ResilientAmerica

The National Academies of SCIENCES • ENGINEERING • MEDICINE

Steve Moddemeyer

Principal for Planning, Sustainability, and Resilience, CollinsWoerman Architects Chair, Committee on Hazard Mitigation and Resilience Applied Research Topics

Steve Moddemeyer is a principal of Collinswoerman with 30 + years' experience leading governments, land owners, and project teams towards increased sustainability and resilience. He creates tools, policies and programs that empower communities to implement resilience principles into planning for land use and urban infrastructure. He works on climate change adaptation, sustainability strategies for large urban redevelopments, and advanced sustainability strategies for land owners, cities, counties, and utilities. He is a past member of the National Academies of Sciences Resilient America Roundtable (two terms). He serves as an advisor to the University of Washington Masters in Infrastructure Management and Planning, Member of the International Union for the Conservation of Nature: Resilience Theme Group, and founding member of The Little Think Tank, a group of academic and policy experts that focus on resilient recovery actions for American communities. Trained as a landscape architect, Steve creates multi-benefit implementation strategies that bring together natural and human systems by applying socio-ecological principles to system design, urban design, policy design, and industrial symbiosis development.

Panel 1: Equitable Community Development

Manal J. Aboelata, MPH

Deputy Executive Director, Prevention Institute

Manal J. Aboelata is Deputy Executive Director at Prevention Institute, a national non-profit dedicated to advancing effective strategies to achieve health equity, prevent illness and injury, and ensure safe and healthy communities. An epidemiologist by training, Manal advocates for health equity and racial justice. She writes and speaks on many issues, especially those pertaining to health equity and the built environment. Manal co-authored a chapter in the first and second editions of Making Healthy Places and wrote the foreword for Schools that Heal: Design with Mental Health in Mind (Island Press). In the form of original articles, op-eds, and policy briefs, she has written extensively on timely, relevant public health justice issues. Manal has served on numerous health advisory boards, review panels, and expert councils. She is currently serving her third and final term as an appointee of Supervisory District 2 (South Los Angeles) to Los Angeles County's Community Prevention and Population Health Taskforce. Manal graduated from UCLA with a Masters in Epidemiology (2001) and from UC Berkeley with a Bachelor of Arts (1998). Manal was inducted into UCLA Hall of Fame (2009) and was a Stanton Fellow of the Durfee Foundation from 2018 to 2020.

Nnenia Campbell

Deputy Director, Bill Anderson Fund

Dr. Nnenia Campbell is Deputy Director at the Bill Anderson Fund and a Research Associate with the Natural Hazards Center at the University of Colorado Boulder. Dr. Campbell's work with the Bill Anderson Fund supports leadership, professional development, and research training among historically underrepresented minority doctoral students studying hazards and disasters. Her work with the Natural Hazards Center translates empirical research on the social aspects of disasters into tools and information products designed for practitioners and decision-makers, with an emphasis on inclusive engagement. Dr. Campbell's research interests center on the intersections between disaster vulnerability and resilience within marginalized communities and on the role that community-based organizations play in disaster preparedness, response, and recovery. Her current research collaborations include projects related to disaster planning and response capacity among food banks and other community-based organizations; linkages between disaster scenarios and hazard mitigation efforts; risk communication in the context of concurrent and successive disasters; and the impacts of the COVID-19 pandemic on youth and older adults.

Joyce Coffee

President, Climate Resilience Consulting

Joyce Coffee, LEED AP, is founder and President of Climate Resilience Consulting, a social enterprise that works with clients to create practical and equitable strategies that enhance markets and communities through adaptation to climate change. Coffee has 25 years of leadership experience in government, private, nonprofit, philanthropic and academic sectors. She has worked with over 200 institutions to create and implement climate-related resilience initiatives. Specific areas of emphasis include resilience strategy, resilience finance, resilience measurement and social equity. She is an appointed director or chair of 25 nonprofit boards and initiatives. She received a B.S. in biology, environmental studies and Asian studies from Tufts University and a Masters in city planning from the Massachusetts Institute of Technology.

