

## Seismic Reflection Processing Workshop

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A 2-day workshop was presented to a class of 17 university students, faculty, and staff from IRIS institutions at the University of Portland on 7-8 June 2005. The workshop was arranged by John Taber (IRIS), Bob Butler (UP), and Cathy Snelson (UNLV) and was assisted by Matt Ralston (of the Parallel Geoscience Corp). This was an interactive, computer-based course of instruction in fundamentals of seismic reflection processing. It was designed to extend the understanding of principles taught by lectures in an introductory college course in seismic exploration.



The course objective was to come to an understanding, through a hands-on processing experience, of the consequences of model simplifications and mathematical assumptions imposed on the real earth during the processing of seismic data. Course notes were contained within the book, *A Lab Manual of Seismic Processing* (EAGE, 2004). Each student received his own copy. The book included an attached CD-ROM containing the complete Seismic Processing Workshop (SPW) software package used in the workshop and keyed to the workshop seismic data set, the seismic data set itself, and all intermediate processing results generated in the Lab Manual.

Instruction consisted of a sequence of 12 labs taking students from trace gathering through semblance velocity analysis, NMO correction and stacking, muting records, testing and applying statistical deconvolution, residual static correction, statics correction/velocity analysis iteration, and post-stack time migration. Morning and afternoon computing sessions were supplemented by an evening discussion of the classical understanding of the response of a thin-bed (the Widess model) contrasted with new insights from spectral decomposition methods.