Water In and Water Out—Innovative Water Research

Presenter and Moderator Biographies

William Blanford, PhD., is an Assistant Professor specializing in Contaminant Hydrology in the School of Earth and Environmental Sciences at Queen College of the City University of New York and at the CUNY Graduate Center. He has 25 years of experience in evaluating the processes governing the fate and transport of organic chemicals and microbial pathogens in ground, storm, and industrial process waters and has developed new and improved existing remediation technologies to address those systems. The technologies include complexing cyclic sugars for enhancing organic pollutant extraction and bioremediation in contaminants aquifers, riverbank filtration for improving irrigation water quality, and antimicrobial porous materials for lowering microbial loads in stormwater, cooling towers, and industrial process water.

Jennifer Cherrier, PhD., is a Professor of Earth and Environmental Sciences at Brooklyn College-The City University of New York (CUNY) and at the CUNY Graduate Center. She is also the Associate Director for Integrated Water Research at CUNY's Science and Resilience Institute and the President and Founder of Waterway Ecologics, LLC. Her 27yrs of research expertise are in aquatic carbon and nitrogen biogeochemistry with a more recent focus on stormwater resiliency, integrated water management, and nature-based approaches for mitigating urban flooding and offsetting pollutant loading to aquatic systems. Jennifer's research group has developed a novel smart-sensored hybrid technology (eco-WEIR™, U.S. Pat. 2017) that augments green infrastructure to control stormwater retention times, maximize pollutant removal efficiencies, and allows for water storage and reuse. She is an Earth Leadership Fellow for Sustainability, and a National Academy of Sciences Frontiers of Science Kavli Alum.

Ashwin Dhanasekar is a Research Program Manager at The Water Research Foundation. He handles their research portfolios on Energy, Biosolids and Intelligent Water Systems. Ashwin has over 15 years of experience in the water sector. He has a Masters in Environmental Engineering from Colorado State University and a Bachelors in Chemical Engineering from Anna University (India). He will be giving a quick overview of WRF's research program, specifically their Research Priority Program.

Youssef Diab, is a tenured Professor of Urban Sustainable Planning and Engineering in the University Gustave Eiffel in France. He is also the head of prospective and applied research in the Graduate school of Urban Engineering. He is also involved in graduate and applied research programs dedicated to urban Engineering in other European, Asian, Middle Eastern, and North American universities and international organisations. He was in charge for the City of Paris of the prospective research program:

PARIS 2030. He is specialized in urban resilience and climate adaptation strategies of infrastructures. His research activities are related to the field of urban, environmental, and civil engineering. He is also concerned by the green urban planning and relations with climate concerns. These research efforts are based on multi criteria analysis and of modelling of urban systems, and many of them are realised in co-operation with municipalities and local authorities especially the City of Paris. Dr. Diab is the author of more than 150 reviewed papers, communications and reports in the field of urban sustainability and urban services management. He is also editing of a series of books on sustainable cities in French. He is also managing major national (ANR) and European (Green deal) and international projects (UN agencies) in relation with urban resilience.

Thu-Loan Dinh, P.E., is Assistant Commissioner at New York City Department of Design and Construction (DDC), where she oversees an annual capital program comprising more than 120 capital projects and valued at approximately $4 billion. She supports DDC's traditional duties installing new water mains and sewers for the NYC Department of Environmental Protection (DEP) while also building streets, sidewalks and new public plazas for the NYC Department of Transportation (DOT). She will also continue work in vital new programs in DDC's Infrastructure Division related to coastal resiliency and green infrastructure intended to reduce the effect of cloudbursts on City neighborhoods. Assistant Commissioner Dinh was previously Director of Design for DDC's Coastal Resiliency Program, where she was responsible for a $2 billion portfolio of cutting edge coastal protection projects including East Side Coastal Resiliency (ESCR) and its companion project Brooklyn Bridge-Montgomery Coastal Resiliency (BMCR). Together the two projects are creating a 3.2-mile-long flexible flood barrier on the east side of Manhattan from the Brooklyn Bridge up to East 25th Street, protecting more than 150,000 residents from future tidal flooding and coastal storms while enhancing numerous parks and open space areas with better recreational opportunities. Furthermore, Assistant Commissioner Dinh is a licensed professional engineer in the State of New York and holds a B.S. in Civil Engineering from the University of California, Irvine, where she specialized in environmental hydrology and water resources. She has been at DDC since January 2017, where in addition to her work on ESCR and BMCR, she also has contributed extensively to future coastal resiliency projects intended for Red Hook, Brooklyn as well as to protect Bellevue Hospital in Manhattan. In addition to her education and experience, her many strengths include critical thinker, problem-solver, collaborator, team builder, and her commitment and dedication to DDC.

