

## NEMI: An Online Tool to Assist Methods Comparability

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### Biographical Sketches of Authors

Daniel J. Sullivan is a Hydrologist with the USGS with a background in water quality and information technology for Internet applications. He is currently the co-chair and database developer for NEMI, as well as Acting Co-Chair for the Methods and Data Comparability Board. He is also the Lead Scientist for the Upper Mississippi River, Ohio, and Great Lakes River Basin Regional Synthesis Team for the National Water-Quality Assessment Program.

Lawrence H. Keith has over 35 years of experience in environmental sampling and analysis including developing new methods, validating methods, and applying them to many specific projects. He also is past co-chair of the National Environmental Monitoring Index (NEMI) workgroup and contributes to the development of NEMI-CBR, a database of methods for chemical, biological, and radiological (CBR) methods. He began working with expert systems 20 years ago and is currently developing the CBR Methods Advisor for EPA's Water Security Division.

James Boiani is an Environmental Consultant with Computer Science Corporation (CSC). Mr. Boiani supports NEMI's design and development as a work assignment manager through CSC's EPA contracts. Mr. Boiani also serves as a Task Manager for EPA's Alternate Test Procedure program (which evaluates the comparability of new analytical methods to EPA-approved compliance monitoring procedures), and has served as the lead contractor on a number of EPA regulatory projects related to environmental chemistry and methods development.

Herbert J. Brass is the Analytical Methods Team Leader in USEPA's Office of Ground Water and Drinking Water. He is the Co-Chair of the Methods and Data Comparability Board, a sub-group of the National Water Quality Monitoring Council, whose goal is to achieve comparability, so that data can be assessed across programs and organizations. He also coordinates EPA's drinking water alternative test procedure program that evaluates methods for use in compliance monitoring.

### Abstract

The selection of analytical methods is a critical part of environmental monitoring program planning. During planning, monitoring objectives usually influence criteria for the program. Limitations of analytic techniques (e.g., sensitivity, selectivity, accuracy, precision, etc.) often determine the capability and evaluative power of the entire program, and hence proper selection of analytical methods is paramount. Comparing method quality and suitability from the methods themselves is difficult because method protocols contain detailed instructions, typically exist in different formats, are often lengthy, and may not contain all of the information needed to compare one method versus another. The National Environmental Methods Index (*NEMI*) was created to provide a database of method summaries that contain all the kinds of information necessary for method comparison.

*NEMI's* objective is to provide a user-friendly database of method summaries that is searchable over the Internet. Its development under the Methods and Data Comparability Board ensures that data on critical aspects of methods will receive multi-organizational review and meet interagency needs in this complex technical discipline. *NEMI* is not primarily a database of complete analytical methods. Rather, it is primarily a database of method summaries that include all available information from which to make a scientific comparison of one method versus another.

Secondarily, full methods of public domain methods can be downloaded directly from the database in PDF format. For commercially-available methods, links are provided to websites where these methods may be obtained.