

The Iowa Energy Workforce Workshop Final Program

Time	Topic or activity	Person
1:00-1:15	Welcome and introduction	Mark Kushner , Professor & Dean of the ISU College of Engineering
1:15-1:30	Iowa-2025 as the “Energy Capital of the World” and Workshop Overview	Jim McCalley , Professor of Electrical and Computer Engineering, ISU
1:30-1:45	The Technical Talent Challenge	Wanda Reder , VP-S&C Electric, President-Elect of IEEE Power Engineering Society
1:45-2:00	The Iowa Workforce in Electric Energy	Mark Douglas , President, Iowa Utilities Association
2:00-2:15	Solution approaches	Bob Haug , Executive Director, Iowa Association of Municipal Utilities
2:15-2:30	Workforce Initiatives at Dairyland Power Cooperative	Ed West , Director of Telecom and Control Systems, Dairyland Power Cooperative.
2:30-2:45	Training Technicians for the Wind Power Industry	Harold Prior , President, Iowa Lakes Community College
2:45-3:00	Thermochemical Technologies for Electric Power and More	Robert Brown , Professor of Mechanical Engineering, ISU, and Director of ISU Office of Biorenewables Programs and ISU Center for Sustainable Environmental Technologies
3:00-3:30	Break	
3:30-4:15	Break-out sessions	
	Breakout group 1: Increasing the workforce	Jennifer Watson , Director, Talent Management, MidAmerican Energy Company
	Breakout group 2: Training and retraining technicians and operators	Robert Paxton , President, Iowa Central Community College
	Breakout group 3: “Energizing” engineering education	Mike Nickeson , Manager, IPL Engineering, Alliant Energy
4:15-5:00	Reporting back	Assigned leader for each session.
5:00-5:15	Funding opportunities	Allison A. Rosenberg , ISU Special Assistant to the President for Federal Relations
5:15-5:30	Following up	Jim McCalley , Professor of Electrical and Computer Engineering, ISU

Short Biographical Sketches of Speakers (in order of presentation)

Mark J. Kushner: Mark Kushner joined Iowa State University as engineering dean in January of 2005. Dean Kushner has served on the technical staffs of Sandia National Laboratory and Lawrence Livermore National Laboratory before joining Spectra Technology where he was a Director of Electron, Atomic, and Molecular Physics. In 1986, he joined the University of Illinois at Urbana-Champaign where he was the Founder Professor of Engineering in the Department of Electrical and Computer Engineering. At Illinois, he also served as Assistant Dean of Academic Programs and Associate Dean of Administrative Affairs in the College of Engineering. In his present work, his research group develops computer simulations for low temperature plasmas, plasma chemistry, industrial plasma equipment and plasma surface interactions. He received a BA degree in Astronomy and a BS degree in Engineering from the University of California at Los Angeles in 1976. His MS and Ph.D. in Applied Physics were received from the California Institute of Technology in 1977 and 1979, respectively.

James D. McCalley: Dr. McCalley received his BSEE, MSEE, and PhD-EE in 1982, 1986, and 1992, respectively, from the Georgia Institute of Technology, Atlanta. He was employed with Pacific Gas and Electric Company from 1985-1990 as a transmission planning engineer. He came to Iowa State University in 1992 and is now Professor of Electrical and Computer Engineering. Dr. McCalley's research and instructional activities are in power and energy engineering, with particular focus on energy management systems, transmission control, security-economy risk assessment and decision-making for power system operations, maintenance, and planning, energy transportation systems, and sustainable systems. Dr. McCalley has been heavily involved in IEEE through serving as chair of the IEEE Power Engineering Society Risk, Reliability, and Probability Applications subcommittee from 2004-2006, and chair of the IEEE PES Educational Resources Subcommittee from 2001-present. He is also editor-in-chief of the IEEE PES Letters. Dr. McCalley received the NSF Career Award in 1995, the ISU College of Engineering Young Engineering Faculty Outstanding Research Award in 2000, the ECpE Mervin S. Coover Distinguished Service Award in 2007, and the ECpE Warren B. Boast Undergraduate Teaching Award in 2007. He served as the Conference Chair of the 8th International Conference on Probabilistic Methods Applied to Power Systems, and he is now Systems Stem Leader and ISU site director for the Power Systems Engineering Research Center. Dr. McCalley is a fellow of the IEEE and a registered professional engineer.

