

## **Youli Quan**

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### **EDUCATION**

9/91 - 7/96 Ph.D. in geophysics. Stanford University, CA  
9/89 - 9/91 MS in geophysics. Stanford University, CA  
3/78 - 7/82 BS in geophysics. University of Science and Technology of China

### **WORK EXPERIENCE**

7/03 - Present, Geophysics Department, Stanford University, CA. Research Associate  
- Global Climate and Energy Project (GCEP): Adaptive Seismic Monitoring for CO2 sequestration, Model-Based Dynamic Seismic Imaging  
- Differential Resonant Acoustic Spectroscopy: Numerical modeling, Data processing, Application to Acoustic Attenuation Measurements

10/00 - 5/03 LumiCyte Inc., Fremont, California. Sr. Software Engineer  
- State-of-art bioinformatics algorithms and software applications for biochip data processing and interpretation  
- Pattern recognition and artificial intelligence to classify clinical serum samples  
- Neural network, decision tree, dynamic programming, SOM, SVM, Bayes decision  
- Database and 3D graphics to organize and visualize large volume MS data  
- An intelligent peak detection algorithm for feature extraction  
- Using those extracted features for MS data QC, protein maps and classification  
- Database applications  
- Statistical signal processing package  
- Biostatistics

4/99 - 10/20/00 Seismic-Micro Technology Inc., Houston, Texas. Software Engineer  
- A C++ library for computational geometry.  
- A C++ library for geostatistics.  
- Algorithms for digital signal processing.  
- Algorithms for automatic interpretation of seismic data.  
- Visual C++ applications

12/96 - 4/99 Texaco E&P Technology Department, Houston, Texas. Project Scientist  
- Computerized tomography system for oil/gas reservoir imaging  
- Programs written with Java that can be run on PC and UNIX workstations.  
- New methods and related software for seismic data (digital signal) processing & interpretation.  
- Visualization of 3D data.

- Integration of seismic data and well data with statistical methods

7/96 - 12/96 Magnetic Pulse Inc., Fremont, California. Consultant

- PC version of the wave simulators with Visual C++ and Power Station

9/89 - 12/96 Stanford University, California. Research Assistant.

- Computerized tomography for cross well seismic imaging

- Two extremely effective simulators for modeling waves in complicated media, which have been distributed to several major oil companies

- Graphical network computing environment for the wave simulators

- Digital signal processing.

- Wavelet analysis for image processing and data compression

- Acoustic transducer simulation

- Matlab applications

3/86 - 9/89 Institute of Geophysics, Chinese Academy of Sciences, Research Associate

- Tomographic reconstruction of earth interior.

- Development of software on PC for detecting underground structures

## **PUBLICATIONS**

- [1] Youli Quan and Jerry M. Harris, 2008, Stochastic Seismic Inversion using both Waveform and Traveltime Data and Its Application to Time-lapse Monitoring: SEG Expanded Abstracts.
- [2] Xiuli Wang, Knut Hovem, Dan Moos, and Youli Quan, 2008, Water Hammer Effects on Water Injection Well Performance and Longevity: SPE Expanded Abstracts.
- [3] Jerry M. Harris, Youli Quan and Jolene Robin-McCaskill, 2008, Quasi-Continuous Subsurface Monitoring of CO<sub>2</sub> Storage: Stanford GCEP Annual Review Meeting.
- [4] Jerry M. Harris, Youli Quan, and Eduardo Santos, 2007, Dynamic imaging for seismic monitoring of CO<sub>2</sub> storage in coal: GCEP Annual Review Meeting.
- [5] Youli Quan and Lianjie Huang, 2007, Sound-speed tomography using first-arrival transmission ultrasound for a ring array: Proc. SPIE Medical Imaging 6513.
- [6] Lianjie Huang and Youli Quan, 2007, Ultrasound pulse-echo imaging using the split-step Fourier propagator: Proc. SPIE Medical Imaging 6513.
- [7] Daniel Moos and Youli Quan, 2006, Methods and devices for analyzing and controlling the propagation of waves in a borehole generated by water hammer: US Patent, Application #: 20060293857.
- [8] Chuntang Xu, Jerry M. Harris, and Youli Quan, 2006, Estimating flow properties of porous media with a model for dynamic diffusion, Expanded Abstracts of 76th SEG Meeting.
- [9] Jerry M. Harris, Youli Quan and Jaime Urban, 2005, Model-Based Dynamic Seismic Imaging Using Curve Evolution, Stanford GCEP Meeting, June 2005.
- [10] Jerry M. Harris, Youli Quan and Chuntang Xu, 2005, Differential Acoustic Resonance Spectroscopy: An experimental method for estimating acoustic attenuation in porous media, Expanded Abstracts of 75th SEG Meeting.

