Karl L. Schleicher

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Objective

I am interested in the practical development, implementation, and commercialization of seismic processing technology.

Experience

2011-Present TCCS, Bureau of Economic Geology, University of Texas at Austin

I am building an open data/open source library to assist testing and validation of new seismic research. The library contains data that can be downloaded from the internet and scripts to process the data. The scripts provide detailed processing sequences and parameters to process using open software packages.

2007-2010 PGS, Houston. AGS VP Technology.

PGS purchased AGS in October 2007 and was very successful leveraging AGS' unique technology with their broad geophysical service product line and world wide industry presence. As AGS VP Technology, I lead the research and development effort to shepherd the AGS beam migration technology into PGS. Key portions of this effort were porting the software from Solaris Sparc systems to Linux X86 systems, improving software configuration management (e. g. separating development from production, improving error handing, defining release cycles), convention papers, and integrating with PGS migration research staff. Beam migration was integrated with PGS holoSeis visualization software and larger compute servers to provide interactive depth migration for velocity model building. This product was featured in journal advertizements and at conventions as “HyperBeam”.

2002–2007 AGS, Houston. VP Technology.

AGS was a small seismic processing company based on a unique program, 3D Beam migration. The company's success was due to our ability to quickly process data and the quality of our results especially in poor data quality areas. I joined the company just as the product started to gain market acceptance and started to rapidly grow. My contributions were to make the programs easier to use, scale them to run on larger computer clusters, extend them to handle wide azimuth and anisotropy, and improved the accuracy. The company grew rapidly and a few companies became interested in acquiring AGS. AGS could provide a proven, unique technology and the large company could provide access to clients and a broader product line. During the acquisition I participated in due diligence to audit finances and intellectual property.

2001–2002 PGS, Houston. Research Project Manager, Time Velocity Analysis.

Velocity analysis and model building is one of the most labor intensive and time consuming tasks in seismic processing. PGS gave me broad scope to plan and implement a project to reduce labor and cycle time, improve quality, and address emerging requirements. I was an outsider and I spent months building an understanding of the current software and the problems faced. I was only there for a year, but we created a plan and started on the code the interactive velocity analysis program. Two key team members completed the project after I left.

1996–2001 Geophysical Development Corporation, Houston. Director Research.

In the spring of 1998 we used new technology, including interpolation, calibrated scaling, and new migration options to process a large deep water project for Mobil.

1994–1996 Western Geophysical, Houston. Senior Research Geophysicist.

In late 1995 I developed and deployed the wavefront construction method of computing 2-D and 3-D prestack depth migration traveltime using raytracing. I drew from 2-D code developed by the Stanford Exploration Project.

1989–1994 Halliburton Geophysical Services, Houston. Research Geophysicist.

Project leader of parallel processing research and development project. We deployed software on RS6000 computers channel attached to IBM System 390 to significantly reduce cost for one pass 3-D migration. We used the same software on stand alone RS6000 clusters and IBM SP1 computers.

1986–1989 Geophysical Service Inc. Dallas. Advanced Technology Group Manager.

Integrated testing group with programmers and researchers to improve development time.

1983–1986 Geophysical Service Inc. Dallas. Navigation Processing Manager.

Addressed quality problems by introducing new display products and processing algorithms. Made technical presentations at conventions to improve client confidence.

1980–1983 Geophysical Service Inc. Dallas. Geophysicist, Advanced Technology Group.

Tested and deployed FK filtering, migration, deconvolution, and inversion programs. Made my first technical presentations at SEG and EAGE conventions.

1978–1980 Geophysical Service Inc. London. Analyst, Geophysical Input Systems Group.

Coordinated development of an input system for 3-D seismic processing used until division was sold to Western Geophysical in 1994.

1978–1980 Geophysical Service Inc. Houston. Geophysicist, Marine Processing Group.

Helped processed the industry's first 3-D marine survey.

Education

M.S. Management – Operations Research, University of Texas at Dallas, 1988

B.S. Mathematics, University of Houston, 1974

Special Skills

Scientific programming in Fortran, Excel, C, C++, and Java.
Wave equation and signal processing techniques.
Practical parallel computing experience.
Good oral and written communication skills.
Seismic processing, processing oversight, and trouble shooting.
Business and financial analysis.

Technical Papers

Schleicher, K., Cramer, J., Gerrard, C., Jiao, J., Lin, S., Sosa, A., and Zhou, C., 2009, Model Building for tilted transverse anisotropic depth migration of the Crystal, Gulf of Mexico wide azimuth survey, Presented at the 2010 EAGE and the 2009 Subsalt Imaging Workshop, Cairo.

Sherwood, J.W.C., Sherwood, K., Tieman, H., and Schleicher, K., 2009, 3D prestack depth migration with examples from around the world, The Leading Edge 28, 1120-1127. Also presented at 2008 SEG and EAGE conventions.

Junru, J., Sonny, L., Zhou, C., Brandsberg-Dahl, S., Schleicher, K., and Tieman, H., 2009, Multi-parameter controlled automatic picking and variable smoothing for tomography with fast 3D beam prestack depth migration, SEG Expanded Abstracts, 3989-3993.

