

GEORGE R. MELLMAN  
SENIOR RESEARCH SCIENTIST  
NORTHWEST RESEARCH ASSOCIATES, INC.  
BELLEVUE, WASHINGTON

### **Academic background**

Massachusetts Institute of Technology	S. B.	1971	Physics
Massachusetts Institute of Technology	S. B.	1971	Math
California Institute of Technology	M.S.	1973	Geophysics
California Institute of Technology	Ph.D.	1979	Geophysics

### **Positions and Honors**

Northwest Research Associates, Inc., - Bellevue, WA Senior Research Scientist	2002 – present
Insightful Inc., - Seattle, WA (Formerly MathSoft) Senior Vice President of Research	1995 – 2001
Grm Consulting - Woodinville, WA Consultant	1993 - 1995
Sierra Geophysics, Inc., - Kirkland, WA Vice President, Research	1979 - 1993 1985 - 1993
California Institute Of Technology - Pasadena, CA Visiting Associate	1971 - 1980 1979 - 1980
Post-Doctoral Fellow	1978 - 1979

### **Selected Peer Reviewed Publications**

Le Bras, R., G.R. Mellman and M. Peters, Wavelet Transform Method for Downward Continuation (expanded abstract), presented at the 62nd Annual International Meeting of Society of Exploration Geophysicists, 1992.

Henry, M., and G.R. Mellman, Linearized Simultaneous Inversion for Source Wavelet Equalization and Mis-Tie Adjustment (expanded abstract), presented at the 58th Annual International Meeting of Society of Exploration Geophysicists, 1988.

Wallace, T.C., D.V. Helmberger and G.R. Mellman, A Technique for the Inversion of Regional Data in Source Parameter Studies, *J. Geophys. Res.*, 86, 1676-1685, 1981.

Mellman, G.R., A Method of Body-Wave Waveform Inversion for the Determination of Earth Structure, *Geophys. J.R. Astr. Soc.*, 62., 481, 1979.

Mellman, G.R., and D.V. Helmberger, A Modified First Motion Approximation for the Synthesis of Body Wave Seismograms, *Geophys. J.R. Astr. Soc.*, 54 1978.

Burdick, L.J. and G.R. Mellman, Inversion of Body Waves from the Borrego Mountain Earthquake to the Source Mechanism, *Bull. Seism. Soc. Am.*, 66, 1485, 1976.

## **Ongoing Projects:**

Role of the stratosphere in amplifying the 11-year solar cycle- NASA NASW-02029  
2001-2003

This project has the goal of improving our understanding of how the solar cycle effects weather on the earth. Dr. Mellman acted as a co-investigator with responsibility for using signal processing and time series methods to predict behavior of the Quasi- Biennial Oscillation, an important component of stratospheric circulation.

Mesosphere-Stratosphere coupling: Implications for climate variability and trends,  
NASA  
NASW-03015. 2003-2005.

The goal of this project is improved understanding of the role of the stratosphere on climatic changes. Dr. Mellman is acting as a co-investigator, using signal processing, time series and inversion methods to predict the behavior of stratospheric winds.

## **Completed Projects:**

Dr. Mellman's position at Insightful (formerly Mathsoft) was primarily managerial, running a group of 40 (30 PhD's) in contract research on statistics, biostatistics, medical imaging and a variety of engineering disciplines, and converting this research to commercial products. This position was funded by overhead and while he had some technical involvement in a number of projects, this was not the major part of his position. He did however have significant technical involvement in one relevant project:

A software environment for medical image segmentation, NIH 5 R44 CA74670-03  
1998-2001.

The goal of this project was to produce a commercial system for segmentation of medical images for multiple modalities, including automatic computation of segment volume. This system was given 510k approval in 2001. Dr. Mellman was responsible for institutional oversight of the project, including the 510K approval portion.