



US Army Corps
Of Engineers
Headquarters

IPET Leadership

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Interagency Performance Evaluation Task Force (IPET) Leaders

Project Director

Dr. Lewis E. (Ed) Link is a Senior Fellow in the R.H. Smith School of Business and Senior Research Engineer in the Department of Civil and Environmental Engineering, University of Maryland. He is also a senior consultant to Toffler Associates where he is engaged in strategic and future studies in government and industry. Dr. Link was a senior executive in various research and development positions in the U.S. Army Corps of Engineers from 1986 to 2002, rising to the position of Director of Research and Development. His varied engineering expertise includes emphasis on Antarctic engineering applications. He received his B.S. in geological engineering from North Carolina State University, his M.S. in civil engineering from Mississippi State University, and his Ph.D. in civil engineering from Pennsylvania State University.

Technical Director

Dr. John Jaeger is Chief of the Engineering and Construction Services Division of the Huntington (WV) District, U.S. Army Corps of Engineers. He directs a staff of 225 and is the senior civilian responsible for design, construction, dam safety, water management, flood protection, and environmental enhancement and restoration projects in a 45,000-square-mile area. Dr. Jaeger has 25 years of experience in research, design, construction, review and evaluation of water resource and construction projects; he has also worked hurricane response and recovery missions. He received his B.S. and M.S. in civil engineering/structural engineering from the University of Missouri at Rolla, a M.B.A. from Nova Southeastern University, a M.A. in strategic studies from the Army War College, and his Ph.D. in engineering from The Ohio State University.

Project Manager

Jeremy Stevenson is a civil engineer in the Cost Engineering Section of the Huntington (WV) District, U. S. Army Corps of Engineers. His expertise is in cost engineering and project management for large civil works projects, including all phases of life cycle cost estimating, project scheduling and management. He has life cycle cost engineering expertise on navigational locks, dams, floodwalls, levees, and nonstructural flood proofing. Stevenson received his B.S. in civil

engineering from the West Virginia Institute of Technology and his M.S. in engineering from Marshall University.

Task Team Co-leaders

Data Collection and Management Team

Denise Martin is a computer scientist at the U.S. Army Engineer Research and Development Center. Her research expertise is focused on the development of information sharing architectures involving key issues of information portability, modularity, scalability, and interoperability. She has been actively involved in requirements identification and analysis, development, enhancement, and implementation of Computer-Aided Drafting and Design (CADD), Geographic Information Systems (GIS), and relational database management as they apply to business, engineering, management and research and development projects within the Corps of Engineers and other federal, state, and local government organizations. Martin has a B.S. in mathematics and computer science and a M.S. in computer science, all from Mississippi State University.

Dr. Reed L. Mosher is a Senior Scientific Technical Manager at the U.S. Army Engineer Research and Development Center. He directs complex theoretical and applied research programs to develop advanced survivability and protective technologies for U.S. forces. He was involved in the assessment of bombing attacks at Oklahoma City, Khobar Towers (Saudi Arabia), and the U.S. embassies in East Africa. He has directed research and development related to the dynamic response of structures to blast and shock from conventional and nuclear weapons, seismic effects from earthquakes, and hydraulic loads from fluid flow. Dr. Mosher earned his B.S. in civil engineering from Worcester Polytechnic Institute, his M.S. in civil engineering from Mississippi State University, and his Ph.D. in civil engineering from Virginia Polytechnic Institute and State University.

Geodetic Vertical and Water Level Datum Assessment

James Garster is team leader in the Geospatial Applications Branch at the U.S. Army Engineer Research and Development Center. He is also coordinator for the U.S. Army Corps of Engineers Surveying and Mapping Community of Practice. Garster assists Corps offices across the country with surveying and mapping support. As a member of the Federal Geodetic Control Subcommittee, Vertical Reference Systems Group, he is assisting with implementation of NAVD88 datum and is devising procedures to meet geodetic vertical requirements using the Global Positioning System. He earned his B.S. in mathematics from the University of Rhode Island and his M.S. in survey engineering from the University of Maine.

David Zilkoski is the Director of the National Geodetic Survey, National Ocean Service, National Oceanic and Atmospheric Administration (NOAA). He has

been with NOAA since 1974. Zilkoski has overseen the development and technology transfer of new technologies, including the Shallow Water Positioning System, the incorporation of geodetic data and procedures to determine accurate elevation models, and the use of GPS, LIDAR and IFSAR to generate shoreline and other coastal information. He has authored numerous publications on coastal subsidence, surveying, and vertical datum issues. Zilkoski received a B.S. in forest engineering from Syracuse University and an M.S. in geodetic science from The Ohio State University.

