Bulletin of the Seismological Society of America*, 99(1), 326-339.
25. Sil, S., and **M. K. Sen**, 2009, Azimuthal tau-p analysis in a weak orthorhombic medium, *Journal of Seismic Exploration*, 18, 81-91.
26. DeBabsabe, J. and **M. K. Sen**, 2009, Comments on a paper "Dispersion analysis of spectral element method for elastic wave propagation," G. Seriani and S. P. Oliveira, *Wave Motion*, 46, 92-93.

2008

27. C. S. Jackson, **M. K. Sen**, G. Huerta, Y. Deng, and K. P. Bowman, 2008, Error reduction and convergence in climate prediction, *Journal of Climate*, Vol. 21, No. 24, 6698-6709.

28. Villargan, A., G. Huerta, C. Jackson, and **M. K. Sen**, 2008, Parameter uncertainty estimation in climate models, *Bayesian Analysis*, **3(4)**, 823-850.
29. Gangopadhyay, A., and **M. K. Sen**, 2008, Seismicity in the northern Gulf of Mexico: A possible mechanism, *Geophysical Journal International*, doi: 10.1111/j.1365-246X.2008.03952.x.
30. Jin, L., P. L. Stoffa, and **M. K. Sen**, 2008, Stochastic inversion for reservoir properties using parallel learning based VFSA and pilot point parameterization, SPE-118818-PP.
31. Filina , Irina Y., Donald D. Blankenship, Malte Thoma. Valery V. Lukin, Valery N. Masolov, **M. K. Sen**, 2008, New 3D bathymetry and sediment distribution in Lake Vostok: implications for pre-glacial origin and numerical modeling of internal processes within the lake, *Earth and Planetary Sciences Letters*, doi:10.1016/j.epsl.2008.09.012 .
32. Sil, S., and **M. K. Sen**, 2008, Azimuthal tau-p analysis in anisotropic media, *Geophysical Journal International*, doi: 10.1111/j.1365-246X.2008.0382.x.
33. **M. K. Sen** and N. Vedanti, 2008, Seismic Inversion tracks in-situ combustion: 4D seismic at the Balol field, India, paper no. SPE-116600-PP, Society of Petroleum Engineers, 8 pages.
34. DeBabsabe, J., **M. K. Sen** and M. F. Wheeler, 2008, The Interior Penalty Discontinuous Galerkin Method for Elastic Wave Propagation: Grid Dispersion, Fast Track Paper, *Geophysical Journal International*, 175, 83-93.
35. Jin, L., **M. K. Sen**, P. L. Stoffa, and R. Seif, 2008, Time lapse seismic attributes analysis for water-flooded reservoirs, *Journal of Geophysics and Engineering*, 5, 210-220.
36. Bansal, R., and **M. K. Sen**, 2008, Finite difference modeling in anisotropic media: a shear wave splitting study, *Geophysical Prospecting*, 56, 293-312.
37. van der Neut, J., **M. K. Sen**, and K. Wapenaar, 2008, Seismic reflection coefficients of faults at low frequencies: a model study, *Geophysical Prospecting*, 56, 287-292.
38. Sena, A., **M. K. Sen** , and P. L. Stoffa, 2008, Modeling of ground penetrating radar data in stratified media using the reflectivity technique, *Journal of Geophysics and Engineering*, 5, 129-146.
39. Wood, W. T., W. Steven Holbrook, **M. K. Sen**, and P. L. Stoffa, 2008, Full waveform inversion of reflection seismic data for ocean temperature profiles, *Geophysical Research Letters*, 35,L040608, doi:10.1029/2007GL032359.
40. Kumar, C., **M. K. Sen**, and R. J. Ferguson, 2008, Depth migration anisotropy analysis in the time domain, *Geophysical Prospecting*, 56, 87-94.

2007

41. De Basabe, J. D, and **M. K. Sen**, 2007, Grid Dispersion and stability criteria of some common finite-element methods for acoustic and elastic wave equations, *Geophysics*, 72(6), T81-T95.
42. **Sen, M. K.**, F. D. Lane, and D. J. Foster, Anomalous reflection amplitudes from fractured reservoirs: failure of AVOA?, *The Leading Edge*, Special Section: Fractures, 26 (9), 1148-1153.
43. Gangopadhyay, A., J. Pulliam, and **M. K. Sen**, 2007, Seismic waveform inversion for crust and upper mantle structure beneath Africa, *Geophysical J. International*, 170, 1210-1226.
44. Kumar, D., **M. K. Sen**, and N. L. Bangs, 2007, Free gas and gas hydrate saturation from multi-component reflection seismic data from Hydrate ridge, *Journal of Geophysical Research*, v. 112, B12306, doi:10.1029/2007JB004993

45. Shaw, R. K., A. Chatterjee, and **M. K. Sen**, 2007, Use of AVOA analysis to estimate dip of obliquely dipping fractures in hydrocarbon reservoirs, *Journal of Seismic Exploration*, 15(4), 355-366.

