

ABBAS GHASSEMI

EXECUTIVE DIRECTOR OF WERC

Dr. Abbas Ghassemi is currently the Executive Director of the New Mexico WERC, a Consortium for Environmental Education and Technology Development, at New Mexico State University. As Director of WERC, he is the Chief Operating Officer for programs of over \$10-million annually in education and research, managing activities between 4 academic institutions, 2 National Laboratories and several industrial organizations. He is responsible for administrative duties, operation, budget, planning, and personnel supervision for the program. Dr. Ghassemi is also responsible for formulation, coordination, and implementation of WERC's activities. In addition, he is responsible for interaction and involvement of seventy (70) industrial and government agencies in all aspects of the WERC programs. Dr. Ghassemi initiated, developed and continues to have primary responsibility for the International Environmental Design Contest that has been hosted at New Mexico State University for the past eleven years. This unique, national program with a budget of \$1 million annually is primarily funded by industry and incorporates real world environmental challenges into education and research. Approximately 400 students, 50 faculty, 40 universities, and 70 industrial organizations participate in the competition. Previously Dr. Ghassemi was the Director of Research and was Director Special Projects and Tech Transfer for WERC. As Director of Research, Dr. Ghassemi initiated and directed several major projects totaling \$4-5 million annually.

As Director, Dr. Ghassemi has directed a number of research projects varying from risk perception to environmental restoration. These projects, ten to fifteen funded annually, focus on all aspects of environmental disciplines. These projects involve more than 40 faculty members from Colleges of Engineering, and other colleges at the consortium member institutions. There are more than 100 graduate and undergraduate students involved in these research projects on an annual basis. Many of these projects have received national recognition for technical excellence as well as development/demonstration of technologies that solves state, Industrial, DOE, and other Federal agency problems.

As a researcher, Dr. Ghassemi has initiated and completed research projects in risk based decision-making, waste utilization, and properties of two-phase fluids. These projects have resulted in involvement with and supervision of five masters thesis, four Ph.D. dissertations, two post-doctoral candidates, and a number of under-graduate student projects. Additionally, a number of peer reviewed papers, book chapters, and conference presentations have resulted from these activities. Dr. Ghassemi has initiated and completed several research projects that have resulted in technology transfer and economic development. These projects include: heavy metals detection systems and innovative nitrate remediation process. As a professor in chemical engineering, Dr. Ghassemi has taught a number of classes in chemical and environmental engineering. These include process control and optimization, engineering economy, thermodynamics, pollution prevention, risk assessment, decision theory, and environmental management and restoration. Dr. Ghassemi has conducted a number of training programs in the environmental health, risk assessment and decision theory.

Dr. Ghassemi has served as a consultant in the pollution prevention and waste minimization area for a number of industries throughout the southwestern United States. He is currently the Director for the New Mexico pollution prevention assistance center. He has also successfully lead and managed a number of peer-reviewed scientific evaluations of environmental programs for the U.S. Department of Energy, the national laboratories, the U.S. EPA and industry. He has developed an innovative model for decision-makers to address highly complex issues. Dr. Ghassemi has extensive experience in:

- Risk assessment and decision theory
- Pollution control technology, prevention, and energy efficiency
- Process control, management, and modification
- Waste management and environmental restoration
- Technical management and strategic planning

Prior to joining NMSU/WERC in 1989, Dr. Ghassemi was employed for over 10 years by Monsanto, a major chemical company, and its subsidiary, Fisher Controls, Intl., a major process control company. Dr. Ghassemi was involved in activities ranging from project and technical, to marketing management. He was responsible for managing a number of projects in sensors, environmental control and other process control equipment. Dr.

Ghassemi served as the technical director for the measurement instrumentation division where he was responsible for design, development, testing, and evaluation of measurement instruments including transmitters, sensors, transducers, and other measurement equipment. For five years prior to joining NMSU, Dr. Ghassemi was in charge of worldwide technical marketing for sensors and environmental control equipment and other products. In the early to mid 80's, Dr. Ghassemi served as a technical consultant in process control instrumentation for many world areas including the Far East and Mideast countries. He also served as application specialist for chemical/petrochemical and pulp and paper industries.

Dr. Ghassemi has over 75 publications and papers in the areas of waste management, process control, sensors, thermodynamics, transport phenomena, education management and innovative teaching methods. Dr. Ghassemi's research areas of interest include risk-based decision making, pollution prevention, multiphase flow and process control. Dr. Ghassemi has acquired national recognition for initiating and conducting the International University Environmental Design Contest. Dr. Ghassemi serves on a number of public and private boards, as a peer review panel member for DOE and EPA and is currently on technical advisory committee for Los Alamos National Laboratory and Hazardous Substance Research Center.

EDUCATION:

BS, Chemical Engineering, Minor in Mathematics, University of Oklahoma, 1979

MS, Ph.D., Chemical Engineering, Minor in Experimental Statistics, New Mexico State University, 1989, 1990

EXPERIENCE:

WERC Executive Director, 1999 - present

WERC, Director of Research and Professor of Chemical Engineering, 1996 – September 1999

WERC, Director Special Projects and Technology Transfer, 1989 - 1996

GMA Inc., Environmental Engineering Manager, 1990 -1992

G&H Corporation, Partial Owner and Managing Director, 1983 - 1990

Monsanto/Fisher Controls, Intl., 1979 - 1988

ASSOCIATIONS/AFFILIATIONS:

Water Environmental Federation

American Institute of Chemical Engineers

SELECTED PAPERS:

Ghassemi, A., Bonano, E.J., Apostolakis, G.E., "Application of Risk Assessment and Decision Analysis to Environmental Remediation Alternatives" Journal of Hazardous Substance on Risk Assessment, 1999.