Marissa Ramirez

Director, Community Strategies, Equity, Environment, and Justice Center, Natural Resources Defense Council

Marissa Ramirez is the Director of Community Strategies for the Equity, Environment, and Justice Center at the Natural Resources Defense Council. She believes that meaningful change happens locally. Since coming to NRDC in 2010, Marissa has worked with neighbors and local leaders primarily in underserved communities of color on revitalizing communities by providing best practices and tools for a more equitable and sustainable future. She is a co-author of "4-Steps to a Climate Savvy Community," which is designed for communities to find solutions to climate, health, and racial equity issues where they live. She is also author and co-author of "Green Neighborhoods: Advancing Strategies that Create Strong, Just, and Resilient Communities" and "The Sustainable Square Mile Handbook: Cultivate Your Green Village with Community-Based Principles and Practices." She has led new research to uncover the links between climate change, displacement, and gentrification in U.S cities. Marissa has a Master of Environmental Management from the Yale School of Forestry and Environmental Studies, where she focused on urban environmental economics. She also holds a Bachelor of Science degree in Biology from Yale University. Marissa continues to bring both her passion for human and environmental health to her professional work in communities.

Stacy Swann [Moderator]

CEO, Climate Finance Advisors Member, Committee on Hazard Mitigation and Resilience Applied Research Topics

Stacy Swann is the CEO and Founding Partner of Climate Finance Advisors, a benefit LLC based in Washington, DC with expertise in banking, development finance, and climate change. During her career, Ms. Swann has held senior positions with the International Finance Corporation (IFC), as well as with the US Department of Treasury, Enron Corporation, and other organizations. For more than twenty five years she has worked with investors, financial institutions and policymakers on mainstreaming climate considerations across both investment and policy and has particular expertise in blended finance, climate finance, climate Finance Advisors, Ms. Swann is currently the Chair of the Export-Import Bank of the United States (EXIM) Chair's Council on Climate Change, a sub-committee of its Advisory Board. She also sits on the Board for the Montgomery County Green Bank the United States' first county-level green bank and is Chair of its Investment Committee. She is a member of the Steering Committee/Board of the Global Water Partnership, a global action network of more than 3,000 Partner bodies in 179 countries focused on building sustainable water systems globally. Stacy holds an MBA in Finance and Development Economics from American University, a Master's degree from Harvard University and a Bachelor's degree from City University of New York - Hunter College.

Panel 2: Equitable Physical Infrastructure

Carol Friedland

LaHouse Director and Associate Professor, Louisiana State University AgCenter

Kelly Kibler

Associate Professor, Department of Civil, Environmental and Construction Engineering and National Center for Integrated Coastal Research, University of Central Florida

Dr. Kelly Kibler is an Associate Professor of Water Resources Engineering in the Department of Civil, Environmental and Construction Engineering at the University of Central Florida. She is faculty of UCF's National Center for Integrated Coastal Research (UCF Coastal) and a Faculty Fellow of UCF's Center for Global Economic and Environmental Opportunity. Dr. Kibler obtained her Ph.D. in Water Resources Engineering from Oregon State University and worked with the United Nations Environmental, Scientific and Cultural Organization (UNESCO) before joining UCF faculty. Dr. Kibler's Ecohydraulics Laboratory targets coupled biological and physical variables in river and estuarine systems. Research topics include flow-biota interaction and its influence to hydrodynamics and sediment transport at multiple scales. Applications for Dr. Kibler's research include development pathways and infrastructure that minimize ecosystem disruption and promote the restoration or engineering of aquatic ecosystem services, including those related to climate adaptation. Dr. Kibler's research has been supported by the U.S. National Science Foundation, U.S. Defense Advanced Research Projects Agency, U.S Environmental Protection Agency, U.S. National Oceanic and Atmospheric Association, Florida Department of Environmental Protection, and Florida Department of Transportation.

