Chih Ted Yang

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Education

B.S. Civil Engineering, National Cheng Kung University
M.S. Civil Engineering, Colorado State University
Ph.D. Civil Engineering, Colorado State University
Graduate from the Senior Executive Fellow Program, Harvard University
Graduate from the Department of the Interior Senior Executive Service (SES) Candidate Development Program and certified by the Office of Personnel Management as a qualified SES for all Federal agencies

Professional Experiences

- 2004 – present, Borland Professor of Water Resources and Director of the Hydroscience and Training Center, Department of Civil and Environmental Engineering, Colorado State University
  Teach graduate courses in fluvial hydraulics, erosion and sediment transport, river morphology and river restoration. Direct and conduct research in hydroscience and water resources engineering with emphasis in erosion, sediment dynamics, river restoration, and computer model development and application. Develop and conduct technology transfer courses in the United States and in other countries.

- 1994 – 2003, Manager of the Sedimentation and River Hydraulics Group, Technical Service Center, U.S. Bureau of Reclamation (Reclamation)
  Supervise, direct, and manage Reclamation's sedimentation and river hydraulics program. Provide leadership and vision in the development of regional, national, and international engineering and research programs.

- 1988 – 1994, International and Technical Assistance Program Manager, U.S. Bureau of Reclamation
  Initiate, coordinate, develop, and direct Reclamation's international technical assistance program. Provide expert consultation on institution building, water resources research, planning, design, operation, and management.

- 1979 – 1988, Technical Review Staff, U.S. Bureau of Reclamation
  Technical specialist in hydraulics, hydrology, sedimentation, and hydraulic structure design to provide quality control and technical review of Reclamation's research, design, and construction of water resources projects.

- 1974 – 1978, Hydraulic Engineer, U.S. Army Corps of Engineers North Central Division
  Staff specialist in hydraulics, hydrology, sedimentation and hydraulic structure design in the Division Office to review and direct water resources projects in the five districts within the North Central Division.

- 1968 – 1974, Associate Hydrologist, Illinois State Water Survey and University of Illinois Water Resources Center
  Principal investigator to conduct basic and applied research in hydrology, hydraulics, sedimentation, and water resources engineering.

- 1970 – Present, Registered Professional Engineer in Illinois.

- 1979 – Present, Registered Professional Engineer in Colorado.

Program Development and Management Experiences

Provide leadership in program development and management of multidisciplinary international and special projects. The external funds that supported Reclamation's international engineering and research projects tripled in the year following my appointment to be the International and Technical Assistance Program Manager in 1988.

Between 1994 and 1998, while the staff and funding of the Technical Service Center was reduced by half, I more than tripled the staff and external funding of the Sedimentation and River Hydraulics Group. Under my leadership, the Group has accomplished exemplary staff recruitment and development. The Group received the Giants Among Us and the Diversity Group Awards from the Bureau of Reclamation.

Three members of the Group received the Engineer of the Year Award from Reclamation and the National Society of Professional Engineers; one received the Engineering Achievement Award from

the federally sponsored Women in Science and Engineering Program; one received the Harold J. Shoemaker Award from the International Association of Hydraulic Research; and one received the Bureau of Reclamation's Researcher of the Year Award.

Professional societies, U.S. and foreign government agencies and universities have honored and awarded me for leadership and management skills in developing and managing my staff for high quality performance.

Advisory and Engineering Experiences

- Advisor and expert consultant to the United Nations and foreign government agencies on water resources projects. These projects include, but are not limited to, the Nile River Project in Egypt; irrigation projects in Pakistan; the Yangtze River Three Gorges Project, the Yellow River Sedimentation Project, the South-to-North Water Transport Project in China; and the design, construction, and operation of Nanhua, Liyutan, Mutan, and Jiji Common Diversion projects in Taiwan.

- Provide cost-reimbursable technical studies and services to the regional and project offices of the Bureau of Reclamation, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, U.S. Environmental Protection Agency, U.S. National Weather Service, the World Bank, etc.

- Corresponding Advisor of the United Nations UNESCO and China jointly supported International Research and Training Center on Erosion and Sedimentation in Beijing. Advise the Center on international research and training on erosion and sedimentation.

- Advisor and expert consultant to the U.S. Geological Survey, U.S. Army Corps of Engineers, U.S. Soil Conservation Service, etc., on research and engineering projects.

- Member of the Roundtable Advisory Board of Colorado State University, Dean of the College of Engineering. Advise the Dean and Engineering Department Heads on strategic planning and development of engineering education.

- Member of the Review and Advisory Panel. Review, evaluate, and advise programs of the Department of Agriculture National Sedimentation Laboratory, Illinois State Water Survey, and the University of Mississippi Center for Computational Hydroscience and Engineering.