Wanda Reder: Wanda Reder recently joined S&C Electric Company as Vice President of the Power Systems Services Division. This division offers consulting and engineering services, field services, and project management to utilities and power users. She was involved in the justification and deployment of distribution automation, planning for long-range delivery systems needs, and development of conservation and load management initiatives. In 1997, she started and led Ultra Power Technologies, Inc., a deregulated subsidiary of Northern States Power that performed predictive diagnostics on underground cable for utilities in the US and Canada. Later she served as VP-Energy at Davies Consulting, where she developed asset management and reliability improvement strategies for various utilities. In 2001, she joined ComEd as Vice President of Engineering and Planning. ComEd provides electric service for approximately 3.4 million customers in northern Illinois. Wanda’s areas of responsibility included system planning, engineering standards, maintenance, reliability, and mapping. In 2003, she assumed leadership of Exelon Energy Delivery Asset Management, spanning the service areas of ComEd and PECO in Philadelphia. She was additionally responsible for asset investment strategy, electric transmission, substation standards, new business engineering, delivery engineering, and work management. Wanda has served on the IEEE Power Engineering Society Governing Board since 2002 and was Chairperson of the 2002 IEEE PES Summer Meeting. She has been a distinguished lecturer at many conferences and has also served in leadership positions with EEI T&D. Most recently, Wanda has researched the aging workforce of the power industry in the U.S., to prepare a “road map” for actions to be taken. She received an Engineering Bachelor of Science degree from South Dakota State University in 1986 and a Masters in Business Administration from the College of St. Thomas in 1990. Wanda joined Northern States Power Company in 1987 and held numerous leadership positions there.



Mark Douglas: Mark Douglas is the President of the Iowa Utility Association (IUA), an organization of investor-owned electric and natural gas companies with operations in Iowa. The IUA coordinates the development of common industry public policy and promotes that policy before legislative and regulatory audiences.

Douglas is a native of Iowa with over 25 years of association management and government relations' experience with five statewide business associations in Iowa and New Mexico. He has a BA from the University of Iowa with a major in journalism. Before heading the IUA he was President of the Iowa Association of Business and Industry (ABI) from 1990-1995. He has prior association management experience with the Association of Commerce and Industry of New Mexico, the New Mexico Bankers Association and the Iowa Bankers Association.

Bob Haug: Bob Haug is executive director of the Iowa Association of Municipal Utilities, an association of 540 Iowa communities that operate electric, gas, water, or telecommunications systems. He has over 29 years experience working with Iowa municipal utilities and has been with IAMU as executive director since 1986. Bob is a Wisconsin native who has lived in Iowa since 1975. He is a graduate of the University of Wisconsin at Madison.

Ed West: Ed West graduated from California State University at Chico with a BA in Industrial Technology in 1978. After working at the California Energy Commission, Pacific Gas and Electric, and Chugach Electric Cooperative, Ed joined Dairyland Power in 1989. Over the past 17 years, Ed has worked as a programmer/analyst, then as a supervisor in Load Management, and now as the director of Telecommunications and Control Systems. Ed is now responsible for the distribution and automation at Dairyland Power that will upgrade and automate 450 substations for their 25 distribution cooperatives.