Rae Zimmerman

Research Professor and Professor Emerita of Planning and Public Administration; Director, Institute for Civil Infrastructure Systems, Robert F. Wagner Graduate School of Public Service, New York University

Rae Zimmerman is Research Professor and Professor Emerita of Planning and Public Administration at New York University's Wagner Graduate School of Public Service, following a full-time tenured professorship for many years, and she currently directs NYU-Wagner's Institute for Civil Infrastructure Systems. She is a Fellow of the American Association for the Advancement of Science, past president and Fellow of the international Society for Risk Analysis (SRA) and recipient of SRA's 2019 Distinguished Achievement Award and 2015 Outstanding Service Award. She has authored or co-edited a half dozen books, including Transport, the Environment and Security and almost 200 other publications encompassing social and economic dimensions of infrastructure systems and their vulnerability to natural hazards, climate change, and accidents. She has had over four dozen research grants funded by the National Science Foundation and other agencies through university centers, currently focusing on infrastructure interdependencies and sustainability, COVID-19 related food consumption patterns, risk communication, and behaviors that shape and are shaped by infrastructure services. She holds a B.A. in Chemistry (U. of California, Berkeley), a Master of City Planning from the U. of Pennsylvania and a Ph.D in Planning from Columbia University.

Chris Emrich [Moderator]

Boardman Endowed Associate Professor of Environmental Science and Public Administration, University of Central Florida Member, Committee on Hazard Mitigation and Resilience Applied Research Topics

Christopher Emrich is the Boardman Endowed Associate Professor of Environmental Science and Public Administration within University of Central Florida's School of Public Administration and Director of Research in UCF's newly formed National Center for Integrated Coastal Research (UCF Coastal). His research/practical service includes applying geospatial technologies to emergency management planning and practice, long-term disaster recovery analysis, and the intersection of social vulnerability and community resilience in the face of catastrophe. From 2004 - 2008 he provided geospatial support for response and long-term recovery to the states of Florida, Louisiana, and Mississippi and has since been actively involved in understanding how differential recoveries manifest across disaster-stricken areas. Dr. Emrich is actively working at pinpointing challenges to equity in disaster recovery and mitigation and where he has most recently assisted in building empirically based and result-oriented impacts assessments to inform recovery programs in several states and US territories. He has remained at the vanguard of theory, data, metrics, methods, applications, and spatial analytical model development for understanding in the field of hazard vulnerability science and the often very in-equitable and disproportionate pattern of disaster loss and recovery across communities.

Panel 3: Deep Dive – Resilience Hubs

Kristin Baja

Director of Direct Support & Innovation, Urban Sustainability Directors Network

Kristin Baja ("Baja") is USDN's Director of Direct Support & Innovation. Baja is responsible for identifying, leading, and supporting innovative projects and trainings that actively transform local government processes and lead to proactive respect-based change. She actively works to identify and compost archaic and discriminatory practices and to provide pathways for change rooted in courage, equity, and justice. Baja works across scales and actively helps facilitate deeper connectivity and collaboration between local government practitioners and their stakeholders while helping to shift to more transformational systems-level change. Prior to USDN, Baja served as the Climate and Resilience Planner with the City of Baltimore where she led the city's climate and equity work. She holds a Masters of Urban Planning and a Masters of Science from the University of Michigan and is actively working in a Masters in Biomimicry from Arizona State University. She is an EPIC-N board member and serves on several local and international advisory committees. In 2016, she was recognized by the Obama Administration as a Champion of Change for her work on climate and equity.

Jana Ganion

Sustainability and Government Affairs Director, Blue Lake Rancheria, California-a federally recognized tribal government

Jana Ganion is the Sustainability and Government Affairs Director for the Blue Lake Rancheria, a federally recognized Native American tribal government. Jana has established the Tribe's strategy for zero-carbon resilience. Her development experience includes low-carbon community-scale and facility-scale microgrids, electric vehicle (EV) infrastructure, strategic planning in sustainability, climate action (pairing mitigation with adaptation), emergency preparedness, and economic enterprise development. She is an appointee to and current (2021) co-chair of the U.S. Department of Energy's Indian Country Energy and Infrastructure Working Group, the U.S. Bureau of Ocean Energy Management California Intergovernmental Task Force, California's Integrated Climate Adaptation and Resilience Program Technical Advisory Committee, the California SB 350 Disadvantaged Communities Advisory Group for the California Public Utilities Commission and California Energy Commission, among other roles. Jana works on policy, programs, and investments to achieve rapid, cost-effective transition to decarbonized and resilient communities for the resulting social, environmental, and economic co-benefits.