2006

46. Klie, H., W. Bangerth, X. Gai, M.F. Wheeler, P.L. Stoffa, **M. K. Sen**, M. Parashar, U. Catalyurek, J. Saltz, T. Kurc, 2006, Models, methods and middleware for grid-enabled multiphysics oil reservoir management, *Engineering with Computers*, Springer Verlag, 22, 349-370.
47. Zhang, X., B. Rutt, U. Catalyurek, T. Kurc, P. L. Stoffa, **M. K. Sen**, and J. Saltz, 2006, Supporting scalable and distributed data subsetting and aggregation in large-scale seismic data analysis, *International Journal of High Performance Computing Applications*, Vol. 20, No. 3, 423-438 (2006), DOI: 10.1177/1094342006067471.
48. Stoffa, P. L., **M. K. Sen**, R. Seifoullaev, R. Pestana, and J. Fokemma, 2006, Plane-wave Depth migration, *Geophysics*, 71(6), S261-S272.
49. Kumar, C., **M. K. Sen**, and R. J. Ferguson, 2006, Travel time sensitivity analysis for parameter estimation in TI media, *Journal of Seismic Exploration*, 15(2), 119-132.
50. Sena, A., P. L. Stoffa, and **M. K. Sen**, 2006, Split step Fourier migration of GPR data in lossy media, *Geophysics*, 71(4), K77-K91.
51. Bangerth, W., H. Klie, M. F. Wheeler, P. L. Stoffa, and **M. K. Sen**, 2006, Optimization algorithms for the reservoir oil well placement problem, *Computational Geosciences*, 10(3), 303-319.
52. Bansal, R., and **M. K. Sen**, 2006, Two-point ray tracing in anisotropic media, *Journal of Seismic Exploration*, 15(1), 25-44.
53. Shaw, R. K., and **M. K. Sen**, 2006, Use of AVOA data to estimate fluid in a vertically fractured reservoir, *Geophysics*, 71(3), C15-C24.
54. Kumar, D., **M. K. Sen**, and N. L. Bangs, 2006, Seismic characteristics of gas hydrates at the Hydrate ridge, *Geophysics: the Leading Edge of Exploration*, Special Issue on Gas Hydrates, 25(5), 610-614.
55. Kumar, D., **M. K. Sen**, N. L. Bangs, C. Wang, and I. Pecher, 2006, Seismic Anisotropy at the Hydrate Ridge, *Geophysical Research Letters*, 33, L01306, doi:10.1029/2005GL023945.
56. Varela, O. J., C. Torres-Verdin, and **M. K. Sen**, 2006, Enforcing smoothness and assessing uncertainty in non-linear pre-stack seismic waveform inversion, *Geophysical Prospecting*, 54, 239-259.
57. Varela, O. J., C. Torres-Verdin, **M. K. Sen**, and I. G. Roy, 2006, Using time-lapse 3D seismic data to detect variations in pore-pressure and fluid saturation due to oil displacement by water: A numerical study based on one-dimensional pre-stack inversion, *Journal of Geophysics and Engineering*, 3, 176-193.

2005

58. Roy, L., **M. K. Sen**, P. L. Stoffa, K. McIntosh, and Y. Nakamura, 2005, Joint inversion of first arrival travel time and gravity data, *Journal of Geophysics and Engineering*, 2, 277-289.

59. Mukherjee, A., **M. K. Sen**, and P. L. Stoffa, 2005, Travel time computation and pre-stack time migration in transversely isotropic media, *Journal of Seismic Exploration*, 13(3), 201-226.
60. Kurc, T., U. Catalyurech, Zhang, X., J. Saltz, M. Peszynska, M. Wheeler, A. Sussman, **M. K. Sen**, R. Seifoullae, P. L. Stoffa, C. Torres-Verdin, 2005, A simulation and data analysis system for large scale, data driven, oil reservoir simulation studies, *Concurrency and Computation: Practice and Experience*, invited paper, 17, 1441-1467.
61. Roy, I. G., **M. K. Sen**, and C. Torres-Verdin, 2005, Full waveform inversion using a distributed system of computers, *Concurrency and Computation: Practice and Experience*, invited paper, 17, 1365-1385.
62. Roy, L., **M. K. Sen**, D. Blankenship, P. L. Stoffa, and T. Richter, 2005, Inversion and uncertainty estimation of gravity data using simulated annealing: An application over Lake Vostok, East Antarctica, *Geophysics*, 70(1), J1-J12.
63. Matossian, V. , V. Bhat, M. Parashar, M. Peszynska, **M. K. Sen**, P. L. Stoffa, and M. F. Wheeler, 2005, Autonomic Oil reservoir optimization on grid, *Concurrency and Computation: Practice and Experience*, invited paper, 17, 1-26.
64. Xia, Y., Z. Yang, P. L. Stoffa, and **M. K. Sen**, 2005, Using different hydrological variables to assess the impact of atmospheric forcing errors on optimization and uncertainty analysis of the CHASM surface model at a cold catchment, *Journal of Geophysical Research*, 110, 1-15.
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- Sen, M. K.**, and L. N. Frazer, 1985, Computation of multifold path integral synthetic seismograms, *Earthquake Notes*, 55, 9.
- Frazer, L. N., and **M. K. Sen**, 1985, Multifold phase space path integrals, *Earthquake Notes*, 55, 9.
- Frazer, L. N., and **M. K. Sen**, 1983, Notes on two asymptotic methods of computing synthetic seismograms in laterally variable media, *Earthquake Notes*, 54, 78.
- Sen, M. K.**, and L. N. Frazer, 1983, Modeling reflections from laterally variable multi-layered elastic medium, *EOS Trans. AGU*, 64(45), 773.

