

# BioEnergy Science Center Boards

## Scientific Advisory Board 2017

### Edward Bayer

Dr. Ed Bayer is a full professor in the Department of Biological Chemistry at the Weizmann Institute of Science, Rehovot, Israel. During his scientific career, he has pioneered two separate areas of research: the avidin-biotin technology and the field of cellulosomes. He is co-discoverer of the cellulosome concept in the early 1980s. In 1999, he organized and co-chaired the first Gordon Research Conference on "Cellulases and Cellulosomes," and he chaired the same conference in 2001. In 1994, he proposed the use of "designer cellulosomes" for biomass degradation, waste management, and as a general tool in the biological sciences. During his career, he has collaborated with groups in the United States, Canada, Holland, Belgium, Germany, Great Britain, France, Spain, Italy, Finland, Denmark, Guatemala, China, Japan, Australia, and the Republic of Georgia.

### Judy Wall

Dr. Judy Wall works on a variety of research areas in the University of Missouri Biochemistry Division including environmental microbiology, bioremediation of toxic metals, and the genetics and biochemistry of sulfate-reducing bacteria. Dr. Wall is a member of the EC-US Environmental Biotechnology Taskforce Working Group; was editor in chief of *Applied and Environmental Microbiology* from 1995 to 2001; has been on the editorial boards of the *Journal of Bacteriology*, *Applied and Environmental Microbiology*, *Environmental Microbiology*, and *Annual Reviews of Microbiology*; is a fellow of the American Association for the Advance of Science and American Academy of Microbiology; and was co-editor of *Bioenergy* published by ASM Press in 2008.

### David Benton

David Benton is the Informatics and Information Technology (IIT) director at the Great Lakes Bioenergy Research Center (GLBRC) in Madison, Wisconsin. He has more than 20 years of experience in biological data management and analysis, with particular expertise in the areas of biological databases, information integration and visualization, knowledge management and component architectures. He has held positions at GlaxoSmithKline, the National Human Genome Research Institute, IntelliGenetics, and the ARCO Plant Cell Research Institute. GLBRC's IIT group develops and delivers computational solutions to support GLBRC's research mission. IIT operates the GLBRC data center and central laboratory information management system and provides bioinformatics analysis services and consulting.

### John Ralph

Dr. John Ralph is a biochemistry professor in the College of Agricultural and Life Sciences at the University of Wisconsin-Madison, and a biological systems engineer at the Great Lakes Bioenergy Research Center. His areas of expertise include lignin biosynthesis, structure, chemistry, and reactions, as well as delineation of the effects of perturbing lignin biosynthesis extensions. This latter research is aimed at redesigning lignins to be more readily degraded for improved lignocellulosics bioprocessing. Dr. Ralph currently serves on the editorial boards of *BioEnergy Research*, the *Journal of Wood Chemistry and Technology*, *Holzforschung*, and the *Journal of Science of Food and Agriculture*. He is a fellow of the American Association for the Advancement of Science (AAAS).

### Gary Peter

Dr. Gary Peter is a professor in the Forest Genomics and Cell Biology Department and co-director of the Forest Biology Research Cooperative at the University of Florida. His research interests involve genomics, biotechnology, and development of the plant vascular system. He is a recipient of the President's Award of Scientific Team Advancement at the Institute of Paper Science and Technology and the TAPPI Foundation Research Award from the University of California at Berkeley.

## **Deborah Delmer**

Dr. Deborah P. Delmer is professor emeritus at the University of California at Davis in plant biology. Her research interest involves the identification of genes involved in synthesis of cellulose and callose in higher plants and the mode of action of herbicide(s) that affect cellulose biosynthesis. Dr. Delmer served as the associate director for food security for the Rockefeller Foundation in New York City and president of the American Society of Plant Biologists in 2000. She is a recipient of the American Chemical Society Anselme Payen Award and is a member of the U.S. National Academy of Sciences.

## **Lonnie Ingram**

Dr. Lonnie Ingram is a distinguished professor and director of the Florida Center for Renewable Chemicals and Fuels in the Department of Microbiology and Cell Science at the University of Florida. His research interests are global redirection of central metabolism by genetic engineering, industrial fermentation processes, carbohydrate metabolism, expression and secretion of glycohydrolases that degrade plant polymers, and alcohol tolerance. Dr. Ingram was named one of the Top 100 People in Bioenergy, *BiofuelsDigest* in 2010; a member of the Southeastern Regional SunGrant Center (University of Tennessee) in 2011; a recipient of the Wood Utilization Award (Florida Society of American Foresters) in 2011; and a medalist of the Florida Academy of Sciences in 2013.

## **Gary Peterson**

Dr. Gary Peterson is professor emeritus and a former head of the Department of Soil and Crop Sciences at Colorado State University. His research emphasis has been the application of soil science principles to the solution of field-related soil management problems. Recently these efforts have focused on developing dryland cropping systems that maximize water conservation and minimize soil erosion, and that are applicable to a wide range of climate-soil environments. System effects on water conservation, nitrogen and phosphorus fertilizer management, organic matter accumulation, and nutrient cycling have been emphasized over the most recent 20 years. Dr. Peterson became a fellow of the American Association for the Advancement of Science in 2010 and received the College of Agricultural Sciences Distinguished Career Award in 2011 and the Soil Science Distinguished Service Award from the Soil Science Society of America in 2012.