- Expert Consultant to the Asian Development Bank and the Yellow River Conservancy Commission on the Xiaolongdi Reservoir Sedimentation Project.

- Served as an engineering technical expert on many major projects of the U.S. Army Corps of Engineers and the Bureau of Reclamation, such as the Lewis and Clark Dam and Reservoir

Sedimentation studies, flood control and channel stabilization projects of the Mississippi River, Rio Grande flood control and river restoration project, Glen Canyon Dam Safety project, Platte River Restoration project, etc.

- Served as one of the five U.S. Army Corps of Engineers National Steering Committee members of the Section 32 Channel Stabilization Demonstration Act project.

University Experiences

- 2004 - , Endowed Borland Professor of Water Resources and Director of Hydroscience and Training Center, Department of Civil and Environmental Engineering, Colorado State University.

- 1978, Professor Adjunct of the Civil and Mineral Engineering Department, University of Minnesota

- 1993 – 2003, Affiliated Professor of the Civil Engineering Department, Colorado State University

- 1982 – 2003, Professor Adjunct of the Civil Engineering Department, University of Colorado at Denver

Research Experiences

Develop, conduct, direct and manage basic and applied research projects in hydrology, hydraulics, sedimentation, river morphology, and water resources engineering. Research results have received honors and awards from professional societies, universities, and U.S. and foreign governments.

The U.S. Department of Agriculture National Sedimentation Laboratory (1980), the American Society of Civil Engineers Sedimentation Task Committee (1982), the University of the German Federal Army (1988), the German Association for Water Resources and Land Improvement (1990), among others, rated the Yang's unit stream power equation as the most accurate sediment transport equation in the world. Yang's minimum energy dissipation rate theory has achieved recognition as a fundamental theory in hydraulics and river morphology for solving a wide range of engineering and water resources problems.

Awards from Professional Societies

- Robert E. Horton Award from the American Geophysical Union "for a paper of outstanding excellence in the field of hydrology", 1972

- Walter L. Huber Civil Engineering Research Prize from the American Society of Civil Engineers "for several significant investigations in hydraulics, particularly in unit stream power which provides considerable new understanding of fluvial processes of natural stream systems", 1973

- J. C. Stevens Award from the American Society of Civil Engineers "for the discussion of minimum stream power for rivers and deltas", 1980

- Bureau of Reclamation Engineer of the Year Award from the National Society of Professional Engineers and the U.S. Bureau of Reclamation "for achievement in the development of new theories which have improved the state-of-the-art in hydraulics, especially sediment transport and river hydraulics", 1983

- Honor Award from the Colorado Engineering Council "for significant international contributions through research and advice for engineering solutions in erosion, sedimentation, and waterway development", 1989

- President Award from the Denver Federal Center Professional Engineering Group for "distinguished leadership and service as the president of the group", 1991

- IAHR/IHP Lecturer of the Year Award from the International Association for Hydraulic Research and the United Nations UNESCO International Hydrological Program "for the development and application of the minimum energy dissipation rate and unit stream power theories and the development of GSTARS computer model", 1991

- Achievement Award from the Rocky Mountain Chinese Society of Science and Engineering for "professional achievement and service", 1992

- Appreciation Award from the Rocky Mountain Chinese Society of Science and Engineering for "distinguished leadership and service as the 15-th president of the society", 1998

- Hans Albert Einstein Award from the American Society of Civil Engineers “for his significant contributions to improve our understanding and advance the state-of-the-art in erosion, sedimentation and waterway development”, 1999.

- Diplomate, Water Resources Engineers, American Academy of Water Resources Engineers, in recognition of “advanced expertise in water resources engineering, extensive experience,

strong ethics and a commitment to life-long learning and continuing professional development", 2007.

Awards from the U.S. Government and University

- Certificate of Achievement from the U.S. Army Corps of Engineers "for superior performance in the field of sediment transport", 1978

- Special Achievement Award from the U.S. Bureau of Reclamation "for assistance to foreign activity programs" and "expert advice in hydraulics to other Federal agencies", 1984

- Special Achievement On-the-Spot Award from the U.S. Bureau of Reclamation "for the review and critique of the proposal for the Three Gorges Project, People's Republic of China", 1985

- Distinguished Alumni Individual Achievement Award from Colorado State University "in recognition of overall contributions made in the field of engineering which received recognitions by engineering or trade associations", 1988

- Performance Award from the U.S. Bureau of Reclamation "for providing leadership to the technical assistance programs in Taiwan", 1989

- Special Achievement Award from the U.S. Bureau of Reclamation "for being effective in the development of innovative technical assistance agreement with Taiwan", 1989

- Special Act Award from the U.S. Bureau of Reclamation "for significant contribution to the development and growth of technical assistance program in Taiwan", 1991