Barnaby Dobson, Ph.D, is currently a Research Fellow on Imperial College's ICRF scheme, focusing on integrated water infrastructure modeling. In his role, he emphasizes the importance of evaluating water infrastructure efficiency based on its impacts on river quality. Barnaby's research seeks to break down traditional silos in modeling water supply, wastewater, and rivers, aiming to create a holistic view of the water cycle. Through the novel integrated modelling software, WSIMOD (https://imperialcollegelondon.github.io/wsi/), he has created an approach that enables simulating the complex interactions different physical systems and water managers. In a proof-of-concept study, he demonstrated the feasibility of linking chemical water quality with biodiversity status using machine learning techniques. On his fellowship, he will further explore the link between sewer systems (and in particular sewage spills) and their impact on river biodiversity.

April Gu is a full professor in School of Civil and Environmental Engineering, affiliated field faculty with Department of Microbiology and Department of Biological and Environmental Engineering (BEE) at Cornell University in Ithaca, NY. Dr. Gu received her B.S. in Environmental Engineering and Science from Tsinghua University in Beijing, China and a Ph.D. in Civil and Environmental Engineering, jointly in Microbiology, from the University of Washington, US. She was a visiting professor at University Vienna in 2014 and at University of Oxford in 2018. Her expertise and area of research interest include: 1) biotechnology for water and wastewater treatment and biological nutrient removal; 2) risk-based water quality monitoring and toxicity assessment; 3) global phosphorus cycling and bioavailability of nutrients in natural ecological systems, 4) biosensors and nano-biosensors. She has led and participated over 30 research projects funded by various agencies including NSF, DOE, EPA, WERF, WRF, USDA/NIFA, and NIEHS. She has been a coauthor for over 190 journal, conference and other technical publications and given 280 presentations at conference and workshops, including more than 80 invited talks. She and her team have received a number of national awards including NSF CAREER award, WEF Ralph Fuhrman Medal, CAPEES/Nanova Frontier Research Award, AEESP outstanding service awards, AEESP/Mary Ann Liebert Award for Publication Excellence in Environmental Engineering Science, HDR National Pathfinder Award for Creativity, SETAC Global Best Student Paper Award and, IEEE Yong researchers Forum Award and ACS Outstanding Presentation Merit Award etc. She received the Søren Buus Outstanding Research Award and Excellence in Mentor Award from Northeastern University and elected to be COE faculty Fellow in 2014. She was invited speaker for Gordon Conference-Drinking Water Disinfection Byproducts 2017, Gordon Conference -Environmental Nanotechnology 2013, and Gordon Conference – Water Science in 2012. She has been elected to serve on the Board of Directors for AEESP from 2017 to 2020. Dr. Gu is an elected Fellow of Water Environment Federation.

Dan Hart is a researcher, social entrepreneur and a businessman. Soon after graduation as Mechanical Engineer (MSc) he founded and managed for 15 years a software company specializing in engineering applications for the water industry. In 2004 he developed and later implemented an urban renewal model aimed at improving the living conditions in underprivileged neighborhoods and changing the mindset of individuals from dependency/deficiency to success. In 2010 he embarked on a PhD looking into the career perceptions and experiences of State Ambassadors. Since then, he has been teaching leadership in MBA, postgraduate and undergraduate programs. Dr Hart is the UK representative to UNESCO around MAWAC (Megacities Alliance for Water and Climate) https://en.unesco.org/mawac.

Véronëque Ignace serves as the NYC FloodNet Community Engagement Manager based at the Science and Resilience Institute at Jamaica Bay, hosted by CUNY-Brooklyn College. As a Flatbush, Brooklyn native with a background in public health practice, community-based participatory research, and cultural activism, she develops and leads transdisciplinary community engagement efforts, rooted in social change and seeking to improve community health. Through applied public health practice in diverse spaces, she has steered strategic design and program planning and evaluation to facilitate growth, racial equity policies, an orientation toward socio-political community engagement at non-profits, grassroots groups, and larger arts institutions. She is an alum of Williams College and SUNY Downstate School of Public Health. She is currently a PhD student at the CUNY Graduate School of Public Health.