Technical Reports:

- Barhen, J., J.G. Berryman, L. Borcea, J. Dennis, C. de Groot-Hedlin, F. Gilbert, P. Gill, M. Heinkenschloss, L. Johnson, T. McEvelly, J. More, G. Newman, D. Oldenburg, P. Parker, B. Porto, **M. K. Sen**, V. Torczon, D. Vasco, and N.B. Woodward, 2000: *Optimization and Geophysical Inverse Problems*, Report of a Workshop at San Jose, California, Feb. 5-6, 1999. Lawrence Berkeley National Laboratory report number 46959, 33pp.
- Sen, M. K.**, P. L. Stoffa, and R. Sefiullaev, 2001, Air-borne GPR for the detection of underground facilities, Report to the Institute of Advanced Technology, University of Texas at Austin.
- Sen, M. K.**, and F. Liu, 1996, A unified approach to free surface multiple elimination methods, UTIG Technical Report TR-150.
- Sen, V., **M. K. Sen** and P. L. Stoffa, 1996, Parallel algorithms for automatic estimation of seismic velocities, Final Report UTIG Technical Report TR-147 to Cray Research Inc.
- Sen, M. K.**, P. L. Stoffa, and C. Calderón-Macías, 1995, Velocity analysis and seismic processing using neural network, Final report UTIG Technical Report TR-135 to Cray Research Inc.

Tanis, M. C., A. W. Mulder, P. L. Stoffa, **M. K. Sen**, and J. T. Fokkema, 1995, Pre-stack split-step Fourier depth migration in the p_0 - p_s domain, UTIG Technical Report TR-133.

Sen, M. K., 1991, Deep structural complexity and site response in Los Angeles basin, USGS open-file report.

INVITED LECTURES:

2009

“Use of prior and hyper-prior in seismic inversion for reservoir characterization”, EGS seminar, UT Austin, October 2009.

“Seismic Inversion” One week short course taught at China University of Petroelum, Beijing, China.

“Seismic Inversion: critical issues”, Beijing University, Department of Geophysics, September, 2009

“Shale-gas productivity”, SPG North American Chapter Luncheon talk at the University of Houston, July 2009.

“Seismic inversion of Bossier sand data”, Anadarko Petroleum Company, Houston, June 2009

“AVO, simulataneous inversion, and full waveform inversion”, Whiting Oil Company, Denver, Colorado, June 2009.

“Seismic Inversion for reservoir characterization,” TOTAL Research Center, Pau, France, May 2009

“Seismic Interferometry” Indian Institute of Technology, Mumbai, India, May 2009.

“Barnett Shale: Geology, Geophysics, and production engineering issues”, EDGER Forum, Austin, TX, February 2009.

“Seismic inversion of time-lapse data from a heavy oil field”, EDGER Forum, Austin, TX, February 2009.

2008

“Seismic Interferometry,” Geodata Processing and Interpretation Center, Dehradun, ONGC, India, Dec. 2008.

“Density Estimation from seismic reflection data” Reliance India Limited, Mumbai, India, Aug. 08.

“Recent advances in seismic inversion technology,” Society of Petroleum Geophysicists, Mumbai, India, Aug. 2008.

“Joint inversion of seismic and fluid flow data for dynamic reservoir characterization,” Aramco EXPEC advanced research center, Daharan, Saudi Arabia, July 08.

“Inverse Methods, Geostatistics and Neural Networks for Geophysical Analysis” Aramco EXPEC advanced research center, Daharan, Saudi Arabia, July 08.

“Recent Developments in Inversion Technology,” Aramco EXPEC advanced research center, Daharan, Saudi Arabia, July 08.

“Seismic Modeling and amplitude versus azimuth in fractured media” Aramco EXPEC advanced research center, Daharan, Saudi Arabia, July 2008.

“Recent advances in seismic inversion technology,” Exxon Production and Research, Houston, TX, June 2008

“Joint inversion of seismic and fluid flow data for dynamic reservoir characterization,” Chevron Research Center, San Ramon, California, May 2008

Inverse Methods, Geostatistics and Neural Networks for Geophysical Analysis, Exploration Geophysics Seminar, Jackson School of Geosciences, UT Austin.

Recent Developments in Inversion Technology, Keynote speech—joint session of SPG, APG, EAGE, SEG at the Society of Petroleum Geophysicists conference at Hyderabad, India, January 2008.

Seismic Modeling and amplitude versus azimuth in fractured media, Keynote speech—session on “AVO, modeling and inversion,” Society of Petroleum Geophysicists conference at Hyderabad, India, January 2008.

2007

Pre-stack Full Waveform Inversion for Estimating Elastic Properties of Marine Sediments, Acoustical Society of America meeting, New Orleans, Nov. 28, 2007.