- Performance Management and Recognition System Awards "for excellent performance during the rating period ending June 30, 1992 ", 1992

- Special Act Award from the U.S. Bureau of Reclamation "for providing technical assistance in the area of sedimentation and water resources related issues" and for "effectively coordinating technical assistance programs", 1995

- STAR Award from the U.S. Bureau of Reclamation for "instrumental in the development of GSTARS 2.0 computer model as a principal author of the user's manual and an advisor by providing vision and technical guidance", 1995

- Excellence Award from the U.S. Bureau of Reclamation Commissioner Eluid Martinez “in recognition of and deep appreciation for the contributions made by C. Ted Yang toward the development of the interagency handbook on stream corridor restoration”, 1998

- Giants Among Us Award from the U.S. Bureau of Reclamation for “contributions to Reclamation’s mission to develop and manage water resources in the western United States in an environmentally and economically sound manner for the benefit of the public”, 2000

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- U.S. Bureau of Reclamation Commissioner’s 2001 Work Force Diversity Group Award presented to the Sedimentation and River Hydraulics Group “in recognition of recruitment, hiring, and development of diverse employees”, 2002

- Meritorious Service Honor Award from the U.S. Department of the Interior for “the development and application of state-of-the-art technology in sedimentation and river hydraulics” and for his “vision and leadership of the program to develop the Generalized Sediment Transport model for Alluvial River Simulation (GSTARS) series of computer models”, 2003.

- Career Service Certificate Award from the U.S. Bureau of Reclamation for “significant contributions to Reclamation’s water resources projects’, 2004.

Honors and Awards from Foreign Governments and Universities

- Advisory Professor from Hohai University, formerly East China Technical University of Water Resources, China "in recognition of academic achievement in water resources engineering", 1985

- Congress Gold Medal from the Pakistan Engineering Congress, Pakistan, presented by Prime Minister Mohammad Khan Junejo as "the most prestigious award for engineers" for "development of improved theories in hydraulic designs", 1986

- Outstanding Alumni Achievement Award from the National Cheng Kung University, Taiwan "for outstanding achievements in research, engineering, and education", 1995

- Appreciation Award from Taiwan Water Resources Bureau “for technical assistance and advice for the planning, design, construction, and operation of water resources projects in Taiwan”, 1989

- Honorary Professor from the Yellow River Institute of Hydraulic Research in China for "research accomplishments in fluvial hydraulics and computer modeling", 2005

- Prince Sultan Bin Abdulaziz International Prize for Water – First Branch: Surface Water Topic: Sedimentation Control in Surface Water System for "outstanding achievements in surface water, especially in sedimentation control of surface water systems", Riyadh, Saudi Arabia, 2008.

Listing in Who's Who

Who's Who in Engineering

American Men and Women in Science

Who's Who in the West

Men of Achievement

Personalities of America

Dictionary of International Biography

Two Thousand Notable Americans

Who's Who of Emerging Leaders in America

5,000 Personalities of the World

International Directory of Distinguished Leadership

Who's Who in American Education

Who's Who in Science and Engineering

Who's Who Among Asian Americans

Most Admired Men and Women of the Year

2000 Outstanding Intellectuals of the 21st Century

Madison Who's Who of Professionals

Publications

More than 100 professional publications in hydraulics, hydrology, erosion, sedimentation, river morphology, river restoration, and water resources engineering. These publications include three books, *Coastal Aquaculture Engineering*, Oxford & IBH, 1991, *Sediment Transport; Theory and*

Practice, McGraw Hill, Inc., 1996 (reprint by Krieger Publishing Company, 2003), and *Erosion and Sedimentation Manual,* Bureau of Reclamation, 2005. A detailed list of publications is available upon request.

Professional Society Activities

- Fellow of the American Society of Civil Engineers (ASCE), and member of the American Geophysical Union (AGU), International Association of Hydraulic Research, International Association of Hydrological Sciences, U.S. Committee on Large Dams, and Denver Federal Center Professional Engineers Group.

- Member of the AGU Committee on Erosion and Sedimentation (1972 - 1980), ASCE Task Committee on Application of Risk and Reliability Analysis on Design of Hydraulic Systems (1979 - 1981), ASCE Technical Committee on the Probabilistic Approach to Hydraulics (1982 - 1984), ASCE Task Committee on Information Retrieval and Availability in Hydraulics (1983 - 1995), ASCE Sedimentation Committee (1985 - 1995) and its Chairman (1987 - 1988).

- President of the Denver Federal Center Professional Engineers Group (1990 - 1991)

- President of the Rocky Mountain Chinese Society of Science and Engineering (1982 - 1983, 1996 - 1997)

- Chair of the Federal Interagency Subcommittee on Sedimentation (1999 – 2001)

- Vice President of the World Association for Sedimentation and Erosion Research (2004 -)