Shina Robinson

Policy Coordinator, Asian Pacific Environmental Network [APEN]

Shina is a bridge builder between passing transformative climate, energy, and housing policies, and implementing state policy through local models of Just Transition and Energy Democracy, rooted in local design and decision making of APEN's immigrant and refugee leaders. She leads policy and political education trainings, community engagement processes, joint advocacy, and coordination with local and state coalitions to advance these projects and collective vision. Her current focus is on implementation of policies, accessing investments, and engaging APEN communities as decision makers to build community-based climate resilience hubs in Oakland and Richmond. Shina has served in many roles at APEN since 2012, but her deep commitment to environmental justice at the intersection of human rights,

health, and equity started from a young age between visiting family in the Philippines and growing up in the shadow of a Los Angeles area oil refinery. She took on human rights and climate disaster relief campaigns while pursuing an undergraduate degrees in International Studies and Political Science at Cal State Long Beach.

Elena Krieger [Moderator]

Director of Research, Physicians, Scientists, and Engineers for Healthy Energy Member, Committee on Hazard Mitigation and Resilience Applied Research Topics

Elena Krieger is the Director of Research at the energy science and policy research institute Physicians, Scientists, and Engineers for Healthy Energy (PSE). She joined PSE in 2013 to launch the organization's clean energy practice area, and now oversees its scientific research efforts. Her current work focuses on accelerating the transition to clean energy resources, and developing transition pathways that realize non-energy co-benefits. She serves as principal investigator on numerous research projects, and simultaneously works closely with community organizations, non-profits, policymakers, and other stakeholders to use science to inform energy and climate policy. Her current research areas include designing solar+storage resilience hubs and deployment strategies, and integration of resilience, health, equity, and environmental metrics into state-level deep decarbonization efforts. She is a member of the Disadvantaged Communities Advisory Group to the California Energy Commission and the California Public Utilities Commission, a member of the National Academies' New Voices in Science, Engineering and Medicine Program 2021 Cohort, and a science advisor to the American Resilience Project. She received her PhD in Mechanical & Aerospace Engineering from Princeton, where her research focused on optimizing energy storage in renewable systems, and holds an AB in Physics and Astronomy & Astrophysics from Harvard.

Panel 4: Deep Dive - Housing

Emily Alvarado

Vice President, Pacific Northwest, Enterprise Community Partners Emily Alvarado is vice president and Pacific Northwest market leader for Enterprise Community Partners.

Emily oversees Enterprise's work in Washington and Oregon to create and preserve affordable homes and brings programmatic solutions to scale through policy advocacy. Her work includes directing Enterprise's Washington Early Learning Loan Fund and the Puget Sound Taxpayer Accountability Account Early Learning Facilities Fund. Before joining Enterprise, Emily worked at Seattle's Office of Housing, which she joined in 2014 and was named director in 2019. During her tenure, she stewarded more than \$275 million in investments that supported affordable rental housing and homeownership opportunities for more than 3,600 families. She worked to implement community preference as a way to counter displacement, paved the way for new approaches to community-driven affordable housing connected to light rail and accelerated production of Permanent Supportive Housing. Emily also forged partnerships with stakeholders across the city to advance housing production and preservation programs. Emily has extensive policy advocacy experience including leadership positions in nonprofits such as Pittsburgh UNITED, a coalition of community, labor, faith and environmental organizations, and the Housing Consortium of Seattle-King County. She was named to the Puget Sound Business Journal's "40 Under 40" list in 2020. Emily also serves as a board member for the Washington Low Income Housing Alliance

and the Washington Housing Alliance Action Fund. She holds a bachelor's degree from Scripps College and a juris doctor from the University of Washington School of Law.

