KIDANE ARAYA

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Objective

A position as a research, processing geophysicist and/or programmer specializing in Depth Imaging, Inversion and AVO analysis.

Experience

RICE UNIVERSITY — 1999-Present
Houston, TX

Visiting Scientist at the Dept. of Geology and Geophysics. Involved in Seismic Data Acquisition, Processing and Code Development for Prestack Depth Migration.

PGS TENSOR — 1998-1999
Houston, TX

Senior Research Geophysicist at the 3D Depth Imaging Group. Testing and evaluating 3D Depth migration algorithms. Processed 3D Data from the over thrust belt in the Rockies. Processed 16 component land vertical cable data from a synthetic model representing the Gullfaks field in the North Sea, treating the first layer as rock. Used the Marathon Salt Model and other proprietary models to evaluate 3D traveltime computation by Ray Tracing, eikonal solvers and wavefront expansion methods. Conducted quality control study of 3D Land seismic data from Oklahoma and Texas.

RICE UNIVERSITY — 1995-1998
Houston, TX

Research Scientist at The Rice Inversion Project of the Department of Computational and Applied Mathematics. Involved in code development and seismic data processing using ProMAX™, Seismic Unix and The Rice Inversion Project softwares. Main focus Depth Imaging and AVO analysis.

COLORADO SCHOOL of MINES — 1994
Golden, CO

Research Associate at the Department of Geophysics. Involved in elastic wave studies by asymptotic and Generalized ray methods. Work will be published in one of Dr. F.A. Hadsell's books.

EXXON PRODUCTION RESEARCH COMPANY — 5/1992-9/1992
Houston, TX — 5/1991-9/1991

Research Assistant- Developed visco-elastic wave modeling and migration/inversion algorithms. Applied inversion theory in seismic data from the Gulf of Mexico.

MOBIL RESEARCH LABORATORY — 5/1990-9/1990
Dallas, TX

Research assistant I. Developed 3-D time migration techniques. Process 3-D marine data from the Gulf of Mexico using this code.

NATIONAL OIL & GAS EXPLORATION PROJECT — 1982-1983
Dire Dawa, Ethiopia

Jr. Geophysicist - Assisted with geophysical well logging with the Soviet Petroleum

Exploration Expedition in Ethiopia in the Ogaden Basin. Responsible for field data acquisition, processing and preliminary interpretation.

ETHIOPIAN INSTITUTE OF GEOLOGICAL SURVEY 1979-1982
Addis Ababa, Ethiopia

Geophysicist - Responsible for Conducting geophysical data acquisition (electrical, gravity and magnetics). Directed and supervised field party which conducted seven ground water investigations and two engineering geophysical investigations.

ADDIS ABABA UNIVERSITY 1978-1979
Bahr-Dar Academy of Pedagogy

Bahr-Dar Ethiopia

Graduate Assistant - Taught Level 1 and Level 2 Physics courses. Directed physics laboratory classes also.

ADDIS ABABA UNIVERSITY 1977-1978
Addis Ababa, Ethiopia

Lab instructor - Directed physics laboratory classes for Level 1 and Level 2 Physics courses.

Education

COLORADO SCHOOL OF MINES Ph.D. Geophysics 12/1993
Golden, CO

Doctorate thesis: Comparison of Asymptotic and Generalized Ray Analysis of Horizontally Polarized Shear Waves.
Advisor: Dr. F.A. Hadsell.

COLORADO SCHOOL OF MINES M. Sc. Geophysics 5/1986
Masters thesis: Seismic investigation of the Southern Red Sea.
Advisor: Prof. R.L. Sengbush.

ADDIS ABABA UNIVERSITY B. Sc. Physics 7/1978
Addis Ababa, Ethiopia

Publications

"True Amplitude ray tracing along the strike of a 2.5D earth model," SEG abstract 1989.

"Prestack inversion of common-offset strike data," SEG abstract 1990.

"Linear visco-elastic inversion of seismic data from the Gulf of Mexico" EPR proprietary report, 1992.

"Comparisons of asymptotic and generalized ray analysis of horizontally polarized shear waves" SEG abstract 1993.

"2D and 2.5D Kirchhoff inversion using upwind finite difference amplitudes," SEG abstract 1996.

"Acoustic Asymptotics and AVO," SEG abstract 1998.

Personal

Holds valid U.S. work permit. Active Member of Society of Exploration Geophysicists. Experienced with C, FORTRAN and UNIX. Familiar with MATLAB.

References

Available upon request. January 2000.