- [11] Olusoga M. Akintunde, Jerry M. Harris, and Youli Quan, 2004, Cross-well Seismic Monitoring of Coal Bed Methane (CBM) Production: A Case Study from the Powder River Basin of Wyoming: Expanded Abstracts of the 74th SEG Meeting
- [12] Jerry M. Harris, Youli Quan, Tapan Mukerji, Martins Akintunde and Chuntang Xu, 2004, Seismic Monitoring for Geologic Sequestration: Stanford GCEP Meeting, June 2004
- [13] Jerry M. Harris and Youli Quan, 2004, Adaptive Seismic Monitoring Using 3-D Cross Linear Arrays: Stanford GCEP Meeting, June 2004.
- [14] Liu, L., J. W. Lane, Y. Quan, 1998, GPR attenuation tomography using the centroid frequency downshift method: Journal of Applied Geophysics, Vol 40, Pages 105-116
- [15] Shih, T.C., A.P. Yang, C.T. Cheng, Y. Quan, G. F. Lu, B. Wang, D.L. Martin, and E.M. Hussey, 1998, Geostatistical Evaluation of QHD 32-6 Oil Field, SPE 48879, SPE International Meeting on Petroleum Engineering, Beijing, China.
- [16] Quan, Youli & Yang, An-Ping, 1997, Multiresolution shaping filters with application to geostatistics: Expanded Abstracts of the 67th SEG meeting.
- [17] Quan, Youli & Jerry M. Harris, 1997, Seismic attenuation tomography using the frequency shift method: Geophysics, Vol. 62, No. 3, Pages 895-905.
- [18] Chen, Xiaofei, Youli Quan & Jerry M. Harris, 1996, Seismogram synthesis for radially layered media using the generalized reflection/transmission coefficients method: Geophysics, Vol. 61, No 4, Pages 115 -1159.
- [19] Quan, Youli, Chen, Xiaofei & Harris, Jerry M., 1996, Elastic waves in complex radially symmetric media: Expanded Abstracts of the 66th SEG meeting.
- [20] Harris, Jerry M., Yin, Feng & Quan, Youli, 1996 Enhanced oil recovery monitoring using P-wave attenuation: Expanded Abstracts of the 66th SEG meeting.
- [21] Quan, Youli, Xiaofei Chen & Jerry M. Harris, 1995, Normal modes in radially multi-layered media and application to attenuation estimation from the stimulated mode acoustic log: Expanded Abstracts of the 65th SEG meeting.
- [22] Quan, Youli, Jerry M. Harris & Xiaofei Chen, 1994, Acoustic attenuation logging using centroid frequency shift and amplitude ratio methods: A numerical study: Expanded Abstracts of the 64th SEG meeting.
- [23] Quan, Youli & Jerry M. Harris, 1992, Frequency shift transform: Extended Abstracts of the 62th SEG meeting.
- [24] Quan, Youli & Jerry M. Harris, 1991, Orthogonal coded signals as simultaneous source signatures: Report of Seismic Tomography Project at Stanford University, Vol. 2, No.1.
- [25] Quan, Youli & Teng, Jiwen, 1986, Computation of Gaussian beam seismograms by a combined method: Geophysics in China, Vol. 35, No. 2.
- [26] Cerveny, V. et al, Ray methods in seismology, translated from English to Chinese by Liu, Futian, Hu, Ge, & Quan, Youli et al, 1985.