



SUSPIRE Workshop

Sustainable Urban Systems: Predictive,
Interconnected, Resilient and Evolving

Tuesday, July 16 \ Wednesday, July 17th

Robert H. Lurie Medical Research Center

303 E. Superior St., Chicago



Tuesday, July 16

REGISTRATION

8:00–8:30 a.m. Registration; Coffee and breakfast

WELCOMING REMARKS

8:30–9:00 a.m. Welcome & conference goals

Chairs:

William Miller, Northwestern University

Jennifer Dunn, Northwestern University

Peter Beckman, Argonne National Laboratory

SESSION 1

Climate and natural disruptions

9:00–9:05 a.m. **Conveners** - Katherine Moore Powell, The Field Museum;
Scott Collis, Argonne National Laboratory

9:05–9:45 a.m. **Keynote Lecture:** - Sarah Murdock, Director, US Climate
Resilience and Water Policy at The Nature Conservancy

9:45–11:00 a.m. **Session 1: Panel Discussion**

Panelists - James Angel, Former State Climatologist for Illinois;
Sarah Coulter, Calumet Collaborative;
Elena Grossman, University of Illinois at Chicago;
Jason Navota, Chicago Metropolitan Agency for Planning

BREAKOUT SESSION #1

11:00–12:30 p.m. Breakout sessions on six diverse urban systems (includes break).
Breakout room assignments for all participants will be available on
the SUSPIRE Event2Mobile App

LUNCH

12:30–1:45 p.m. Networking Lunch in Ryan Family Atrium

Tuesday, July 16

SESSION 2:

Technological disruptions

- 1:45–1:50 p.m.** **Conveners** Douglas Pancoast, Robert Bosch LLC and School of the Art Institute of Chicago; George Wells, Northwestern University
- 1:50–2:30 p.m.** **Keynote Lecture:** - Pete Beckman, Senior Computer Scientist, Argonne National Laboratory
- 2:30–3:45 p.m.** **Session 2: Panel Discussion**
Panelists - Satya Basu, Perkins Will;
John Edel, The Plant, Bubbly Dynamics;
Elizabeth Irvin, Center for Neighborhood Technology;
Mwende Lefler, Metropolitan Water Reclamation District of Greater Chicago

BREAKOUT SESSION #2

- 3:45–5:15 p.m.** Breakout sessions on six diverse urban systems (includes break). Breakout room assignments for all participants will be available on the SUSPIRE Event2Mobile App

RECEPTION

- 5:30–7:00 p.m.** Networking Reception – Ryan Family Atrium

Wednesday, July 17

REGISTRATION

8:00–8:30 a.m. Registration; Coffee and breakfast

WELCOMING REMARKS

8:30–8:45 a.m. Welcome & conference goals for day 2

Chairs:

William Miller, Northwestern University

Jennifer Dunn, Northwestern University

Peter Beckman, Argonne National Laboratory

SESSION 3

Societal disruptions

8:45–8:50 a.m. **Conveners** - Megan Kashner, Northwestern University;
Michelle Shumate, Northwestern University

8:50–9:30 a.m. **Keynote Lecture:** - Susan Popkin, Institute Fellow and Director of
the Housing Opportunities and Services Together (HOST) Initiative at
The Urban Institute

9:30–10:45 a.m. **Session 3: Panel Discussion**

Panelists - Daniel Ash, Chicago Community Trust;
Andrew Greenlee, University of Illinois at Urbana-Champaign;
Carmita Semaan, Surge Institute

BREAKOUT SESSION #3

10:45–12:15 p.m. Breakout sessions on six diverse urban systems (includes break).
Breakout room assignments for all participants will be available on
the SUSPIRE Event2Mobile App

LUNCH

12:15–1:30 p.m. Networking Lunch in Ryan Family Atrium

Wednesday, July 17

SESSION 4:

Research agenda for developing a sustainable & resilient Chicago region

- 1:30–1:35 p.m.** **Conveners** Daniel Kushner, Commonwealth Edison;
Demetria Giannisis, Northwestern University
- 1:35–2:15 p.m.** **Keynote Lecture:** - William Abolt, Vice President, Energy
at AECOM
- 2:15–3:30 p.m.** **Session 4: Panel Discussion**
- Panel Facilitator** – Jamie Ponce, City Tech Collaborative
- Panelists** - Danielle Kizaire, Bronzeville Urban Development;
Suzanne Malec-McKenna, Great Lakes St. Lawrence Cities Initiative;
Aaron Packman, Northwestern University

BREAKOUT SESSION #4

- 3:30–5:00 p.m.** Breakout sessions on six diverse urban systems (includes break).
Breakout room assignments for all participants will be available on
the SUSPIRE Event2Mobile App

Closing Remarks

- 5:00–5:15 p.m.** Closing remarks and plans for follow-up
- Chairs:**
William Miller, Northwestern University
Jennifer Dunn, Northwestern University
Peter Beckman, Argonne National Laboratory
- 5:15 p.m.** Departure

Featured Speakers

Sarah Murdock

Director, US Climate Resilience and Water Policy at The Nature Conservancy



Protecting and Investing in Nature Enhances Resilience

Increased disruptions to, degradation of and disconnection from our natural world is undermining the resilience of our communities. Climate change is exacerbating many of the impacts communities currently experience in the form of growing heat, increased flooding caused by intense rain events, increased drought and threats from catastrophic wildfire. When living in the urban environment, it is easy to forget the essential services that nature provides to humans that support our existence; clean water, clean air, lands to grow food and habitat to allow fish and animals to survive and prosper. If we work with nature and not against it, we can help restore nature's ability to deliver these services. Resilient urban communities occur when the environmental, economic and social systems are all healthy. They can withstand shocks and rebound to continue to support its population. We must be deliberate in planning for and making investments in communities to ensure resilience is strengthened. Some examples of innovative ways urban areas investing in nature are found in Philadelphia and D.C.

Biography: Ms. Murdock serves as the Director of U.S. Climate Resilience and Water Policy at The Nature Conservancy. Her 30-year career has spanned work in the public, private and now nonprofit sector on environmental and energy policy. Currently, she manages the development and implementation of the Conservancy's climate resilience and water related policy positions with a focus on disaster risk reduction policy. Prior to working at the Nature Conservancy, she served as a consultant working with environmental and energy clients. Prior to being a consultant, she served on the staff of United States Senator John F. Kerry of Massachusetts concentrating on environmental and energy policy. She holds a B.A. in environmental science from Colby College and a M.A. in urban and environmental policy from Tufts University. While in college she spent a semester participating in the Sea Education Association program during which she spent six weeks sailing on a 100-foot schooner. She is married, a mother to a teenage son, loves all active and inactive outdoor activities, and resides in Scituate, MA.

Peter Beckman

Senior Computer Scientist, Argonne National Laboratory



Technical Disruptions for Urban Systems

The number of network-connected devices (sensors, actuators, instruments, computers, and data stores) now substantially exceeds the number of humans on this planet. Predictions are that by 2020, 200 billion things that sense, think, and act will be connected to a planet-spanning network of computers. Combined with the astonishing explosion of machine learning technologies that have given us autonomous vehicles and predictive analytics, our urban systems will be disrupted. This presentation will explore the technological disruptions headed our way as well as some of the opportunities and risks to our cities.

Biography: Pete Beckman is the co-director of the Northwestern University/Argonne Institute for Science and Engineering and a recognized global expert in high-end computing systems. During the past 25 years, his research has been focused on software and architectures for large-scale parallel and distributed computing systems. For the DOE's Exascale Computing Project Pete leads the Argo team focused on low-level system software used by the operating system. He is the founder and leader of the Waggle project for smart sensors and edge computing that is used by the Array of Things project. Pete also coordinates the collaborative technical research activities in extreme-scale computing between the US Department of Energy and Japan's ministry of education, science, and technology and helps lead the BDEC (Big Data and Extreme Computing) series of international workshops. Pete received his Ph.D in computer science from Indiana University.