Estimation of uncertainty in some geophysical models, Sandia Workshop on uncertainty estimation in large scale inverse problems, Santa Fe, New Mexico, Sept. 2007.

Bayesian Geophysical Inversion, Department of Physics, UT Austin, Aug. 2007.

New trends in seismic inversion for reservoir characterization, 4th ENAEP Ecuador (4^{to} Encuentro Anual de la Energia y el Petroleo), Aug. 2007.

New trends in seismic Modeling of fractured reservoirs, 4th ENAEP Ecuador (4^{to} Encuentro Anual de la Energia y el Petroleo), Aug. 2007.

Seismic Inversion for Reservoir Characterization, Keynote speech, First International forum on oil and gas for doctoral students, China University of Petroleum, Beijing, China, Aug. 2007.

Seismic Inversion and fracture characterization, BGP, Beijing, China, Aug. 2007.

Need for seismic analysis in reservoir characterization, Oil India Limited, Duliajan, India, June 2007.

Seismic Inversion for Reservoir Characterization: Current Status and Future Direction, Dept. of Geology and Geophysics, University of Wyoming, Laramie, Wyoming, May 2007.

Seismic Modeling of Fractured Reservoirs: Failure of AVOA? Dept. of Geology and Geophysics, University of Wyoming, Laramie, Wyoming, May 2007.

New Results from Seismic Inversion in the Plane Wave Domain, Sheriff Symposium, University of Houston, Apr. 2007.

Stiffness, Compliance and Tensor to Matrix mapping for Fracture Modeling, EGS Lecture, University of Texas at Austin, Apr. 2007.

Seismic Inversion for Reservoir Characterization: Current Status and Future Direction, School of Geology and Geophysics, University of Oklahoma, Norman, Oklahoma, Apr. 2007.

Anomalous AVOA in fractured media, Conoco-Phillips, Houston, Mar. 23, 2007.

Elastic Modeling: Current Status and Future Directions, Conoco-Phillips, Houston, Mar. 23, 2007.

Some analytic results from AVOA over fractured reservoirs, EDGER forum, UT Austin, Feb 07.

2006

- Bayesian Geophysical Inversion, EGS Seminar, UT Austin, Oct. 20, 2006.
- Uncertainty Estimation in Geophysics, Invited lecture, Joint Statistical Society meeting (JSM), Seattle, Washington, Aug. 7, 2006.
- Seismic modeling and inversion: the state of the art, Chevron Texaco Research Center, San Ramon, CA, May 15, 2006.
- Seismic Modeling in 3D, SEG forum on new generation seismic models, Apr. 06.
- AVOA for fluid detection in fractured reservoirs, Edger forum, UT Austin, Feb. 06.
- True amplitude migration-inversion, keynote speech at the SPG conference, Kolkata India, Jan. 10, 2006.

2005

- Seismic Inversion for hydrocarbon exploration, crustal structure, and whole earth modeling AGU-SEG joint session spring meeting, New Orleans, Louisiana, invited.
- Seismic modeling of fractured reservoirs, School of Geology and Geophysics, University of Oklahoma, Norman, Oklahoma, Sep. 29, 2005.
- Seismic waveform inversion and characterization of gas hydrates offshore Oregon, School of Geology and Geophysics, University of Oklahoma, Norman, Oklahoma, Sep. 29, 2005.
- AVO and Seismic Waveform Inversion: present and future, Schlumberger workshop on AVO, Houston, Texas, Sep. 15, 2005.
- Fracture Estimation from seismic data: new ideas, Conoco-Phillips, Houston, Texas, July 05.
- Seismic Inversion for hydrocarbon exploration, crustal structure and whole earth modeling, AGU-SEG joint session spring meeting, New Orleans, Louisiana.
- Constrained pre-stack waveform inversion, Western-Geco/Schlumberger Reservoir Services, Houston, Texas, Apr. 8, 2005.
- Free Gas and Gas Hydrate Saturation from multi-component seismic data from offshore Oregon, Rice University, Houston, Texas, Mar. 25, 2005.
- Free Gas and Gas Hydrate Saturation from multi-component seismic data from offshore Oregon, Edger Forum meeting, Austin, Texas, Feb. 14, 2005.
- Seismic Inversion: State of the art, SPG Kolkata chapter, Kolkata, India, Jan. 5, 2005.

2004

- Seismic modeling of fractured reservoirs, SIAM annual meeting, Portland Oregon, July 2004.
- Seismic waveform inversion and characterization of gas hydrates offshore Oregon, Dept. of Geological Sciences, Indiana University, Bloomington, Indiana, Apr. 2004.
- Seismic imaging in heterogeneous, anisotropic media, Dept. of Geological Sciences, Indiana University, Bloomington, Indiana, Apr. 04.
- Seismic Inversion for reservoir characterization, Dept. of Earth Sciences, Memorial University of Newfoundland, Mar. 04.

Analysis and interpretation of OBS and streamer data from Hydrate Ridge, offshore Oregon EDGER forum meeting, University of Texas at Austin, Feb. 17, 2004.