Harold Prior: Dr. Harold D. Prior is currently President of Iowa Lakes Community College. His previous educational experience included serving as Superintendent of the Algona Community School District from 1988 until 2006, Superintendent of the Burt Community School District from 1991 until 2001 and Superintendent of the West Bend School District from 1983 until 1988. He also worked as a Principal, a Secondary Teacher and as a Coach in Bedford. Dr. Prior was named Superintendent of the year in 1999-2000 by the School Administrators of Iowa. Dr. Prior's educational credentials include a Bachelor's Degree in Education from Peru State College, a Master's Degree from Northwest Missouri State University and a Ph.D. in Educational Administration from Iowa State University in 1991. He is a veteran of the U.S. Air Force where he served as a nuclear weapons specialist.

Robert Brown: Dr. Robert C. Brown is the Bergles Professor in Thermal Science at Iowa State University. He is the director of the Office of Biorenewables Programs and the Center for Sustainable Environmental Technologies. Dr. Brown is an expert in thermochemical processing of biomass into energy, fuels, and chemicals. He is a Fellow of the American Society of Mechanical Engineers.

Professor Robert Brown is the founding director of the Office of Biorenewables Programs (OBP) at ISU, a university-wide initiative that coordinates research, educational, and outreach activities related to biobased products and bioenergy. The OBP has established several new research enterprises at ISU including the Center for the Biobased Products Industry, the New Century Farm, the Biorenewables Research Laboratory Building, and the Harvest, Storage, and Transportation Consortium.

Dr. Brown also helped establish ISU's Biorenewable Resources and Technology (BRT) graduate program, the first such degree-granting program in the United States. His publications include *Biorenewable Resources: Engineering New Products from Agriculture*, a textbook for students interested in the Bioeconomy, as well as several book chapters on related topics.

Dr. Brown's other administrative duties include directing the Center for Sustainable Environmental Technologies, a \$3 million per year research enterprise focusing on thermochemical processing of biomass and fossil fuels. The center has pioneered a variety of innovative technologies including syngas fermentation, bio-oil fermentation, use of biochars as soil amendment and carbon sequestration agent, and thermally ballasted gasification.

Dr. Brown has published over 100 refereed papers and has received over \$30 million in cumulative research funding. He is a Fellow of the American Society of Mechanical Engineering, a Distinguished Iowa Scientist of the Iowa Academy of Science, and the recipient of the David R. Boylan Eminent Faculty Award for Research at ISU in 2002. He received an R&D 100 Award from Research and Development Magazine in 1997.

Jennifer Watson: As Director, Talent Management for MidAmerican Energy Company, Jennifer Watson is responsible for workforce planning and employee development. She leads efforts for MidAmerican Energy Holdings Company in leadership development and succession management. Jennifer has more than 15 years of experience in training and development and has been with MidAmerican since 2004. A native of South Carolina, she earned a master's in teaching and a bachelor's in history and political science from the University of South Carolina. She serves on the board of directors of Iowa Jobs for America's Graduates.

Robert Paxton:

EDUCATIONAL BACKGROUND

Doctor of Philosophy, University of Texas at Austin, Educational Administration, Community College Leadership, 1989

Master of Science, Fort Hays State Univ., Hays, Kansas, Guidance & Counseling, 1979

Bachelor of Arts, Nebraska Christian Coll., Norfolk, Neb, Ministry & Counseling, 1978

PROFESSIONAL EXPERIENCE

January 1995 to Present, President, Iowa Central Community College, Fort Dodge, Iowa

June 1990 to December 1994, Vice President of Instruction, Cowley County Community College and Area Vocational-Technical School, Arkansas City, Kansas

July 1988 to June 1990, Dean of Student Services, Cowley County Community College and Area Vocational-Technical School, Arkansas City, Kansas

January 1988 to May 1988, Administrative Intern, Colby Comm. College, Colby, Kansas

July 1985 to June 1988, Director of Admissions, Colby Comm. College, Colby, Kansas

July 1982 to June 1985, Counselor, Colby Community College, Colby, Kansas

June 1979 to June 1982, Adj. Instructor, Pikes Peak Comm. College, Col. Springs, Col.