Schleicher, K. L., 1997, Conjugate gradient DMO and other techniques that attenuate the 3-D acquisition footprint, presented at the 1997 SEG Summer Research Workshop.

Schleicher, K. and Kapoor, J., 1995, Building 3-D velocity models for imaging beneath salt structures, Presented at the 1995 Gulf Cost SEG.

Meinardus, H.A. and Schleicher, K.L., 1995, 3-D time-variant dip moveout by the f-k method, in Hale, D., Ed., DMO processing: SEG, 362-373. (reprinted from Geophysics, 58, 1030-1041). Also presented at the 1991 SEG, 1992 CSEG, 1992 EAEG, and 1992 Congresso Venezolano De Geophisica.

Black, J.L., Schleicher, K.L. and Zhang, L., 1995, True-amplitude imaging and dip moveout, in Hale, D., Ed. DMO processing: Society of Exploration Geophysicists, 448-467. Geophysics, 58, 47-66, presented at the 1989 GC SEG.

Schleicher, K.L., Kapoor, S.J., Albertin, U.K., Fowler, P.J. and Ward, L.J., 1995, 3-D depth migration of the Mahogany survey: A case history: Annual Meeting Abstracts, Society of Exploration Geophysicists, 1165-1167.

Schleicher, K., Copeland, J., Noponen, I., and Dowell, D., 1993, Seismic processing on a parallel RISC computer, Presented at the 1993 SEG summer workshop, and 1993 Annual Meeting Society of Exploration Geophysicists.

Schleicher, K. and Copeland, J.T., 1993, Parallel one pass 3-D migration: Annual Meeting Abstracts, Society of Exploration Geophysicists, 174-176.

Schleicher, K.L., Meinardus, H.A. and Snyder, F.F.C., 1993, WKBJ phase shift migration: 61st Mtg Eur Assoc. Expl. Geophys., Extended Abstracts, European Association of Geophysical Exploration.

Schleicher, K.L., Hall, D.A. and Hague, J.F., 1993, Parallel 3D migration on mainframe attached workstations: 61st Mtg Eur Assoc. Expl. Geophys., Extended Abstracts, European Association of Geophysical Exploration.

Meinardus, H., Schleicher, K., and Sudhakar, V., 1992, A processing sequence for turning wave imaging: Annual Meetng Abstract, Society of Exploration Geophysicists, 988-991.

Menardus, H.A. and Schleicher K. and Brzostowski, M. A., 1992, FK DMO for depth variable velocity, 61st Mtg Eur Assoc. Expl. Geophys., Extended Abstracts, European Association of Geophysical Exploration, 230-231, also presented at the 1992 Congresso Venezolano De Geoficica, 1991 SEG and 1992 CSEG.

Lee, H., Schleicher, K.L. and Meinardus, H., 1992, Refined Dix approach for seismic velocity: Annual Meeting Abstracts, Society of Exploration Geophysicists, 1206-1209.

Brzostowski, M.A., Zakharaov, P.V., Mills, G.F. and Schleicher K.L., 1991, A comparative study of pre-salt imaging techniques in the pre-Caspian basin, Annual Meeting Abstracts, Society of Exploration Geophysicists, 195-196. Also presented at the 1991 EAGE and 1991 CSEG meetings.

Schleicher, K.L., Grieger, D.J., and Brzostowski, M.A., 1991, Migration velocity analysis: A comparison of two approaches, Annual Meeting Abstracts, Society of Exploration Geophysicists, 1237-1238, 1991 Extended Abstracts, EAGE, 562-563, and 1991 GC SEG meeting.

Schleicher, K. and Brzostowski, M.,1990, Recent advances in seismic imaging, presented at the 1990 CSEG,1990 Congreso Venezolano De Geoficica, and 1991 Australian SEG.

Egan, M., Schleicher, K., Meister, L., 1989, Recent advances in collecting and processing 3-D marine surveys, presented at the 1989 Brasileira de Geofisica.

Black, J.L. and Schleicher, K., 1989, Effect of irregular sampling on prestack DMO: Annual Meeting Abstracts, Society of Exploration Geophysicists 1144.

Schleicher, K., Grygier, D.J. and Iwamoto, T., 1988, Prestack migrastion for improved velocity analyses: Annual Meeting Abstracts, Society of Exploration Geophysicists and 1998 CSEG.

McConnel , J.R., Potts, M.J., Schleicher, K.L., and Wason, C.B., 1986, Dispersive noise attenuation: Annual Meeting Abstracts, Society of Exploration Geophysicists.

Cotton, W.R., Schleicher, K.L., Ridyard, D., and Spinelli, J.J., 1985, Accuracy in marine streamer positioning: Annual Meeting Abstracts, Society of Exploration Geophysicists and 1986 GC SEG.

Potts, M., Schleicher, K., Wason, C., and Ellender, S., 1982, Prestack wavelet deconvolution: Annual Meeting Abstracts, Society of Exploration Geophysicists and 1983 CSEG and 1983 Midwest SEG.