Hurricane Surge and Wave Analysis

Bruce Ebersole is Chief of the Flood and Storm Protection Division at the U.S. Army Engineer Research and Development Center. He directs basic and applied research and engineering studies in the areas of coastal and estuarine hydrodynamic and sedimentation processes, field data acquisition, and hydrology/surface water/groundwater interactions. Ebersole's personal research career has focused on tidal circulation, storm surge, nearshore wave transformation, and beach/inlet processes with a focus on numerical model development and application. He earned both his B.S. in civil engineering and his M.S. in civil engineering (with emphasis on coastal engineering) from the University of Delaware.

Dr. Joannes Westerink is an associate professor in Civil Engineering and Geological Sciences at the University of North Carolina. He is the co-developer of the advanced circulation model, ADCIRC, and has extensive research and engineering expertise in hurricane storm surge prediction, tidal hydrodynamics, modeling of circulation and transport in coastal areas and oceans, finite element methods, and computational fluid mechanics. Dr. Westerink received his B.S. and M.S., both in civil engineering, from the State University of New York at Buffalo and his Ph.D. in civil engineering from the Massachusetts Institute of Technology.

Hydrodynamic Forces Analysis

Dr. Robert Dean is an Emeritus Graduate Research Professor in the Civil and Coastal Engineering Department at the University of Florida. He is a national expert on beach erosion problems, wave theories, tidal inlets and coastal structures. In 2005, Dr. Dean chaired the National Research Council Committee on the Restoration and Protection of Coastal Louisiana. He received his B.S. in civil engineering from the University of California at Berkeley, his M.S. in physical oceanography from Texas A&M University, and his Ph.D. in civil engineering from the Massachusetts Institute of Technology.

Dr. Don Resio is a Senior Technologist at the U.S. Army Engineer Research and Development Center. He has been involved with performing and directing engineering and oceanographic research for more than 30 years. Dr. Resio is the technical leader for the Coastal Military Engineering Program. He directs the Corps of Engineers MORPHOS project aimed at improving the predictive state of

the art for winds, waves, currents, surges, and coastal evolution due to storms. He is the leader of the Risk Analysis team for the Louisiana Coastal Protection and Restoration program. Dr. Resio is also the biannual co-organizer of the International Workshop on Wave Prediction and Hindcasting. He earned his B.A., M.S. and Ph.D. from the University of Virginia.

Geotechnical Structure Performance Analysis

Dr. Michael Sharp is the Technical Director for Civil Works Infrastructure at the U.S. Army Engineer Research and Development Center (ERDC). He has over 20 years experience in earthquake engineering, soil dynamics, engineering geophysics and centrifuge modeling. Dr. Sharp was previously the Director of the Centrifuge Research Center at ERDC. He earned a B.S. in biology from the University of Mississippi, a B.S. in civil engineering from Texas A&M University, a M.S. in civil engineering from Mississippi State University, and his Ph.D. from Rensselaer Polytechnic Institute.

Dr. Scott Steedman is a civil engineer and consultant based in London and is an expert in physical scale modeling of geotechnical problems. He and his scientific and engineering staff at Steedman & Associates Ltd. specialize in risk and disasters, forensic investigations, and urban engineering and research. Formerly a Fellow of St. Catharine's College and lecturer at Cambridge University, he was director of engineering for Sir Alexander Gibb and Partners and latterly director of civil engineering for designers Whitby Bird and Partners. Dr. Steedman received his B.S. from Manchester University and his M.S. and Ph.D. from Cambridge University, England.

Floodwall and Levee Performance Analysis

Dr. J. Michael Duncan is a University Distinguished Professor and Director of the Center for Geotechnical Practice at Virginia Polytechnic Institute and State University. His research interests have focused on slope stability, soil-structure interaction, design and analysis of foundations, strength and deformation properties of soils, finite element analyses of stresses and deformations in earth masses, and seepage through soil. He has authored more than 200 publications in the area of geotechnical engineering. Dr. Duncan received his B.S. and his M.S. from the Georgia Institute of Technology and his Ph.D. from the University of California at Berkeley.

Dr. Reed L. Mosher is a Senior Scientific Technical Manager at the U.S. Army Engineer Research and Development Center. He directs complex theoretical and applied research programs to develop advanced survivability and protective technologies for U.S. forces. He was involved in the assessment of bombing attacks at Oklahoma City, Khobar Towers (Saudi Arabia), and the U.S. embassies in East Africa. He has directed research related to the dynamic response of structures to blast and shock from conventional and nuclear weapons, seismic effects from earthquakes, and hydraulic loads from fluid flow. Dr. Mosher earned his B.S. in civil engineering from Worcester Polytechnic

Institute, his M.S. in civil engineering from Mississippi State University, and his Ph.D. in civil engineering from Virginia Polytechnic Institute and State University.