ORGANIZATIONS AND COMMUNITY ACTIVITIES

Member, City of Fort Dodge Mayor Leadership Team, 2006

Member, Fort Dodge Animal Health Advisory Board, 2002 - Present

Member, Fort Dodge Correctional Facility Advisory Board, 2001 - Present

Member, Governor's Steering Committee Workforce 2010, 2001

President, Iowa Coordinating Council for Post-High School Education, 2001

Member, Community Advisory Relations Board, 2000

Vice Chair, Iowa Coordinating Council for Post-High School Education, 2000

Member, Iowa Coordinating Council for Post-High School Education, 2000 - Present

President of the Iowa Association of College and University Presidents, 2000

Past President, Iowa Association of Community College Presidents, 1999

Member, Webster County Economic Development Executive Team, 1995 - Present

Board Member, Trinity Regional Hospital, 1995 - 2004

Board Member and Coach, Fort Dodge Youth Soccer Association, 1995 - Present

Member, Fort Dodge Rotary, 1995 - Present

Member, Iowa Association of Community College Presidents, 1995 - Present

Member, State Accreditation Team for Wichita Area Vocational-Technical School, 1994

Director of the Quality Council, Cowley County Community College and Area Vocational-Technical School, 1993 - 1995

Chair, search committee for City of Arkansas City Chamber of Commerce Director, 1993

Member, committee to develop the faculty portion of the Kansas Association of Community College's Fall Conference, 1993

Member, State Accreditation Team for Barton County Community College, 1993

Chair, team to name college facilities, Cowley County Community College and Area Vocational-Technical School, 1992 - 1993

Juran Institute participant, 1992

North Central Association Instructional Deans Academy participant, 1991

HONORS, PRESENTATIONS, AND PUBLICATIONS

Recognized as a 2000 International Leadership Award Recipient by the National Institute for Staff and Organizational Development (NISOD)

Selected as 1998 Iowa Community College Administrator of the Year by the Iowa Association of Community College Trustees

Selected as a 1997 Community College Leadership Program Distinguished Graduate

Commencement Address, 1995, Iowa Central Community College

Selected for inclusion in Outstanding Young Men of America, 1991

Mike Nickeson: Mike received his BS degree from UW-Platteville in Civil Engineering. He spent 12 years with Oscar Mayer Foods in production/maintenance management roles, and 5 years with Bodine Electric as a Facility/Maintenance manager. Mike joined Alliant Energy in 2000 as General Manager of Engineering Services, supporting power plant boilers/turbines/maintenance programs. He became Manager of Standards in 2004, and in 2006 became IPL Engineering Manager of Transmission Lines and Substation Engineering for Iowa/MN.

Allison A. Rosenberg: Allison Rosenberg, PhD, was appointed as Special Assistant to the President for Federal Relations in September of 2007. Iowa State University's Office of Federal Governmental Relations is based in Washington DC.

From 2002 until she joined ISU, Dr. Rosenberg served as Associate Vice Chancellor for Research, Federal Affairs, at the University of North Carolina, Chapel Hill. Prior to her tenure at UNC, Dr. Rosenberg was Director of Research Policy and Development at the University of California, Office of the President.

Dr. Rosenberg previously served as Director of the National Medal of Technology, the nation's highest honor for technological innovation awarded each year by the President of the United States; as Associate Executive Director of the Government-University-Industry Research Roundtable, a science and technology policy forum co-sponsored by the National Academies of Sciences and Engineering and the Institute of Medicine (NAS/NAE/IOM); and as a Congressional Science Fellow of the American Academy for the Advancement of Sciences, and a professional staff member, with the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, chaired then – as now – by Iowa's Senator Tom Harkin.

Dr. Rosenberg received her A.B. from the University of California at Berkeley and her Ph.D. from Harvard University. She is a Principal of the Council on Excellence in Government; a Fellow of the Sigma Xi Association; a member of Phi Beta Kappa; and a prior National Finalist for the President's White House Fellowship.