Featured Speakers continued

Susan Popkin

Institute Fellow and Director of the Housing Opportunities and Services Together (HOST) Initiative at The Urban Institute



Protecting and Investing in Nature Enhances Resilience The Social Impact of Chicago's Public Housing Transformation. For more than 40 years, Chicago's enormous public housing high-rises dominated the city's poorest African-American neighborhoods, bringing crime and drug trafficking and blighting the lives of the families that lived in them. But 20 years ago, the City of Chicago began a remarkable odyssey that would help the Chicago Housing Authority (CHA) evolve from the most dysfunctional public landlord in America to the ordinary city bureaucracy it is today. The CHA's Plan for Transformation originally called for demolishing all 11 of the agency's notorious high-rise family developments; over time, the Plan has expanded to include all but a few of the agency's properties. There is no question that its transformation has changed the face of the city—and that it has profoundly changed the lives of the thousands of families who lived in these developments. My research focuses on how CHA families have fared, the challenges that remain, and the implications of Chicago's experience for the national public housing crisis.

Biography: Susan J. Popkin Ph.D. is both Director of The Urban Institute's HOST Initiative and an Institute Fellow in the Metropolitan Housing and Communities Policy Center. A nationally-recognized expert on public and assisted housing policy, Dr. Popkin directs a research program that uses community engagement and community-based participatory approaches to explore new strategies for improving outcomes for families, and in conducting evaluations of complex community-based interventions. Dr. Popkin is the author of *No Simple Solutions: Transforming Public Housing in Chicago*; co-author of the award-winning *Moving To Opportunity: The Story of an American Experiment to Fight Ghetto Poverty*; lead author for the book *The Hidden War: Crime and the Tragedy of Public Housing in Chicago*; and is co-author of *Public Housing Transformation: The Legacy of Segregation*.

William Abolt

Vice President, Energy at AECOM



Biography: Bill Abolt, LEED AP, is a Vice President at AECOM and leads its Smart Energy Practice in the Americas, focusing on energy, sustainability and resilient urban infrastructure. He has 31 years' experience managing complex environmental, energy, water and public issues and programs to develop and implement smart city solutions. He has extensive experience with alignment of grants, incentives and other third-party resources with project and enterprise-wide budgeting, planning and sustainability goals. His experience includes recent and ongoing work in Berkeley, Boston, Chicago and Detroit. Previously, Bill served as Environment Commissioner, Director of the Office of Budget and Management and Chief of Management, Office of the Mayor, for the City of Chicago, where he was responsible for developing Chicago's strategy to become one of the greenest cities in the nation.

PANELISTS

Jim Angel

Former State Climatologist for Illinois



Dr. Jim Angel has been a climatologist at the Illinois State Water Survey for 34 years, including 20 years as State Climatologist. He has worked on a wide variety of climate issues impacting Illinois including droughts, floods, heat waves, and winter storms. His two areas of expertise are the impacts of climate on agriculture and on heavy precipitation. His most recent work has been the update of Bulletin 70, the rainfall frequency atlas, and was the lead author on the Midwest Chapter of the National Climate Assessment.

Daniel Ash

Chicago Community Trust



Daniel O. Ash is Associate Vice President of Community Impact at The Chicago Community Trust. Ash previously served as the Trust's Chief Marketing Officer from 2013 to 2019. Prior to joining the Trust, Ash spent 10 years as vice president at Chicago Public Media, production home of WBEZ/91.5FM (Chicago's primary NPR station), This American Life, Sound Opinions, Wait Wait...Don't Tell Me and Vocalo.org. In this senior management role, Ash was responsible for the organization's two largest revenue categories—corporate sponsorship and individual giving—and led double-digit growth during his tenure. Additionally, he oversaw marketing and strategic partnership. He was a key voice in shaping Chicago Public Media's overall strategic focus. Ash's professional career has been focused on developing and using marketing and communication tools to advance social causes. He has worked exclusively in the nonprofit sector on issues including poverty, adolescent health and HIV/AIDS care and prevention. The early stage of Ash's professional career included leadership roles at Sergeant Shriver National Center on Poverty Law, Chicago Department of Public Health, Center for Family Policy and Practice and the Illinois Caucus for Adolescent Health. Ash earned a M.P.P. from the Harris School of Public Policy at the University of Chicago, and a B.A. in Economics from Oberlin College. He also completed a Woodrow Wilson Fellowship at Princeton University. He is married to Sarah Karp, education reporter at WBEZ; and they have three sons: Devonte (21), Josiah (18) and Zion (14).