Seismic waveform inversion: Current status and future directions Keynote address, Society of Petroleum Geophysicists (SPG) conference, Hyderabad, India, Jan. 16, 2004.

2003

Seismic Modeling of fractured reservoirs, Industrial Associates meeting, Institute of computational and engineering sciences, The University of Texas at Austin, Oct. 12, 2003.

Gas Hydrates: their resource potential and geophysical characterization, Institute for Geophysics, UNAM, Mexico City, Mexico, Aug. 13, 2003.

Pre-stack Seismic waveform inversion: current status and future directions, Mexican Institute of Petroleum (IMP), Mexico City, Mexico, Aug. 12, 2003.

Gas Hydrates: their resource potential and geophysical characterization, Mexican Institute of Petroleum (IMP), Mexico City, Mexico, Aug. 11, 2003

Synthetic Seismograms in layered fractured media, FRACCITY annual meeting, Jackson Hole, Wyoming, July 21, 2003.

Pre-stack inversion and anisotropic velocity analysis, Jason Geosystems, Rotterdam, Netherlands, Mar. 24, 2003.

Migration velocity estimation by non-linear optimization, Society of Industrial; and Applied Math conference on mathematical and computational issues in geosciences, Mar. 24, 2003.

Estimation of V_p and V_s of shallow sediments offshore Oregon: Implication towards the distribution of gas hydrates, Petrotech Conference, New Delhi, Jan. 9 2003.

Gas Hydrates: their resource potential and geophysical characterization, Prof. Jagdeo Singh Memorial Lecture at Indian School of Mines, Dhanbad, Jan. 6, 2003.

Gas Hydrates: their resource potential and geophysical characterization, Society of Petroleum Geophysicists, Kolkata chapter, Jan. 2, 2003.

2002

Geophysical Inversion—An overview, Schlumberger Oilfield Services, Houston, Oct. 02.

Rock property estimation from reflection seismic data, Shell Oil Company, Houston, Sept. 02.

Techniques for pre-stack waveform inversion, R&D Division, Western Geco, Houston, Apr. 02.

Waveform inversion for reservoir characterization, BP Houston, Mar. 02.

Pre-stack inversion with adaptive regularization, Society of Petroleum Geophysicists meeting, Mumbai, India, Jan. 02.

2001

Seismic Processing in transversely isotropic media: the tau-p approach, Section Mining Engg and Applied Geophysics, Delft University of Technology, Netherlands, Dec. 01.

Pre-stack inversion: Current status and future directions, SBGF meeting, Bahia, Salvador, Oct. 01.

Pre-stack inversion: Isotropy and Transverse Isotropy, EDGER Forum, University of Texas at Austin, Apr. 01.

Air-borne GPR for the detection of underground facilities, International workshop on GPR, TNO, Netherlands, May 01.

2000

Integrated reservoir characterization, Western Geophysical , Houston, Texas, Aug. 00.

Integrated reservoir characterization, BP , Houston, Texas, July 00.

Inverse Problems and uncertainty estimation in Geophysics, TICAM, UT Austin, Mar. 00.

Seismic waveform inversion: from isotropy to anisotropy, Shell Oil Company, Houston, Texas, March, 00.

Normal moveout and Seismic waveform inversion in transversely isotropic media, Conoco, Ponca City, Oklahoma, Feb. 15, 2000.

Parameter Estimation in Anisotropic Media, Phillips Oil Company, Bartlesville, Oklahoma, Jan. 12, 2000.

1999

Free surface multiple attenuation in reflection seismic data, ONR Broadband Signal Processing Working Group Meeting, Applied Research Laboratory, University of Texas at Austin, Dec. 2, 1999.

Seismic Waveform Inversion and Tomography: Examples of ill-posed geophysical inverse problems, PGS Series, Houston, Texas, Oct. 11, 1999.

Processing of multi-component OBC data, PGS Houston, Sep. 16, 1999.

Geophysical Inversion and Uncertainty Estimation, National Research Council Workshop on 'How uncertainty is treated in ocean science models?' National Academy of Sciences, Washington, D.C, 12-13 Sept. 1999.

Inverse Problems, Statistics and a touch of philosophy, UTIG seminar, Sept. 9, 1999

Free surface multiple attenuation in the plane wave domain, Upstream Strategic Research Division, Mobil Oil Company, Dallas, Texas, June 28, 1999.

Application of active source Seismology in imaging of subsurface structures, DARPA Geophysics Seminar, Mar. 99.

Geophysical Inversion: Application to hydrocarbon exploration, DOE Workshop on Global inversion of Geophysical Data, Feb. 99.

1998

Geophysical Inversion: Theory and Practice, Southwest Research Institute, San Antonio, Texas, Nov. 98.

AVO and Seismic Inversion in the Plane Wave Domain, Mobil Strategic Research Center, Dallas, Texas, Mar. 98.

AVO and Seismic Lithology, Oil and Natural Gas Commission, Calcutta, India, Jan. 98.

AVO and Seismic Waveform Inversion in the Plane Wave Domain: Application to Gas Hydrate Data, Society of Petroleum Geophysicists, Chennai, India, Jan. 98.