Anne Cope

Chief Engineer, Insurance Institute for Business & Home Safety

Dr. Anne Cope joined IBHS in 2009 just a few months before the groundbreaking for the construction of the IBHS Research Center in Richburg, South Carolina. As the Chief Engineer, she leads the development of research programs to improve the performance of structures in hurricanes, wildfires, severe thunderstorms, and hailstorms as well as the team of engineers, scientists, and skilled craftsman who conduct research on full-scale homes and commercial buildings. She is responsible for the team's implementation of research findings into building codes and standards. Prior to joining IBHS, Dr. Cope was a project manager and structural engineer with Reynolds, Smith & Hills, Inc., designing projects for NASA, Department of Defense, and commercial launch operations. Dr. Cope's research encompasses topics ranging from the full-scale simulation of wind effects on buildings to detailed studies of the vulnerabilities of buildings to natural hazards and the development of damage prediction models. She is also a proud veteran of the United States Army. She earned her bachelor's and master's degrees in civil engineering from Clemson University, and her doctorate from the University of Florida. She is a registered professional engineer in Florida and South Carolina.

Sarah Saadian

Senior Vice President of Public Policy, National Low Income Housing Coalition

As Senior Vice President of Public Policy, Sarah Saadian oversees NLIHC's broad congressional portfolio and policy team. Sarah has over a decade of experience working on affordable housing and community development. Sarah has been quoted in major media outlets, and she has testified before Congress. She graduated from the University of Connecticut School of Law in 2009 after receiving her Bachelor's degree from the University of Virginia in 2005. She has also been a member of the Virginia State Bar since 2009.

Therese McAllister [Moderator]

Community Resilience Group Leader and Program Manager, National Institute of Standards and Technology Member, Committee on Hazard Mitigation and Resilience Applied Research Topics

Therese McAllister is the Community Resilience Group Leader and Program Manager in the Engineering Laboratory (EL) at the National Institute of Standards and Technology (NIST). She is also the NIST Liaison for the NIST-funded Center of Excellence, Center for Risk-Based Community Resilience Planning, that is led by Colorado State University. Dr. McAllister conducts research on community resilience, with a focus on the integrated performance of physical infrastructure and social and economic systems. She has expertise in structural reliability, risk assessment, failure analysis of buildings and infrastructure systems, and the performance of structures in fire. She co-led detailed structural analyses of the WTC towers and WTC 7 for the NIST WTC Investigation, conducted reliability studies of levee systems for the USACE following Hurricane Katrina flooding in New Orleans, and evaluated Hurricane Sandy flood effects on infrastructure systems as part of the FEMA MAT. She recently was recognized with the 2021 ASCE Walter P Moore, Jr award and 2018 ASCE Ernest E Howard Award for her research on structural codes and standards and on resilience. Dr. McAllister is an ASCE Structural Engineering

Institute Fellow and serves on the ASCE/SEI 7 standard committee, Infrastructure Resilience Division, the Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems, and the SEI Board Level Resilience Committee. She previously served on the International Code Council (ICC) Structural Committee. She is an advisory panel member for NIBS, DHS and HUD resilience activities. She has a PhD and MS in Civil/Structural Engineering from Johns Hopkins University, an MS in Civil/Ocean Engineering from Oregon State University, and a BS in Ocean Engineering from Florida Atlantic University.

Panel 5: Deep Dive – Transportation

Genevieve Giuliano

Professor, Margaret and John Ferraro Chair in Effective Local Government, Director, METRANS Transportation Center

Professor Giuliano's research areas include relationships between land use and transportation, transportation policy analysis, travel behavior, and information technology applications in transportation. Current research includes examination of relationships between urban form, online shopping behavior, and local freight demand; market potential for zero emission trucks; reducing local impacts of truck traffic, and applications for transportation system analysis using archived real-time data. She has published over 170 papers and given invited lectures around the world. Professor Giuliano is a past Chair of the Executive Committee of the Transportation Research Board, and of the Council of University Transportation Centers. She has received numerous distinguished scholarship and service awards including the TRB Distinguished Service Award (2006), the Thomas B. Deen Distinguished Lectureship Award (2007), the Transportation Research Forum Outstanding Researcher Award (2012), the Council of University Transportation Centers Distinguished Contribution award (2013), and the Walter Isard Award for Distinguished Scholarship in Regional Science (2017). She is a former member of the ITS Joint Program Advisory Committee and the National Freight Advisory Committee. She has participated in many TRB policy studies; most recently on the Committee on the Future of the Interstate Highway System. At the state level, she is working with Caltrans and CARB on the implementation of the California Sustainable Freight Action Plan.