Ilan Juran, NYU Tandon School of Engineering, Civil & Urban Engineering Department (retired), and Executive Director, W-SMART Association, earned his Doctorate of Engineering, in 1977, and Doctorate of Science from the University of Paris VI, in 1987. He is currently the Secretary of the Specialists Group on Water Safety & Security Management of IWA and the Executive Director of W-SMART, the International Alliance of Water and Wastewater Utilities for Sustainable Water Security, established in the aftermath of 9/11, at the initiative of the NYC DEP Commissioner. As former head of the Civil & Environmental Engineering Department at the Polytechnic Institute of New York University, Dr. Juran's responsibilities included development of multi-disciplinary educational and research programs relevant to the urban infrastructure priority needs of NYC agencies and utilities, including field demonstration and assessment of infrastructure technology solutions in a variety of critical infrastructure sectors. Dr. Juran has served as senior consultant to local governments, elected officials and urban utilities including Paris and New York, as well as to international organizations including UN Secretariat, UNDP, and UNESCO. His recent research projects have included *Intelligent Network Control & On-site Monitoring* and *Bio-Safety Monitoring, Assessment & Real-time Control* with W-SMART member utilities; *Smart Water For Europe*, a 2.5M€ smart water management demo-site with EU-FP7 program; *GasLeak – AI Application for Leakage Geolocation in Gas Distribution Systems"* with Con Edison; and *Smart Integrated Waste Water Treatment Process* with SIAAP, France.

Zehra Kuz is a registered architect (NYS, CT) as well as an adjunct professor, CCE, at the Pratt Institute, School of Architecture. Influenced by how the changing climate and the prevailing environmental pressures affect urban life, she focuses on the integration of natural and man-made, physical and social infrastructures within built-environments. Central to her work is the New York City's vulnerable disinvested frontline communities and the City's Significant Maritime Industrial Areas (SMIA); she explores implementing resilience in collaboration with local community activists and community organizations. Aspects of participatory design, integrating local experience and innovative solutions, influences her research as well as design studio projects. As one of two primary investigators for "Fluid Frontiers: Stormwater Management", a multi-faceted research initiative in Brooklyn's Red Hook Sewershed, Zehra focused on quantifying stormwater impact through CSOs on coastal waters, explored feasible strategies for public private partnerships and engaged local communities in the implementation of innovative solutions toward achieving the Clean Water Act. Zehra also co-led a NYC Department of Design and Construction (DDC) research project*, Design for Equity* (Part1) and *Evoking Equity* (Part2), for DDC's "Design and Construction Excellence 2.0, Guiding Principles as a way to make public facilities responsive to the communities where they are located. Presently, at Pratt Institute's the School of Architecture she co-leads RAMP (Recover, Adapt, Mitigate and Plan) an interdisciplinary Initiative that together with respective community leaders, explores design, policy and planning strategies for vulnerable waterfront neighborhoods in New York. She has worked with local leaders in Jamaica Bay, as well as most of NYC's SMIA as she continues to be a charter academic partner in the Resilient People Places and Projects (RP3) working group of Town+Gown. Recently, as a team member of the Collective for Community Culture and Environment, a women owned business and professional network, together with RISE (Rockaway Initiative for Sustainability and Equity), she completed research for The Nature

Conservancy's project Community Visioning for Vacant Land following Managed Retreat in Edgemere, Queens.