Satya Basu

Perkins Will



Satya Basu is an Advanced Insights Analyst in the Perkins+Will i/o lab. Satya is a designer, strategist and technologist who utilizes his diverse background to respond to design challenges with inventive problem-solving. He holds a Bachelor's degree in philosophy and social thought from the University of Chicago and an M.Arch from the School of the Art Institute of Chicago. Satya began his practice by designing residential interiors to meet the challenges of Manhattan rental apartments and has shifted scales since then to design everything from furniture to urban-scale interventions. His focus at Perkins+Will is the research and development of next-generation tools and technologies.

Sarah Coulter
Calumet Collaborative



As the executive director Sarah has led the evolution of the Millennium Reserve partnership into the present-day Calumet Collaborative, engaging multiple stakeholders and setting a course to capitalize on the region's assets and remove barriers through collective action. The Calumet Collaborative is a nonprofit organization that works to bring stakeholders from Illinois and Indiana together to leverage funding, expertise and other opportunities for transformative sustainable development in the Calumet region. Sarah has more than twelve years of experience in economic development and community building through sustainable practices and principles including three years as south suburban Village of Park Forest's sustainability coordinator. She led Park Forest's effort to become the second STAR Communities Certified community in Illinois and 30th (and smallest) certified community in the US and Canada. Sarah is a LEED AP and has a background in green real estate/building. She played a key role in bringing green fields to Chicagoland's Multiple Listing Service (MLS) and on the City of Chicago's Energy Disclosure Ordinance that connects energy usage data with the home buying consumer. Sarah served as the Residential Green Building Committee Advocate for the US Green Building Council Illinois Chapter and on the State and Local Government Committee. She is a graduate of The Evergreen State College in Olympia, WA and has a number of green real estate designations and additional coursework in sustainable design

John Edel
The Plant, Bubbly Dynamics



John Edel is both an eco and social entrepreneur. His most recent endeavor, The Plant, is a project combining adaptive industrial reuse, waste recovery, smart building technologies, and aquaponics to create the nation's first vertical farm and food-business incubator. Located in a former meatpacking facility in Chicago's historic Stockyards, The Plant is home to 24 businesses whose inputs and outputs are woven together as a living laboratory for the circular economy. John also is the owner and developer of the Chicago Sustainable Manufacturing Center, an affordable, energy-efficient space for small and emerging manufacturers, product assemblers, and other businesses committed to sustainability. As General Contractor, Edel took the facility from a burnt-out shell to 100% occupancy while using a mixture of waste-stream recycled materials and leading-edge technology to make the building exceptionally energy efficient and pleasantly non-toxic. The renovation was assisted by a core group of volunteers and by bartering with suppliers, tenants and scrappers. The building's green roof is a photo of Edel's daughter Zoe rendered in 9,600 sedum plants, each of which is a pixel in her image.

Andrew Greenlee
University of Illinois at Urbana-Champaign



Andrew J. Greenlee Ph.D. is an Associate Professor in the Department of Urban and Regional Planning at the University of Illinois at Urbana-Champaign. Dr. Greenlee's research lies at the intersection of housing policy, poverty, and social equity within cities and regions. His current research examines neighborhood and metropolitan opportunity structures through residential mobility processes. Greenlee's other ongoing research examines the influence of governance on spatial outcomes for public and subsidized housing participants, and the dynamics of neighborhood change driven by urban renewal processes and public housing transformation. As an expert in housing policy, Greenlee has testified before the U.N. Special Rapporteur on Housing, and has provided technical assistance to fair housing advocates, states, and local governments. Greenlee received a B.A. from Grinnell College, a M.S. in Urban and Regional Planning from University of Iowa, and a Ph.D. in Urban Planning and Policy from University of Illinois at Chicago.