Pumping Station Performance Analysis

Robert Howard is Director of Operations for the South Florida Water Management District, which includes hurricane and flood protection for the Miami and Dade County area. He has been working in the water management field since 1988. Howard provides operational control and monitoring of water control structures and water bodies for flood control, water supply and environmental enhancement. He leads an operational planning team that investigates potential areas of operational flexibility as well as operation of the district's emergency Operations Control Center, meteorological analysis section, communications and computer control system, and a real-time decision support system. Howard earned his B.S. in civil engineering from the University of Florida and his M.S. in civil engineering from the Georgia Institute of Technology.

Brian L. Moentenich is the national mechanical design expert for hydroelectric and large pump houses for the U.S. Army Corps of Engineers. Working in the Hydroelectric Design Center at the Corps' Portland District, he has more than 31 years experience in design, acquisition, installation, testing and repair/rehabilitation of large hydro-turbines and pumps. Since the Corps owns and operates some of the largest pumps in the world to supply attraction water for salmon in the Pacific Northwest, Moentenich has been involved in the inspection, testing and repair of pumps that are rated at more than twice the capacity of the largest pump in the New Orleans/Southern Louisiana area. He received his B.S. in mechanical engineering and applied science from Portland State University and his M.S. in mechanical engineering from The Ohio State University.

Interior Drainage/Flooding Analysis

Steve Fitzgerald is the Chief Engineer for the Harris County Flood Control District, which encompasses the Houston, TX, metro area. He developed and updates the district's Policy, Criteria, and Procedure Manual and is currently managing the comprehensive district's Urban Stormwater Management Study. Fitzgerald also serves as the manager of the Harris County Flood Control District's flood watch and information program, which monitors and evaluates actual flood events. He received a B.S. in civil engineering from Stanford University and a M.S. in civil engineering from the University of Illinois at Urbana-Champaign.

Jeff Harris is the Chief of the U.S. Army Corps of Engineers' Hydrology and Hydraulics Technology Division, Institute for Water Resources, Hydrologic Engineering Center (HEC), at Davis, CA. He is responsible for overseeing the development, training and application of various HEC developed models, including HEC-RAS (one-dimensional steady and unsteady flow applications), HEC-HMS (event and continuous simulation rainfall-runoff), Geo-HMS (a GIS

pre-processor for HMS), GeoRAS (GIS pre- and post-processor for RAS) and HEC-SSP (new frequency analysis application). Harris supervised the development of hydraulic models for studies of California's Central Valley after the January 1997 floods and has worked as the Corps liaison with the California Department of Water Resources in multiple flood events. He received his B.S. in atmospheric science from the University of California at Davis.

Consequence Analysis

Dr. Patrick Canning is a Senior Economist at the Economic Research Service, U.S. Department of Agriculture. His research emphasizes economic systems modeling with a recent focus on the geography of U.S. food distribution. Dr. Canning co-developed a multiregional applied general equilibrium model of the U.S. economy for analysis of food markets. His contributions in applied mathematical programming are being used to facilitate analysis that links multiregional economic flow accounts to physical process models, such as disease spread or freight routing models. He received B.S. and M.S. degrees in agricultural and resource economics at the University of Maryland and his Ph.D. in economics from George Washington University.

Dr. David A. Moser is the Chief Economist for the U.S. Army Corps of Engineers and Senior Team Leader—Economics at the Institute for Water Resources where he conducts research in economic methods related to benefit-cost analysis and risk analysis methods for water resources. Moser was instrumental in developing the risk analysis procedures for major rehabilitation, flood damage evaluation, and dam safety programs and led the development of such risk assessment computer models as IWR-Repair, a hydropower major rehabilitation model, and NavSym, a navigation traffic simulation model. He is currently working on the development of a risk analysis model to evaluate hurricane protection and storm damage reduction benefits (*Beach-fx*). Moser received a B.A. in economics from Wittenberg University, a M.A. degree in economics from the University of Toledo, and a Ph.D. in economics from the University of Cincinnati.

Risk and Reliability Analysis

Jerry Foster is President of Foster Engineering Services. He has more than 34 years of experience in a broad range of structural engineering issues including risk and reliability analysis of civil works structures; design, evaluation and construction of dams, navigation and flood control structures; structural reliability of aging structures; computer analysis of civil works structures and the design of buildings. His experience includes more than 30 years with the U.S. Army Corps of Engineers. Foster earned his B.S. from the University of Maryland.

Bruce C. Muller, Jr. is the Chief of the Dam Safety Office for the Bureau of Reclamation. He is a national leader in the development and implementation of risk-based analysis methods for evaluating the safety of dams. He is responsible for the safety of more than 350 dams throughout the 17 western states. Muller also has 21 years experience in the design of dams.

He received his B.S. in civil engineering at Purdue University and his M.S. in water resources management from Colorado State University.