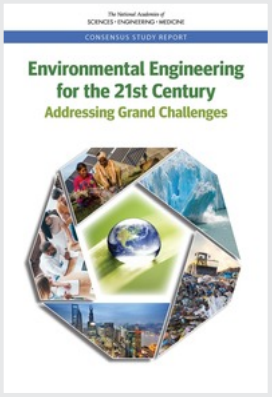

Environmental Engineering for the 21st Century: Addressing Grand Challenges (2019)

DETAILS

124 pages | 7.5 x 11 | PAPERBACK
ISBN 978-0-309-47652-2 | DOI 10.17226/25121

CONTRIBUTORS

Committee on the Grand Challenges and Opportunites in Environmental Engineering for the Twenty-First Century; Board on Agriculture and Natural Resources; Board on Atmospheric Sciences and Climate; Board on Chemical Sciences and Technology; Board on Energy and Environmental Systems; Board on Earth Sciences and Resources; Board on Environmental Studies and Toxicology; Board on Life Sciences; NAE Office of Programs; Ocean Studies Board; Water Science and Technology Board; Division on Earth and Life Studies; Division on Engineering and Physical Sciences; National Academy of Engineering; National Academies of Sciences, Engineering, and Medicine

SUGGESTED CITATION

National Academies of Sciences, Engineering, and Medicine 2019. *Environmental Engineering for the 21st Century: Addressing Grand Challenges*. Washington, DC: The National Academies Press. https://doi.org/10.17226/25121.

Amanda Carrico an assistant professor of Environmental Studies at the University of Colorado, Boulder. She is an interdisciplinary environmental social scientist. Her work draws on the fields of psychology (her home discipline), sociology, and economics to examine how individuals make environmentally relevant decisions. Her research focuses on the adoption of behaviors and innovations in response to environmental stress, and the beliefs and perceptions that underpin decision making. She has examined these questions within the context of household and neighborhood decision making in the United States and small-holding agriculture in South Asia. Dr. Carrico received a B.A. from Transylvania University, a Ph.D. in social psychology from Vanderbilt University, and completed a postdoctoral fellowship at the Vanderbilt Institute for Energy and Environment.

Kartik Chandran is a professor in the Department of Earth and Environmental Engineering and the Henry Krumb School of Mines at Columbia University. Dr. Chandran's research focuses on environmental microbiology and biotechnology, reengineering the global nitrogen cycle, sustainable sanitation and wastewater treatment, and microbial platforms for resource recovery. His laboratory employs multidisciplinary strategies to study microbial communities in natural and engineered systems to better understand these communities and their ability to be harnessed for environmental and public health objectives such as waste treatment and improved approaches to clean water, sanitation, and hygiene. Dr. Chandran was awarded a MacArthur fellowship in 2015 for his work on converting pollutants and waste streams to high-value resources. He has a B.S. in chemical engineering from the Indian Institute of Technology and a Ph.D. in environmental engineering from the University of Connecticut.

G. Wayne Clough (NAE) is secretary emeritus of the Smithsonian Institution, and president emeritus of the Georgia Institute of Technology. Dr. Clough served as president of the Georgia Institute of Technology from 1994 to 2008 and as the secretary of the Smithsonian Institution from 2008 to 2014. He previously held faculty appointments at Duke University, Stanford University, and Virginia Polytechnic Institute and State University, where he also served as chair of the Department of Civil and Environmental Engineering and Dean of the College of Engineering. He was provost and vice president of the University of Washington just before coming to Georgia Tech. Dr. Clough's research interests include higher education, civil engineering design and construction, digital learning communities, engineering solutions around climate change, biodiversity conservation, and geotechnical engineering. Dr. Clough earned a B.S.C.E. and M.S.C.E. from the Georgia Institute of Technology and a Ph.D. in geotechnical engineering from the University of California, Berkeley.

John C. Crittenden (NAE) is Hightower Chair and Georgia Research Alliance Eminent Scholar in Environmental Technologies in the School of Civil and Environmental Engineering and director of the Brooks Byers Institute for Sustainable Systems at the Georgia Institute of Technology. Dr. Crittenden's research interests include pollution prevention, physiochemical treatment processes, groundwater transport of organic chemicals, and modeling of water treatment processes. Dr. Crittenden's current research focus is working with other academics and institutions on the challenge of sustainable urban infrastructure systems, including sustainable materials, advanced modeling of urban systems, and sustainable engineering pedagogy. He is a member of the National Academy of Engineering and the Chinese Academy of Engineering. He has a B.S.E. in chemical engineering and an M.S.E. and a Ph.D. in environmental engineering from the University of Michigan, Ann Arbor.