Elena Grossman

University of Illinois at Chicago



Elena Grossman is the Program Director for the Building Resilience Against Climate Effects in Illinois (BRACE-Illinois) Project. BRACE-Illinois is a partnership between the University of Illinois at Chicago School of Public Health and the Illinois Department of Public Health to help prepare Illinois for the health effects from climate change. In her capacity as program director, she develops education and training tools on climate change and health; facilitates the strategic process for local health departments to address climate change; develops and manages the evaluation plan for BRACE-Illinois; researches the relationships between climate change and health as well as intervention and communication strategies to address them; and collaborates in developing and writing state reports on climate change and health. Elena holds a BA in Spanish and International Relations from Franklin & Marshall College, and an MPH in Community Health Sciences from The University of Illinois at Chicago with a concentration in global health.

Elizabeth Irvin

Center for Neighborhood Technology



As CNT's Transportation Director, Elizabeth advocates for diverse mobility options that improve the equity, affordability, and sustainability of our transportation system. Before joining CNT in 2019, Elizabeth worked at the Chicago Metropolitan Agency for Planning on evaluating the land use, environmental, and equity impacts of transportation projects, and developing strategies to harness emerging transportation technologies for the region's long-range plan. She previously worked on regional and national transportation and environmental policy at the Union of Concerned Scientists and the Sierra Club. Elizabeth has a Master of City Planning from the Massachusetts Institute of Technology and a Bachelor of Arts in English and Music from Williams College.

Danielle Kizaire

Bronzeville Urban Development



Upon retiring from social work and medical education consulting, Dr. Kizaire renewed her interest that began on Earth Day, 1970. She studied with V.P. Al Gore to become a Climate Leader. She began studies of environmental building practices and design at the Chicago Center for Green Technology. One thing became evident: sustainability included economic stability. This led to Dr. Kizaire completing a course at the Copenhagen Business School through the Department of Corporate Responsibility concentrating on social enterprise development and followed by a course of study with Jeffery Sachs on Sustainable Economic Development. These endeavors culminated in the establishment of Bronzeville Urban Development, NFP, an organization she co-founded with her husband, Charles Sutton. The organization is dedicated to bringing healthy communities to life, starting with Bronzeville. Currently, the organization is striving to create locally controlled renewable energy projects and dedicating efforts to promoting energy democracy.

Mwende Lefler

Metropolitan Water Reclamation District of Greater Chicago



Mwende Lefler began her career with the Metropolitan Water Reclamation District of Greater Chicago in 2007. She has served in the process design group which evaluates, plans, designs, bids, and supports post-award construction work for capital improvement projects at the district's seven water reclamation plants. She has also worked extensively with the district's phosphorus task force which implemented mainstream phosphorus removal and sidestream recovery at one of the world's largest water reclamation plants. Previous to joining the district, she worked in environmental engineering consulting and graduated with a B.S. in civil engineering from Duke University and a master's in environmental engineering from Northwestern University.

Suzanne Malec-McKenna

Interim CEO, Great Lakes St. Lawrence Cities Initiative



Suzanne Malec-McKenna is the Interim CEO of the Great Lakes St. Lawrence Cities Initiative (GLSLCI). The organization's membership is comprised of Mayors on both the Canada and U.S. sides of the Great Lakes and St. Lawrence Seaway. GLSLCI focuses on policy, local solutions and advocacy for key issues impacting local government agencies and their constituents. Current priority issues include: invasive species and the Asian Carp barrier; shoreline and community climate resiliency; microplastics; and agricultural solutions to addressing nutrient loading. For the past two years prior to joining GLSLCI, Suzanne worked on the transition team for new Chicago Mayor Lori Lightfoot, led collaboration building for ConTextos and consulted on sustainability issues. Prior gigs include serving as Executive Director of Chicago Wilderness where she where she led strategies and actions to advance its conservation mission for the alliance, made up of two hundred conservation organizations in the business, government, nonprofit, and institutional sectors. Additionally, Suzanne served as Assistant Commissioner, Deputy Commissioner and Commissioner of the Chicago Department of Environment for seventeen years, leading efforts in Natural Resources and Water Quality, Brownfields restoration, Energy and Sustainable Business, Permitting and Enforcement, green buildings, and environmental communications and education. She was responsible for management of the City's Climate Action Plan, which coordinated nearly 40 agencies to carry out robust mitigation and adaptation efforts. Suzanne holds a Bachelor's degree from University of Illinois, Urbana-Champaign, and Master's and Doctoral degrees from Northwestern University.