Debra Laefer, Professor of Urban Informatics and Director of Citizen Science at New York University Tandon School of Engineering, with degrees from the University of Illinois Urbana-Champaign (MS, PhD), NYU (MEng), and Columbia University (BS, BA), Prof. Laefer has a wide-ranging background spanning from geotechnical and structural engineering to art history and historic preservation. Not surprisingly, Prof. Laefer's work often stands at the cross-roads of technology creation and community values such as devising technical solutions for protecting architecturally significant buildings from sub-surface construction. As the density of her aerial remote sensing datasets continues to grow exponentially with time, Prof. Laefer and her Urban Modeling Group must help pioneer computationally efficient storage, querying, and visualization strategies that both harness distributed computing-based solutions and bridge the gap between data availability and its usability for the engineering community. In her decade and a half as a faculty member in both the US and Europe, Prof. Laefer has served as the principal investigator for grants from a wide range of sponsors including the National Science Foundation, the US Federal Highway Administration, the National Endowment for the Arts, the National Endowment for the Humanities, Science Foundation Ireland, and the European Research Council (including a €1.5 million single investigator award from the flagship ERC program for which she is the only civil engineer to have been funded in Ireland in the program's 11 year history). Prof. Laefer has authored over 160 peer reviewed publications, been awarded 4 patents, and has supervised 15 doctoral and 20 Masters theses. Among many honors from IEEE, ISPRS, and other professional societies, the most notable is perhaps the 2016 commissioning and hanging of her portrait by the Royal Irish Academy as one of eight researchers selected for the Women on Walls project to celebrate Irish women in science and engineering. She currently helps form national research programs and policies in her governmental appointment to the Irish Research Council (2016-2020).

Xinwei Mao is an associate professor in the Civil Engineering Department at Stony Brook University, she is also the associate director of New York State Center for Clean Water Technology, leading the research and development of onsite wastewater treatment technologies. Her research interest is to apply the knowledge of environmental microbiology to establish cost-effective and energy efficient wastewater and stormwater treatment processes and promote a sustainable relationship between humans and the natural water environment.

Terri Matthews is Director of Town+Gown:NYC and created the Town+Gown:NYC program to support efforts like the collaborative efforts among practitioners and academics envisioned by this MAWAC-ENAR Water Research & Innovation Workshop, which aims at policy making and operational change based on applied research results. She started out as a public finance law attorney and previously worked in New York City government on public budgeting, public finance, performance measurement and public procurement, all of which influence her current work in the built environment through Town+Gown. Ms. Matthews is a graduate of Boston College and Boston College Law School, and has a Master of Public Administration from NYU Wagner and a Master of Science from NYU Tandon.

Dylan Meagher is the Chief of Staff for the Bureau of Sustainability at the NYC Department of Environmental Protection. He helps oversee many of DEP's sustainability initiatives, including the City's cloudburst and inland flooding strategy, the NYC Green Infrastructure Program, City-wide MS4 Stormwater Management Program, Demand Management Program, Superfund remediation and other issues. He provides strategic and policy support to DEP's CSO Long Term Control Plans and Environmental Impacts Assessments of DEP's capital program. He is the agency lead for the citywide Environmental Justice Report and Program and supports the City's efforts to plan for new growth stimulated by rezoning throughout the City, and regularly works on developing new laws and regulations related to stormwater and environmental protection. Prior to joining NYC DEP, Dylan worked in corporate sustainability with multiple projects and placements in the Middle East and in the US. Dylan holds a Master of International Affairs from Columbia University and a Bachelor of the Arts in Psychology from Hunter College/CUNY.

Franco Montalto, Ph.D, is a licensed civil engineer interested in the development of ecologically, economically, and socially sensible solutions to urban environmental problems, with a focus on water resources, sustainability, and climate resilience. His 30 years of experience have included research, planning, and design of a variety of nature-based solutions involving ecological restoration of degraded landscapes, the use of constructed wetlands for wastewater and stormwater treatment, and green infrastructure as a means of managing urban runoff, while promoting urban sustainability and resilience. He is currently a Professor at Drexel University, where he directs the Sustainable Water Resource Engineering Lab. He is also the Founder and President of eDesign Dynamics LLC, an environmental consulting firm based in New York City, with an international portfolio of projects. He serves as the Director of the North American Hub of the Urban Climate Change Research Network (UCCRN) and is a Member of the 4th New York City Panel on Climate Change (NPCC4), where he co-chairs the Flooding Working Group. He was also an invited author of the recently released Northeast Chapter of the 5th National Climate Assessment (NCA5).