# **Board of Directors 2017**

## **W. Densmore "Denny" Hunter**

Denny Hunter is the former chief technology officer for Catchlight Energy LLC, a joint venture of Weyerhaeuser Company and Chevron Corporation formed in 2008 to commercialize the production of liquid transportation fuels from sustainable, forest-based biomass resources. Prior to the formation of Catchlight Energy, he served as Weyerhaeuser's vice president of technology for Pulp, Paper, and Packaging and was responsible for leadership of research, development, and technology support across the business and manufacturing systems.

## **Kevin Gray**

Dr. Kevin A. Gray, is a consultant to the industrial biotechnology sector. His expertise is in bioprocess development including enzyme, organism, and fermentation development for the production of value-added products. From 2011 to 2014, he served as vice president of Biobased Chemicals for BetaRenewables and was responsible for partnership development between BetaRenewables and biobased chemical companies. BetaRenewables is a joint venture of Biochemtex, Texas Pacific Group, and Novozymes that was established in 2011 to license and deploy the PROESA technology for producing fuels and chemicals from cellulosic biomass. Prior to joining BetaRenewables, Dr. Gray was the chief scientific officer at Qteros, Inc., a biofuels development company in Marlborough, Massachusetts, where he oversaw technology development and strategy. From 1997 to 2009, Dr. Gray was at Verenum (Diversa) Corporation where he held a variety of leadership positions. In his last position as senior director of biofuels R&D, he oversaw biofuels research and development programs and was involved in assessing and evaluating third-party technologies under consideration for licensing. Dr. Gray holds a Ph.D. in chemistry from Texas Tech University and a B.S. in zoology from Duke University. He has co-authored more than 40 peer-reviewed scientific articles and is a co-inventor on over 20 patents and patent applications.

## **Richard Flavell**

Dr. Richard Flavell is the retired chief science advisor, member of the board of directors, and an exclusive consultant in the field of commercial bioenergy crops for Ceres, Inc. Dr. Flavell joined Ceres in 1998 and has been instrumental in the establishment and development of Ceres core technology platforms in plant genomics and biotechnology. Most recently, he also has focused on outreach to the scientific community and public policymakers. From 1987 to 1998, Dr. Flavell was the director of the John Innes Centre in Norwich, United Kingdom, a premier plant and microbial research institute, after being at the Plant Breeding Institute in Cambridge, from 1969 to 1987. He has published over 200 scientific articles, lectured widely, and made significant contributions to the development of modern agricultural biotechnology. His research group in Cambridge was among the very first worldwide to successfully clone plant DNA, isolate and sequence plant genes, and produce transgenic plants. Dr. Flavell is an expert in plant genomics, having produced the first molecular maps of plant chromosomes to reveal the constituent sequences.

## **Martin Keller**

Dr. Keller is the National Renewable Energy Laboratory (NREL) Laboratory Director. Previously he was at Oak Ridge National Laboratory (ORNL) where he served as the Associate Laboratory Director for Energy and Environmental Sciences, which includes ORNL's programs in biosciences, environmental sciences, buildings technologies, transportation, climate change, manufacturing, and electrical and electronics systems. In 2006, Keller was recruited to ORNL from an industrial enzyme discovery and development company to lead the Office of Science-supported BioEnergy Science Center, in which NREL is a partner.

## **David Lee**

Dr. David Lee is the vice president for research at the University of Georgia (UGA) and also the executive vice president of the UGA Research Foundation (UGARF). Dr. Lee is recognized for research into the molecular regulation of normal and cancer cell growth, and in particular for studies describing epidermal growth factor (EGF)-like protein activators of the erbB/HER family of tyrosine kinase receptors. He was elected a fellow of the American Association for the Advancement of Science in 2004.

## **David Millhorn**

Dr. David Millhorn is the executive vice president of the University of Tennessee (UT), serving as the chief operating officer of UT's four campuses and three statewide institutes. He continues as UT vice president for research and economic development. Before coming to UT, Millhorn served the University of Cincinnati as the inaugural director of its Genome Research Institute and chairman of its Department of Genome Science. He is a member of the American Physiological Society, American Association for the Advancement of Science, Society for Neuroscience, and the American Society for Biochemistry and Molecular Biology.

## **Thomas Foust**

Dr. Thomas Foust is an internationally recognized expert in the biomass field. His areas of expertise include feedstock production, biomass-to-fuels conversion technologies, and environmental and societal sustainability issues associated with biofuels. He has more than 20 years of research and research management experience, specializing in biomass feedstocks and conversion technologies. As National Bioenergy Center Director, Dr. Foust guides and directs NREL's research efforts to develop biomass conversion technologies via biochemical and thermochemical routes, as well as critical research areas addressing the sustainability of biofuels. This research focuses on developing the necessary science and technology for converting biomass to biofuels, bioproducts, and biopower in an economical and environmentally sustainable manner.

## **Steve Mirshak**

Steve Mirshak is the Global Business Director of DuPont Cellulosic Ethanol. He joined DuPont as research engineer in the Explosives business. After a variety of manufacturing and research assignments in West Virginia and Illinois he joined DuPont's Finishes business in 1987. He held research and marketing management assignments in industrial and automotive OEM finishes in Houston and Detroit.