1997

Mapping of Elastic properties of gas hydrates, Amoco EPTG, Tulsa, OK, Nov. 97.

Seismic Wave Propagation Modeling: Current Status and Future Trends, Department of Mechanical Engineering, The University of Texas at Austin, Oct. 97.

Practical Approaches to Uncertainty Estimation in Geophysical Inversion, *Sociedade Brasileira de Geofisica*, Sao Paulo, Brazil, Sept. 97.

To Bayes or not to Baye,” PPPG, Federal University of Bahia, Salvador, Brazil, Sept. 97.

1996

Global Optimization Methods and Migration Velocity Analysis, Oil and Natural Gas Commission, Calcutta, India, Nov. 96.

“To Bayes or not to Bayes,” Society of Petroleum Geophysicists, Oil and Natural Gas Commission Dehradun, India, Dec. 96.

Inverse methods and uncertainty estimation in geophysics, Western Atlas Wireline Service, Houston, Texas, July 96.

1995

Gibbs’ sampler and its application to geophysical inversion, SIAM meeting on Geophysical Inverse Problems in Geophysics, Fish Camp, CA, Dec. 95.

Optimization methods for automatic velocity estimation, SIAM meeting on Geophysical Inverse Problems in Geophysics, Fish Camp, CA, Dec. 95.

Nonlinear geophysical inversion, Department of Petroleum and Geosystems Engineering, University of Texas at Austin, Austin, Texas, Feb. 95.

1994

Nonlinear geophysical inversion, Indian Institute of Technology, Kharagpur, India, July 94.

Global optimization methods in geophysical inversion and Seismic migration and modeling in 3-D, National Geophysical Research Institute, Hyderabad, India, July 94.

Nonlinear geophysical inversion, Indian School of Mines, Dhanbad India, July 94.

Nonlinear optimization methods in geophysics, Delft University of Technology, Netherlands, June 94.

Nonlinear optimization methods in geophysics, University of Potsdam, GeoForschungs Zentrum, Potsdam, Germany, June 1994.

Global optimization methods in geophysical inversion, University of Utrecht, Netherlands, June 94.

1993

Bayesian inference, Gibbs' sampler and uncertainty estimation in nonlinear geophysical inversions, Department of Computational and Applied Mathematics, Rice University, Houston, Texas.

Geophysical inversion using global optimization, Society of Industrial and Applied Mathematics Conference on Mathematical and Computational Issues in the Geosciences, Houston, Texas, 1993.

High resolution shallow water 3-D survey and inversion for geophysical parameters, Acoustical Society of America, Ottawa, Canada, 1993.

1992

Nonlinear inversion of geophysical data, Department of Geophysics, Center for Tectonophysics, Texas A&M University, Nov. 1992.

Genetic Algorithms, Naval Research Laboratory, Stennis Space Center, MS, 1992.

1990 and earlier

Modeling of wave propagation in Los Angeles Basin, CICESE, Mexico, 1990.

Multifold path integral synthetic seismograms, Seismological Laboratory, California Institute of Technology, Pasadena, California, 1987.

Kirchhoff-Helmholtz reflection seismograms, SOHIO Petroleum Company, Dallas, Texas, 1985.

SUMMARY OF STUDENT ACTIVITIES:***CURRENT STUDENTS******Supervisor/Co-supervisor of the following students***

Name	Department	Degree
1. Travis Richards	UT Dept of Geological Sciences	M.S
2. Yi Tao	UT Dept of Geological Sciences	Ph.D.
3. Isaac Smith	UT Dept of Geological Sciences	Ph.D.
4. Son Phan	UT Dept of Geological Sciences	Ph.D
5. Corey Joy	UT Dept of Geological Sciences	M.S
6. Mohammed Al-hussain	UT Dept of Geological Sciences	Ph.D
7. Yang Xie	UT Dept of Geological Sciences	Ph.D
8. Adam Allan	UT Dept of Geological Sciences	Undergraduate Honors student (Geophysics major)

Currently serving on the committees of the following students

Name	University	Degree
1. James Lyons	UT Dept. of Geological Sciences	Ph.D.
2. Edgar A. Pinzon	UT Dept. of Geological Sciences & Bureau of Economic Geology	Ph.D.
3. Kiomars Eskandari	UT Dept. of Petroleum and Geosystems Engineering	Ph.D. 05/08
4. Erick Leuro	UT Dept. of Geological Sciences	Ph.D. 12/07
5. Bryce Wagner	UT Dept. of Geological Sciences	Ph.D.
6. Enrique	UT Dept. of Geological Sciences	Ph.D.
7. Chaoshun Hu	UT Dept. of Geological Sciences	Ph.D.
8. Chun Lei	UT Dept. of Geological Sciences	Ph.D.

Currently serving on the committees of the following students

	Name	University	Degree
9.	Will Burnet	UT Dept. of Geological Sciences	Ph.D.
10.	Vladimir Druskinin	UT Dept. of Geological Sciences	Ph.D.
11.	Yang Wang	UT Dept. of Geological Sciences	Ph.D.