Cristina Negri is the Director of the Environmental Science (EVS) Division overseeing environmental research conducted by approximately 160 staff and collaborators. She leads the development and execution of the Division's strategic programmatic direction inclusive of a diverse research portfolio in environmental sciences. In her more than 30 years as a scientist at Argonne, she conducted and directed laboratory to full-scale multidisciplinary projects developing technologies and concepts for environmental remediation and stewardship, including soil remediation and water treatment. Cristina's research as a scientist focuses on sustainable approaches for the environmental improvement of urban and agricultural processes. She has led water quality studies in a large urban setting, and the development and modeling of agricultural landscapes to address the food, energy, water, and land nexus and the creation, through landscape and land use management, of ecosystems services such as improved water quality, carbon sequestration, soil improvement, and pollinator habitat. Her interests are in systems approaches where industrial ecology concepts are applied to water and land management and green infrastructure. Cristina is the Lead Principal Investigator for the Community Research on Climate and Urban Science (CROCUS) project, a large, collaborative, multi-year Urban Integrated Field Laboratory funded by the US DOE Office of Science. Centered on the Chicago region,

CROCUS seeks to understand at street and regional scales the two-way feedbacks between climate and urban systems, with particular emphasis on elucidating the interaction between the biophysical and human systems, and the drivers and impacts of climate on environmental justice.
Cristina is a Fellow with CASE at the University of Chicago. She is also a Fellow of the Northwestern University—Argonne Institute of Science and Engineering. She earned her Dottore in Scienze Agrarie Degree (Agricultural Sciences) at the University of Milan in Milan, Italy. Prior to joining Argonne, Cristina worked in private industry in Italy as a research and development manager and as a liaison with universities and other Italian national research organizations. Her research focused on developing methods for the sustainable, beneficial reuse of industrial and urban waste and for pollution mitigation in agriculture. She also served as the Convener of a CEN (the European Standardization Organization) Working Group, leading experts from European Union Nations toward the creation of European environmental standards for agricultural commodities.

Gregory O'Mullan is a Professor in the School of Earth and Environmental Sciences at Queens College in the City University of New York (CUNY) and an Adjunct Senior Research Scientist at the Lamont-Doherty Earth Observatory of Columbia University. He is a member of the NY/NJ Harbor and Estuary Program's (HEP) Science and Technical Advisory Committee and acting NY co-chair of the HEP water quality work group. His research has been focused on environmental microbiology and water resource management with specific interests that have included sewage and stormwater pollution in coastal water; microbial nitrogen cycling; and bioaerosol formation and transport. He has nearly two decades of experience working with academic, agency, and community/NGO partners in the New York area to help execute water quality monitoring programs and to study connections of urban water pollution to coastal environmental concerns including hypoxia, greenhouse gas formation, the spread of antibiotic resistance and pharmaceuticals in sewage polluted water, and exposure to fecal pathogens. Along with CUNY collaborators from the Science and Resilience Institute at Jamaica Bay, he is currently working with the New York City Department of Environmental Protection to evaluate the use of nature-based solutions, including constructed wetlands and ribbed mussel filtration systems, as water pollution control measures. He and collaborator William Blanford have developed antimicrobial porous media for treatment of urban stormwater, cooling towers, and industrial process water and are pursuing field-scale pilot demonstrations of the technology.

Aaron Packman is a Professor of Civil and Environmental Engineering at Northwestern University, the Director of Northwestern's Center for Water Research, and Co-Director of the U.S.-Israel Collaborative Water-Energy Research Center (CoWERC). He holds a joint appointment at Argonne National Laboratory as a Senior Fellow in the Northwestern-Argonne Institute of Science and Engineering. Dr. Packman is an internationally recognized expert in water resources, surface-groundwater interactions, and biological and biogeochemical processes in aquatic systems. Dr. Packman's research team is working to solve a variety of problems, including urban flooding, nutrient pollution, ecosystem degradation & restoration, and waterborne disease transmission. He currently serves on the Leadership Team of the Smart Great Lakes Initiative, as well as its Science, Technology, and Innovation team. Packman has received numerous awards and honors, including Fellow of the American Geophysical Union, a Fulbright Distinguished Chair in Hydrology and Hydraulic Engineering, the Huber Research Prize from the American Society of Civil

Engineers, and Career Awards from the National Science Foundation and National Institutes of Health. In 2022, Packman and his collaborators shared a Chicago Innovation Award for the Illinois Wastewater Surveillance System, which provides information on SARS-CoV-2 and influenza for over 8 million people across Illinois. He received a B.S. degree in Mechanical Engineering from Washington University in St. Louis, and M.S. and Ph.D. degrees in Environmental Engineering and Science from the California Institute of Technology.