Jason Navota

Chicago Metropolitan Agency for Planning



Jason Navota, Director of Planning at the Chicago Metropolitan Agency for Planning, is a thought and practice leader with 20 years of public and private sector urban and environmental planning and policy experience. Jason leads the agency's sustainability and resilience efforts, as well as policy and planning initiatives within the area of environment and land use planning. He also oversees the agency's Local Technical Assistance program, in which CMAP provides planning and policy assistance to the Chicago region's local governments. Jason also has experience working as a planning consultant, in education, and working in the field in a variety of settings. Jason attended the University of Illinois and the University of Michigan.

Aaron Packman
Northwestern University



Aaron Packman is the Director of the Center for Water Research and Professor of Civil and Environmental Engineering at Northwestern University. Dr. Packman is an internationally recognized expert in water resources, surface-ground water interactions, and biological and biogeochemical processes in aquatic systems. His current research focuses on water systems dynamics, contamination risks, and microbial growth and transmission in natural and engineered water systems. Dr. Packman's research team is working to solve a variety of problems, including nutrient pollution, urban flooding, ecosystem degradation & restoration, and waterborne disease transmission. Packman has received numerous awards and honors, including a Fulbright Distinguished Chair in Hydrology and Hydraulic Engineering, the Huber Research Prize from the American Society of Civil Engineers, and research Career Awards from the National Science Foundation and National Institutes of Health. He received a B.S. in Mechanical Engineering from Washington University in St. Louis, and an M.S. and Ph.D. in Environmental Engineering and Science from the California Institute of Technology.

Jamie Ponce
City Tech Collaborative



As Director of Strategic Partnerships with the City Tech Collaborative, Jamie works to drive breakthrough solutions to critical city challenges using technology, data analytics, and collaboration. He previously served as Director of Innovation with the Environmental Law & Policy Center, a public interest and environmental advocacy group focused on clean energy, transportation, air, and water throughout the US Midwest. From 2012-16, Jamie was the Chicago Director of Energy and Climate Innovation with the C40 Cities Climate Leadership Group, where he led initiatives on energy efficiency, sustainable development, food, and climate in the office of Chicago Mayor Rahm Emanuel and across a network of global megacities. Prior to these roles, Jamie spent 10 years with global management consulting firm A.T. Kearney, specializing in corporate strategy, economic development, and resource efficiency. These efforts –including work with the Rocky Mountain Institute, Africare, the Environmental Defense Fund, and the Packard Foundation- address some of the planet's most pressing challenges through solutions that span industries, sectors, and ideologies. Jamie holds a bachelor's degree from Indiana University, a Master in Public Administration from the Harvard Kennedy School, and an MBA from Harvard Business School.

Carmita Semaan
Surge Institute



Carmita Semaan's career began in corporate America; however corporate could not contain her desire to lead high-impact initiatives benefitting urban youth and transforming urban communities – so she blazed a trail within the nonprofit sector. Carmita's commitment to empowering our country's most underserved youth led to a decade of executive service, driving results for visionary leaders including Alma Powell, Gen. Colin Powell and former US Secretary of Education Arne Duncan. In 2014, Carmita founded the Surge Institute and its signature program, the Surge Fellowship, which was designed to identify and elevate emerging leaders of color and empower them to change the landscape of education by providing a unique leadership development experience. Carmita holds an MBA from Northwestern University's Kellogg School of Management, and a BS in Chemical Engineering from the University of Michigan. She serves on the Board of Directors for the Academy for Urban School Leadership, Marwen, and America's Promise Alliance. Carmita received the Chicago Business Journal's 2016 Woman of Influence award.