PAST STUDENTS**Supervisor/Co-supervisor of the following students****DEGREES COMPLETED:**

	Name	Department	Degree	Date Complete
1.	Jonas DeBasabe	Computational and Applied Math	Ph.D.	05/09
2.	Samik Sil	UT Dept. of Geological Sciences	Ph.D.	05/09
3.	Ma Jitao	China University of Petroleum	Ph.D.	05/09
4.	Abdulaziz Al-Muhaidib “Pre-stack inversion for estimating porosity of a carbonate reservoir”	UT Dept. of Geological Sciences	M.S.	05/08
5.	Reeshidev Bansal “seismic characterization of fractured reservoirs:”	UT Dept. of Geological Sciences	Ph.D.	05/07
6.	Sanjay Sood “t* estimation: Costa Rica Seismic Experiment”	UT Dept. of Geological Sciences	M.S.	05/07
7.	Russell Young “ Porosity estimation from pre-stack seismic data: Marco Polo filed Gulf of Mexico”	UT Dept. of Geological Sciences	M.S.	05/07
8.	Chandan Kumar “Seismic imaging and parameter estimation in heterogeneous anisotropic media”	UT Dept. of Geological Sciences	Ph.D.	05/06
9.	Joost van der Noot “stress estimation from fault plane reflection coefficient”	Applied Geophysics, Delft University of Technology, Netherlands	M.Sc.	08/06

*Supervisor/Co-supervisor of the following students***DEGREES COMPLETED:**

Name	Department	Degree	Date Complete
10. Dhananjay Kumar "Seismic Imaging in azimuthally anisotropic media"	UT Dept. of Geological Sciences	Ph.D.	05/05
11. Chengshu Wang "Velocity estimation of gas hydrate"	UT Dept. of Geological Sciences	Ph.D.	08/03
12. Armando Sena "Imaging and analysis of GPR data"	UT Dept. of Geological Sciences	Ph.D.	12/04
13. Gijs Meek	Mining Engr and Applied Geophysics, Delft University of Technology, Netherlands	M.Sc.	12/03
14. Anubratī Mukherjee "Seismic Processing in transversely isotropic media: A tau-p approach"	UT Dept. of Geological Sciences	Ph.D.	05/02
15. Abdul Aziz Al-Aslani "Developing, testing, and evaluating wave equation based multiple removal methods for marine seismic data"	UT Dept. of Geological Sciences	Ph.D.	12/01
16. Saleh Al-Saleh "Processing of ocean bottom cable data"	UT Dept. of Geological Sciences	M.S	12/01
17. Faqi Liu "Free surface multiple elimination operators and their applications"	UT Dept. of Geological Sciences	Ph.D.	05/99
18. Mehmet C. Tanis "Prestack plane wave migration in 3-D"	UT Dept. of Geological Sciences	Ph.D.	09/98
19. Faruq Akbar "Prestack migration velocity estimation in plane wave domain"	UT Dept. of Geological Sciences	Ph.D.	06/97

*Supervisor/Co-supervisor of the following students***DEGREES COMPLETED:**

Name	Project Title	Department	Degree	Date Complete
20.	Carlos Calderon-Macias “Feedforward NN, Hopfield network and mean field annealing in seismic waveform inversion”	UT Dept. of Geological Sciences	Ph.D.	05/97
21.	Ganyuan Xia “Prestack Migration and Inversion”	UT Dept. of Geological Sciences	Ph.D.	05/97
22.	Eddy C. Luhurbudi “Traveltime calculation in 3-D”	UT Dept. of Geological Sciences	M.A.	12/96
23.	Raghu Chundururu “Hybrid linear/nonlinear inversion of geophysical data”	UT Dept. of Geological Sciences	Ph.D.	02/96
24.	Kriyanti Setiyono “Comparison of Multiple Elimination Methods”	UT Dept. of Geological Sciences	MA	12/95

*Served on the committees of the following students***DEGREES COMPLETED:**

Name	Project Title	Department	Degree	Date Complete	Role
1	Audrey Neau	L’Université de Pau, France	Ph.D 05/09	05/07	Committee
2	Sasha Carter	UT Dept. of Geological Sciences	Ph.D. 05/08	05/07	Committee
3	Theresa Diehl	UT Dept. of Geological Sciences	Ph.D. 08/08	05/07	Committee
4.	Irina Filina	UT Dept. of Geological Sciences	Ph.D.	12/07	Committee
5.	Marc L. Buursink	Boise State University	Ph.D	12/06	Committee
6	Carmen Gomez	UT Dept. of Geological Sciences	M.S.	05/05	Committee
7	Jason Stine “Sensitivity of AVO to fluid properties in porous media”	UT Dept. of Geological Sciences	M.S.	05/04	Committee