Ashish Sharma, Ph.D., is the Climate and Urban Sustainability Lead at the Discovery Partners Institute, University of Illinois System. He is a faculty in the Department of Atmospheric Sciences at the University of Illinois Urbana-Champaign. He holds a joint appointment as a Climate Scientist at Argonne National Laboratory. He is the Director of the NSF-UKRI joint-funded Global Center on Clean Energy and Equitable Transportation Solutions (CLEETS). He is named to Crain's Chicago Business' 40 Under 40 class of 2023. Dr. Sharma completed his Ph.D. in Aerospace Engineering from Arizona State University. Dr. Sharma has expertise in atmospheric sciences, focusing on regional climate, air quality, and assessing adaptation and mitigation strategies. Through collaborative research across science, engineering, social sciences, and policy, he studies environmental justice issues, including heat, fog, air quality, and high-impact weather. Dr. Sharma has secured funding from diverse agencies, such as the U.S. DOE, NSF, NASA, Walder Foundation, IBM, and ComEd Exelon Energy. Dr. Sharma is a fellow of the Royal Meteorological Society. He serves on the Trust for Public Land's Natural Solutions Tool advisory committee (2022). He has co-authored an assessment of climate change impacts on the Great Lakes region (2019), a special climate assessment for Illinois (2021), and a NOAA report on aligning research priorities to enhance resilience to extreme heat (2019). As a co-author of the first climate action plan for the Chicago metro region (2021), he has received numerous awards, including the American Planning Association Merit in Sustainability Award (2022) and the Center for Climate and Energy Solutions Climate Leadership Award (2021). The Illinois State Museum exhibits his work on climate change, injustice, and heat in Chicago. He has contributed as a reviewer for the IPCC report and many international scientific journals. Dr. Sharma is a member of the US EPA Science Advisory Board for the EJ Screen review panel. He is the Associate Editor of the Frontiers in Environmental Science: Atmosphere and Climate journal. He has testified on a subject matter hearing on urban heat island effect and solutions to the City of Chicago Committee on Environmental Protection and Energy (2021). He has briefed the U.S. Senate Climate Taskforce, U.S. House of Representatives, and congressional staff on Capitol Hill on the impacts of climate change in the Great Lakes Region (2019).

Andrea Silverman is an Associate Professor of environmental engineering in the Department of Civil and Urban Engineering at the NYU Tandon School of Engineering and is also affiliated with the Center for Urban Science and Progress (CUSP) at NYU. Dr. Silverman's research is centered on water quality, wastewater treatment, and urban flooding, with an overarching goal to protect public health and environmental quality. Within the broad topics of water and wastewater treatment, she focuses on the detection and disinfection of waterborne pathogens, wastewater-based epidemiology, the design of natural wastewater treatment systems (e.g., treatment ponds and constructed wetlands), and the safe reuse of human waste. Dr. Silverman works in both high- and low-income settings and has conducted

field research in New York City; California; Accra, Ghana; and Nairobi, Kenya. In addition to laboratory-based research, Dr. Silverman works on applied urban projects. Dr. Silverman co-directs the FloodNet project, with a goal to design, build, and deploy low-cost sensors to measure and report hyperlocal urban flooding in real time. She also partnered with the NYC Department of Environmental Protection to help develop and implement NYC's wastewater surveillance program for COVID-19. Through these projects she has collaborated with local and federal government agencies, as well as community-based organizations in New York City.

