

Walter E. Dean Environmental Information Management Institute

May 23 through June 10, 2011
University of New Mexico

Walter E. Dean Environmental Information Management Institute

Earn six credits in three weeks

When: Monday, May 23 -- Friday, June 10, 2011

Where: University of New Mexico, Informatics Training Laboratory

Who: This course is for MS students and professionals with a BS in biology, geology, ecology, or other environmental sciences, environmental engineering, geography or science librarianship

Scientists, engineers, and data librarians are working in an increasingly data-intensive research environment. The Environmental Information Management (EIM) Institute provides MS and PhD students and professionals with the conceptual and practical hands-on training that allows them to effectively design, manage, analyze, visualize, and preserve data and information. Participants completing the three-week Institute will be at a significant competitive advantage as they pursue further academic and professional efforts. They will gain invaluable experience with all aspects of the data life cycle: from managing data files and creating databases and web portals, through state-of-the-art analysis and visualization techniques, as well as managing, analyzing, and visualizing geospatial data.



REGISTRATION INFORMATION:
Space is limited. The Institute is comprised of three one-week courses for two credits each. Students must register for and attend all three courses. Graduate tuition rates apply. Open to non-UNM students.* For more information visit elibrary.unm.edu/courses or email Kathleen Keating (kkeating@unm.edu).

Week 1 Environmental Information Management INFO 530

A practical course on environmental information management and the data life cycle for the environmental sciences. Lectures and exercises focus on data and metadata acquisition and management, quality assurance/quality control, data preservation, database creation and management, and web portal development.

Week 2 Environmental Data Analysis and Visualization INFO 532

Lectures and exercises cover techniques for data exploration, data analysis and scientific workflows, and creation of effective visual representations of analytical results.

Week 3 Spatial Data Management in Environmental Science INFO 533

This hands-on course focuses on how geospatial data are effectively managed, analyzed, visualized and preserved in Geographic Information Systems.

*** Non UNM students must apply for non-degree status through UNM Admissions (\$10 fee) prior to registering for the Institute. Apply on-line at <http://www.unm.edu/admissions/guidelines/nondegree.html>. Graduate resident tuition rates apply to this course.**

Environmental Information Management Institute Faculty



Laura Arguelles is a senior web designer at the University of New Mexico. In addition to developing numerous high-profile web sites, she has extensive experience in teaching web design courses.



Rebecca Koskela is the Executive Director of DataONE at the University of New Mexico. Prior to this position, Rebecca was the Life Sciences Informatics Manager for Alaska INBRE and the Biostatistics and Epidemiology Core Manager for the Center for Alaska Native Health Research at the University of Alaska Fairbanks. In addition to her bioinformatics experience, Rebecca has over 25 years experience in high performance computing including positions at Sandia National Laboratories, Los Alamos National Laboratory, Cray Research and Intel.



Jim Regetz is the Lead Scientific Programmer at NCEAS, where he consults with a broad array of scientists facing quantitative and computational challenges. His research science activities all share a common thread of data analysis, modeling, and information management, with past and current projects including topics such as mapping and modeling ecosystem services, novel approaches to phylogenetic analysis, endangered species conservation planning, and spatial demography of fish populations. Regetz received a Masters degree in Environmental Science and Management from the University of California at Santa Barbara, and his Ph.D. in Ecology and Evolutionary Biology from Princeton University.



Karl Benedict directs the Earth Data Analysis Center at the University of New Mexico and is a Research Assistant Professor in UNM's Department of Geography. He is an expert in developing geospatial databases, performing geospatial and statistical analyses, developing web-based information delivery applications, and managing geographic information infrastructure and technology development projects across multiple domains (public health, resource management, hydro-climate research, atmospheric modeling, disaster planning and mitigation).



William Michener is Professor and Director of e-Science Initiatives for University Libraries at the University of New Mexico. He has published extensively in the ecological sciences and information sciences. He directs several large interdisciplinary research programs (New Mexico DOE- and NSF EPSCoR) and cyberinfrastructure projects including DataONE which focuses on developing information technologies for the biological, ecological, and environmental sciences.



William Shuart is an Instructor and Environmental Technology Coordinator in the Center for Environmental Studies at Virginia Commonwealth University. Along with directing the data infrastructure for the VCU Rice Center, Mr. Shuart teaches graduate courses in Environmental Remote Sensing and Environmental Applications of GIS and was an ESRI Authorized Instructor for 9 years. He has extensive experience in spatially and web enabling databases and his research focuses on ecological data management, and spatial analysis of landscape change on aquatic systems.



Amber E Budden is Director for Community Engagement and Outreach at DataONE where she facilitates working group activities, leads educational workshops and develops data management and best practices resources. Prior to joining DataONE, Dr Budden conducted ecological and sociological research at the University of California Berkeley and the National Center for Ecological Analysis and Synthesis, and taught at York University and the University of Toronto. Dr. Budden has also engaged in outreach within the non-profit sector, chairing the National Postdoctoral Association Publications committee for four years.



John Porter is the Information Manager and former Lead Investigator at the Virginia Coast Reserve Long-Term Ecological Research project. There he has been involved in the creation of wireless sensor networks and analysis of geographic data, as well as promoting the sharing of ecological data. He is a Research Associate Professor at the University of Virginia, where in addition to research, he teaches courses in Geographical Information Systems and Ecoinformatics.



Kristin Vanderbilt is the information manager for the Sevilleta Long Term Ecological Research (LTER) Program and is a Research Associate Professor in UNM's Department of Biology. For the last decade she has been actively involved with the information management community in the International LTER (ILTER) Network, which includes research sites in 40 countries. She has taught introductory ecoinformatics courses in several countries and served as the chair of the ILTER's Information Management Committee for three years.



Jeff Dickey is a Research Data Librarian and Assistant Professor at the UNM Libraries. His areas of expertise are geographic information systems (GIS) and data analysis. Jeff's research focuses on water rights, water resources, and the interaction of natural and human systems.

The 2011 EIM Institute is made possible by generous funding from Walter E. Dean. Dr. Dean, a UNM alumnus, has worked for the U.S. Geological Survey since 1975 on a variety of projects and is currently a research geologist in the Geology and Environmental Change Science Center in Colorado. Dean is a prolific researcher and author who has won numerous awards.