Johana Clark

Senior Assistant Director, Stormwater Operations, Houston Public Works

Johana has a 19-year professional career with the public section. She is currently the Senior Assistant Director with Houston Public Works managing the Stormwater Operations Branch with Transportation and Drainage Operations. She is responsible for overseeing the daily operation of the City's critical storm drainage system infrastructure with a team of more than 300 employees including field and professional staff. She has previously managed the Traffic Operations Branch and supervised the signal timing & operations team with the City. Johana has a bachelor's degree in Civil Engineering from the National University of Colombia and a Master of Engineering from the University of Texas at Arlington. She is a licensed professional engineer, a professional traffic operations engineer and an Envision sustainability professional. Johana is an active member of the Institute of Transportation Engineers and the American Society of Civil Engineers.

Kingsley Haynes

Ruth D. Hazel and John T. Hazel, M.D. Faculty Chair in Public Policy; Eminent Scholar, University Professor Emeritus, Schar School of Policy and Government, George Mason University

Dr. Haynes has been building academic programs for 50 years. After starting an Urban Institute at McGill University, he was a founding faculty member and played a central role in the development of the Lyndon B. Johnson School of Public Affairs at the University of Texas, Austin. He was a faculty chair and major contributor to the School of Public and Environmental Affairs at Indiana University and its third place national ranking. At George Mason University Dr. Haynes served as Graduate Dean. Dr. Haynes is active in the academic fields of Regional Science, Geography and Public Administration. His research focuses on regional economic development, transportation and infrastructure investment. He has authored over 250 articles, 150 professional reports and 10 books. He has been an active participant in economic development activities in Texas, the U.S. Midwest and internationally in Malaysia, Brazil, Southeast Asia and the Middle East. He was awarded prizes for his Ford Foundation work on the Nile River. From 1995 to 1997, he was President of the fifty-nation Regional Science Association International. He was executive secretary to the International Geographical Union's Commission on Applied Geography (2010-2012). At The Hague he was honored to present the UNESCO, Megacities Foundation Lecture on his book "Infrastructure: The Glue of Megacities" in 2007. Also in 2007, he was awarded the Grosvenor Gold Medal for his work in Geographic Education. In Public Administration, he was elected to the National Academy in 2002. He has served as Visiting Professor at the School of Geography, Planning and Environment, University of Queensland (2010) and at the Institute for Sustainability Studies, University of Melbourne (2011). He has been a Senior Scholar and Visiting Professor at the Institute for Advanced Studies and the Institute for Public Policy, Hong Kong University of Science and Technology. From 2015-2019 he served as the inaugural President of Clarewood University in Reston, Virginia.

Adam Rose [Moderator]

Research Professor, Department of Public Policy and Senior Research Fellow, Center for Risk and Economic Analysis of Threats and Emergencies (CREATE), University of Southern California Member, Committee on Hazard Mitigation and Resilience Applied Research Topics

Adam Rose is a Research Professor in the University of Southern California Sol Price School of Public Policy, and Research Fellow in USC's Center for Risk and Economic Analysis of Terrorism Events (CREATE). He obtained his Ph.D. in Economics from Cornell University. Professor Rose's primary research interest is the economics of disasters. He has spearheaded the development of CREATE's comprehensive economic consequence analysis framework and has done pioneering research on resilience at the level of the individual business/household, market/industry and regional/national economy. He is currently the PI on an NSF grant on advanced computational methods to improve reliability and resilience of interdependent systems and a contract with the Critical Infrastructure Resilience Institute to measure static economic the cost-effectiveness of individual resilience tactics. Professor Rose is the author of several books and over 250 refereed professional papers. He has served as the American Economic Association Representative to the American Association for the Advancement of Science and as a member of the Board of Directors of the National Institute of Building Sciences Multi-Hazard Mitigation Council. He is the recipient of several honors and awards, including, among others, the Distinguished Research from the International Society for Integrated Risk Management, a Woodrow Wilson Fellowship, East-West Center Fellowship, American Planning Association Outstanding Program Planning Honor Award, and Applied Technology Council Outstanding Achievement Award. He is also

an elected Fellow of the Regional Science Association International. Professor Rose has served on NAS Panels on Earthquake Resilience and on Seismic Warning.

STAFF

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