Thomas L. Theis, Ph.D., is Director of the Institute for Environmental Science and Policy (IESP) at the University of Illinois Chicago (UIC), and Professor of Civil, Materials, and Environmental Engineering. Prior to joining UIC, he held the Bayard Clarkson Distinguished Chair at Clarkson University. His areas of expertise include industrial ecology, life cycle assessment, the mathematical modeling and systems analysis of environmental processes, environmental policy, pollution prevention, and hazardous waste management. He has published in excess of 150 peer-reviewed articles and is the co-author (with Jonathan Tomkin) of the textbook, Sustainability: A Comprehensive Foundation. Dr. Theis is a past member of the USEPA Congressionally Chartered Science Advisory Board and is past editor of the Journal of Environmental Engineering. From 1980-1985 he was the co-director of the Industrial Waste Elimination Research Center (a collaboration of Illinois Institute of Technology and University of Notre Dame), one of the first Centers of Excellence established by the USEPA. In 1989 he was an invited participant on the United Nations' Scientific Committee on Problems in the Environment (SCOPE) Workshop on Groundwater Contamination, in 1998 he was invited to by the World Bank to assist in the development of the first environmental engineering program in Argentina, in January, 2009 he delivered the keynote address at the NitroEurope Conference, and in October 2009 he was a member of the US delegation to the US-Japan Workshop on Life Cycle Assessment and Infrastructure Materials. He is the founding Principal Investigator of Environmental Manufacturing Management, among the first NSF IGERT programs, and was co-chair of the 9th biennial meeting of the International Society for Industrial Ecology in 2017. Theis' current research interests involve the development of a research network organized around the goal of creating and implementing circular economy (CE) solutions to address growing social, economic, and environmental impacts facing regional systems. Using the case study of Chicago, IL and surrounding urban-rural linkages, this network explores the underlying system, structures, and interactions that give rise to unsustainable resource consumption and waste generation, and identifies potential solutions grounded in the emerging field of CE. The research network engages interdisciplinary researchers and non-academic community partners in a process for transforming regional systems towards CE; exploring convergent research mechanisms for deep integration of knowledge, methods, tools, and expertise from diverse perspectives that can advance the study of regional circular economies; and creating a collaborative platform on which the scientific community and key stakeholders can share knowledge, translate findings, and enhance diversity and engagement.

Ben Wilde is the Program and Research Coordinator for the Cornell Mui Ho Center for Cities (CfC). In this capacity, Ben manages the Center's initiatives, including developing scopes of work, planning and managing resources, setting milestones and deadlines, and developing systems of monitoring and evaluation. He also contributes to Center-led research, including proposal development, literature

reviews, data collection, analysis, and dissemination of the findings in the form of articles, working papers, and communication outputs. Before joining the CfC, Ben spent ten years at the Swiss Federal Institute of Technology (ETH Zürich), working as a laboratory technician, doctoral candidate, and finally postdoctoral researcher in the Sustainable Agroecosystems laboratory. As a senior member of the RUNRES project, he managed an interdisciplinary team of researchers, private sector representatives, and community stakeholders in four different city-regions across Sub-Saharan Africa (Arba Minch, Ethiopia, Kamonyi, Rwanda, Bukavu, DRC, and Msunduzi, South Africa) with the aim of restructuring urban waste streams to support sustainable and equitable economic development. Prior to pursuing his doctoral work, Ben began his academic career at the University of Texas, Austin, and earned a bachelor's degree in history. He then served in the Peace Corps, where he supported environmental education and water resource projects in the Chaco region of Bolivia. Ben then obtained a master's degree in community and regional planning from the University of New Mexico. As a broadly educated researcher, Ben has an appreciation for the complexities inherent in human-environment systems. He is interested in applied, transdisciplinary, and solutions-oriented research that endeavors to support sustainable and equitable community development. His academic research/expertise topics include: community-based planning, resource oriented solid waste management and sanitation, circular economies, and food systems planning.

Şevin Yıldız is an Assistant Professor in the Urban Planning and Policy Department at the University of Illinois, Chicago. She researches ecological planning and urban design in the context of climate change and global urbanization. She recently completed a manuscript that investigates the planning field's changing conceptualizations of wetlands, mangroves, and salt plains in metropolitan regions. Her primary case study is the New Jersey Meadowlands in the New York metropolitan area. Her publications explore how ecological design and planning ideas conceptualize and negotiate values and coexistence norms in metropolitan areas that have expanded into their fringe ecosystems. Her latest comparative piece examines the long-range planning of these land-to-water transitory ecosystems in Mumbai, Amsterdam, Tokyo, and New York. She has led the UIC's Master of City Design (MCD) semester-long 'Great Cities Studio,' which focuses on conceiving innovative design strategies and systems planning for Chicago's future urban form in the face of changing climate, working on adaptability, and infrastructure retrofitting. This studio prepared a New Nature plan for Chicago's Calumet Region at the dawn of climate adaptation in 2023 (APA-IL Student Project Award Winner in 2023) and a Cloudburst Plan for downtown Chicago in 2022. She also serves on the Chicago Department of Planning's River Ecology Task Force since 2020.