Ghassemi, A., Bhada, R.K., "Capstone Design Course: An Effective Research and Education Tool." ASEE Conference, 1998, Seattle Washington.

Ghassemi, A., Bhada, R.K., "Partnerships between Industry, Government and Academia." The 1997 International Waste-management Conference, 1997, Tucson Arizona.

Ghassemi, A., and Jennings, S., "Public Involvement in the Decision Process." PSAM conference, 1998, New York City, New York.

Ghassemi, A., Bonano, T., and Kozak, M., "Risk-based Decision Making." PSAM Conference, 1998, New York City, New York.

Ghassemi, A., Bhada, R.K., "An Annual International Environmental Design Contest and Capstone Course for Universities 1993 Focus." The 1993 International Waste-management Conference, 1993, San Juan, Puerto Rico.

Ghassemi, A., Bhada, R.K., "Environmental Design Institute: A Summer Hands-on Outreach Program for Environmental Field." 1993 International Waste-management Conference, San Juan, Puerto Rico.

Ghassemi, A., Bhada, R.K., "An Industrial Affiliate Program for the Waste-management Education and Research Consortium." ASEE Annual Meeting, 1993, Urbana, Illinois.

Jones, T.L., Ghassemi, A., Bhada, R.K., "American Chemical Society's Sponsored SEED Program - A Successful Example." American Society of Engineering Educators (ASEE) Gulf-Southwest Section Annual Meeting, 1993, Austin, Texas.

Ghassemi, A., Bhada, R.K., "A University Design Contest for ECM." Environmental Conscious Manufacturing Meeting, 1993, Arlington, Virginia.

Ghassemi, A., "Mathematical Models and Experimental Studies of Two Phase Flow Correlation Using Differentiation Measurements." American Association for the Advancement of Science (AAAS), Southwestern & Rocky Mountain Division, 68th Annual Meeting, 1992, Tucson, Arizona.

Bhada, R. K., Ghassemi, A., "Environmentally Conscious Manufacturing Solution and Education." ECM Conference, Arlington, VA, 1993.

Bhada, R.K., Ghassemi, A. Morgan, J.D. "International Environmental Design Contest for Universities - A Realistic Approach to Environmental Education." Proceedings, WM '95 Conference. p. 17, Tucson, AZ, February, 1995.

Bhada, R.K., Ghassemi, A., "The Waste-management Education and Research Consortium," 20th Environmental Symposium, Department of Defense Environmental Security-Strategies for the 21st Century, San Antonio, TX. March 1994.

INVITED LECTURES:

Ghassemi, A., and Szidarosky, F., "Risk based Decision Making." Short Course, New Mexico Conference on the Environment, Albuquerque, NM, October 2000.

Ghassemi, A., "Public Involvement in Technical Decision Making." Short Course, Oregon State University, Corvallis, Oregon, May, 1999.

Ghassemi, A., "Risk Informed Decision Making in Contaminated Site Cleanups." Short Course, Summer Professional Program, Massachusetts Institute of Technology, June 1998.

Ghassemi, A., "Life Cycle Costs Associated with Contaminated Site Cleanups." Massachusetts Institute of Technology, January 1998.

Ghassemi, A., Olson, M. - Co-chair for Education Training and Technology Transfer, Session XXVIII, Waste Management '93, 1993, Tucson, Arizona.

Bhada, R.K., Ghassemi, A., "A National Environmental Design Contest and Capstone Course for Universities," Proceedings, ASEE Annual Conference, Toledo, OH, June 1992.

Ghassemi, A., Townsend, J., Bhada, R.K., "Orphan Waste Issues and Discussions," 11th International System Safety Conference. July 28 - August 2, 1993, Cincinnati, OH.

Bhada, R.K., Ghassemi, A., Jacquez, R., Morgan, J.D. "Technologies Demonstrated by the Environmental Consortium of New Mexico." ACS Conference on HazWaste Technologies, pp. 394-396. Atlanta, GA. September 1994.

Ghassemi, A., Townsend, J., Bhada, R.K. "Orphan Wastes, A Cost Effective Solution for a Growing Problem." 6th Annual Haz-Waste Management Conference & Exhibition, March, 1993, Albuquerque, NM.

PUBLICATIONS/BOOKS/JOURNALS:

Ghassemi, A., "The Handbook of Pollution Control and Waste Minimization." A book to be published by Marcel Dekker, Inc., in 2001.

Ghassemi, A., Szidarovszky, F., "Risk Based Decision Making – a Tool to Facilitate Solutions to Environmental Challenges." A chapter in Remediation of Hazardous Waste Contaminated Soils published by Marcel Dekker, Inc., 1999.

Jones, T.L., Ghassemi, A., "Modern In-Field Progress Systems - Case Study: Soil Washing." A chapter in handbook of Bioremediation, Section V; Specific Case Studies published by Marcel Dekker, Inc., 1993.

Ghassemi, A., "Status of systems Research and Development on Vitrification." A chapter in handbook of Process Engineering for Pollution Control and Waste Minimization, published by Marcel Dekker, Inc., 1993.

Bhada, R. K., Ghassemi, A., "Waste Management: From Risk to Remediation." Vol. 1, ECM Press, 1994.

Ghassemi, A., Townsend, J., "Phosgene, A Case of Gas Gone Poisonous and a Leader of a Bad Gang." Industrial Fireworld, Volume 8, Number 1, January 1993.