*Served on the committees of the following students***DEGREES COMPLETED:**

Name	Project Title	Department	Degree	Date Completed	Role
8	Hedi Poot	Mining Engr and Applied Geophysics, Delft University of Technology, Netherlands	Ph.D.	05/04	Committee
9	Imtiaz Ahmed "Seismic Imaging of wide angle seismic data"	UT Dept. of Geological Sciences	Ph.D.	12/03	Committee
10	Matt Morris	UT Dept. of Geological Sciences	M.A.	12/03	Committee
11	Omar J. Varela Londono	UT Dept. of Petroleum Engineering	Ph.D.	08/03	Committee
12	Junru Jiao "Migration velocity estimation in 2D and 3D"	UT Dept. of Geological Sciences	Ph.D.	08/01	Committee
13	Jean Paul van Gestel	UT Dept. of Geological Sciences	Ph.D.	05/00	Committee
14	Vikramaditya Sen "Estimation of seismic velocities in the Barbados accretionary prism using iterative prestack depth migration on 3-D multichannel and ocean-bottom seismometer data"	UT Dept. of Geological Sciences	Ph.D.	09/98	Committee
15	Mahesh Rajagopalan "An image processing approach to migration for point diffractors"	UT Dept. of Electrical & Computer Engineering	MSE	05/98	Committee
16	Fernando P. Campozana "The Use of Production Data in Reservoir Description"	UT Dept. of Petroleum Engineering	Ph.D.	05/97	Committee
17	Duk Kee Lee "Imaging study of the upper mantle seismic velocity structure beneath the Rocky Mountain front"	UT Dept. of Geological Sciences	Ph.D.	05/96	Committee

Served on the committees of the following students

DEGREES COMPLETED:

Name	Project Title	Department	Degree	Date Completed	Role
18	Carlos Varela "Background Velocity Estimation in Laterally Varying Media"	UT Dept. of Geological Sciences	Ph.D.	12/95	Committee
19	Michael Jervis "Optimization methods for 2-D pre-stack migration velocity estimation"	UT Dept. of Geological Sciences	Ph.D.	08/93	Committee
20	Eduardo Lopes de Faria "Modeling, migration and focusing analysis in transversely isotropic media"	UT Dept. of Geological Sciences	Ph.D.	08/93	Committee
21	Livia J. Squires "Reducing Artifacts in Tomographic Velocity Reconstruction"	UT Dept. of Geological Sciences	Ph.D.	05/93	Committee
22	Mehmet C. Tanis "A Comparison of Migration Methods in Laterally Varying Media"	UT Dept. of Geological Sciences	MA	05/93	Committee
23	Warren T. Wood "Least Squares Inversion of Field Seismic Data for an Elastic 1-D Earth"	UT Dept. of Geological Sciences	Ph.D.	05/93	Committee
24	Paul Zwartjes "Seismic Data Regularization"	Acoustic Physics, Delft University of Technology, Netherlands	Ph.D.	12/05	External Foreign Examiner

POST-DOCTORAL RESEARCHERS AND VISITING SCIENTISTS SPONSORED

1.	Dr. Jonas DeBasabe	04/09-present
2.	Prof. Yang Liu, China University of Petroleum	09/08-present
3.	Dr. Adrian Ciucivara	01/08–05/09
4.	T. Vikranth Babu, undergrad from IIT Madras	6/1/09-07/25/09
5.	Dr. Ravi Srivastava	03/08-05/09
6.	Dr. Armando Sena	10/07–06/09
7.	Dr. Jin Long, Post-doctoral Fellow	05/06–09/08

POST-DOCTORAL RESEARCHERS AND VISITING SCIENTISTS SPONSORED

8.	Dr. A. Pal, Post-doctoral Fellow	05/06–04/08
9.	Dr. Abhijit Gangopadhyay, Post-doctoral Fellow	01/06–10/07
10.	Dr. Nimisha Vedanti	5/07–4/08
11.	S. Rajput, Post-doctoral Fellow	12/06–02/07
12.	Joost van der Noot, Graduate student Delft University	01/06–04/06
13.	S. Rajput, Graduate student, NGRI, India	10/06–11/06
14.	Dr. Utpal Dutta, University of Alaska, Fairbanks	07/05
15.	Dr. Murthi Guddati, Assistant Professor, University of North Carolina	06/01/04–07/15/04
16.	Dr. Y. Xia, Post-doctoral fellow	01/01/02–12/31/03
17.	Dr. Qiaozhen Mu, Post-doctoral fellow	01/01/02–12/31/03
18.	Dr. Wulfgang Bangerth	09/01/03–04
19.	Dr. Indrajit G. Roy, Post-doctoral fellow	11/01/00–08/31/03
20.	Dr. Zhan Wu, Post-doctoral Fellow	03-04
21.	Dr. Ranjit K. Shaw, Post-doctoral fellow	06/01/02–05/31/03
22.	Dr. Lopamudra Roy, Post-doctoral fellow	06/01/02-05/31/03
23.	Prof. Robert Nowack, Purdue University, Visiting scientist	02/01/01–03/31/01
24.	Prof. Milton Porsani, Visiting scientist	01/01–02/28/01
25.	Dr. J. Pestana, Postdoctoral Fellow	09/98–08/99
26.	Dr. Faruq Akbar, Postdoctoral Fellow	07/97–09/98
27.	Dr. Roustam Seif, Research Fellow, Programmer	09/98–04
28.	Dr. Jay Pulliam, Postdoctoral Fellow	01/95–08/97
29.	Dr. R. Phillip Bording, Postdoctoral Fellow	08/95–07/97
