



Building Smart, Resilient and Sustainable Cities Workshop

October 2, 2014
8:30 a.m. - 5:40 p.m.
Gould Memorial Library [GM], Rotunda

BCC Geospatial Center of the Crest Institute Opening Reception

October 3, 2014
10:00 a.m. - 11:30 a.m.
Meister Hall [ME], Schwendler Auditorium



Bronx Community College
The City University of New York
2155 University Avenue
Bronx New York, NY 10453

Abstract:

A city faces multiple challenges related to either planning or development. This includes environmental degradation, socioeconomic disintegration, urban blight and resource management issues. These are some of the concerns that have led to global calls for smarter cities – municipalities that draw upon the best available technological and human resources to provide the best sustainable environment options to its inhabitants. Sharing best practices and success stories can lead to transformations that can help other cities become “smarter.” This workshop will explore topics ranging from sustainable development to community engagement and analysis of big data using emerging tools of visualization, modeling and simulations such as geospatial technology.

Highlights:

Representatives from the cities of Townsville, Australia and Dubuque, Iowa will share their experience as participants in IBM’s Smarter Cities program. The Center for Resilience at Ohio State University will also present on resilience models. Keynote addresses will be delivered by Doris Gonzalez, Director of IBM Corporate Citizenship Office (responsible for the Smarter Cities program) and Scott Muller, a Senior Scientist for SIS-GIS on his work on low carbon emissions collaborations between national and subnational governments and the United Nations. Leah Flax, program manager for the Rockefeller Foundation, will present on the Foundation’s 100 Resilient Cities program.

Participating Agencies

- IBM Corporation (Corporate Citizenship and Corporate Affairs Americas)
- City of Townsville, Australia (IBM Smarter Cities Challenge Award Winner)
- Smart Sustainable Dubuque, Iowa (City of Dubuque and IBM Research partnership)
- Rockefeller Foundation 100 Resilient Cities program
- BCC Geospatial Center of the CREST Institute, Bronx Community College - CUNY
- BCC Center for Sustainable Energy
- Polytechnic School of Engineering, and Center for Urban Science and Progress, New York University
- New York Mayor’s Office of Sustainability and Long Term Planning
- Bronx Borough President’s Office

SMARTER CITIES WORKSHOP PROGRAM | October 2, 2014

- 8:30am – 9:00am** **Registration/Breakfast/Networking**
- 9:00am – 9:15am** **Welcoming Remarks**
Introduction and Program – Dr. Sunil Bhaskaran
- 9:15 am- 9:45am** **Keynote Address**
Doris Gonzalez, IBM, Director of Corporate Citizenship
- 9:45am – 10:30am** **Building a Vision for Smart, Resilient and Sustainable Cities**
Greg Bruce, Townsville, Australia
- 10:30am – 10:45am** **Rockefeller Foundation 100 Resilient Cities Program**
Leah Flax-Project Manager for the 100 Resilient Cities Program
- 10:45am – 1:15pm** **Opportunities and Constraints to Building Smart, Resilient and Sustainable Cities**
Includes combined presentations on:
Resilience and Sustainability – ecosystem models
Joseph Fiksel – Center for Resilience, Ohio State University)
- IBM Smarter Cities Data Analytics Trials (Townsville and Dubuque).
Greg Bruce, City of Townsville and Cindy Steinhauser, City of Dubuque
- BCC Geospatial Center, Center for Sustainable Energy,
BCC Greenhouse Gas and Climate Monitoring
Professors Sunil Bhaskaran, Aaron Socha, Neal Phillip
- Energy Demand Reduction/Building Solar Cities
Townsville/Magnetic Island
- Urban Informatics and Big Data
Masoud Ghandehari, Center for Urban Science and Progress NYU
- 1:15 pm – 2:15pm** **LUNCH:** Keynote Speaker Scott Muller, Senior Scientist at SIG-GIS,
Low Carbon Emissions Developments Between National and Sub-National Government
- 2.30pm – 3:30pm** **Fostering Smart Relationships**
Community Engagement and Capacity Building
- Transformation using Collective Learning; Thematic Communication; and Resident/Business activated smart technology for real on-ground action**
Greg Bruce and Candia Bruce
- 3:30pm – 5:30pm** **Building and Activating a Collective Learning Capacity with a Culture of Analytics**
An experiential workshop facilitated by Candia Bruce and Greg Bruce
- 5:30pm – 5:40 pm** **Closing Remarks**

KEYNOTE SPEAKER



Doris B. González, Director

*Corporate Citizenship & Corporate Affairs, Americas
IBM Corporation*

As Director of Corporate Citizenship and Corporate Affairs in the Americas at IBM Corporation, Doris González leads philanthropic initiatives that are improving education and healthcare, exploring ways to protect the environment and spurring communities to greater economic development. Since 1996, Doris has led major multi-million-dollar global grants that use innovative technology to help children and adults learn to read in English via the web with Reading Companion; help early learners get an early start in math, science and reading concepts with IBM's KidSmart program; and most recently co-led IBM's innovative grades 9-14 education model, where graduates earn a free associate degree in technology fields. The school, Pathways in Technology Early College High School (P-TECH), opened its doors in September 2011 and almost immediately caught the attention of national educators, business and civic leaders — even President Barack Obama, who recognized the school's promise and came to visit in October 2013. P-TECH has been the focus of hundreds of media articles and has since been replicated in Chicago, New York City and New York State, where Governor Andrew M. Cuomo announced a sweeping statewide roll out of 26 schools modeled on P-TECH. In early 2014, Connecticut Governor Daniel P. Malloy announced the first Connecticut replication of the P-TECH model in Norwalk.

Before joining IBM, Doris had a 14-year career in New York City government as Deputy Executive Director for Public Affairs at the New York City Public Schools, Director of Government and Community Relations at the New York City School Construction Authority and Assistant Press Secretary at the Metropolitan Transportation Authority. Doris is on the board of Youth Communication, Aspira of NY and has served as advisory board member for the United Way of New York City. In 2013, LatinaStyle magazine named her one of the top five Latina corporate executives across the U.S.

Born in Santo Domingo, Dominican Republic, she moved to New York City in 1965. She is proud to be a product of the New York City public schools and the City University of New York, where she earned a Bachelor of Arts degree in journalism from Baruch College. She lives in the Bronx with her seven-year-old daughter, Milena.

SESSION SPEAKERS



Scott A. Muller

*Senior Scientist
Spatial Informatics Group*

Scott studied environmental engineering at Vanderbilt University and has been working internationally for two decades in the public and private sectors, implementing projects for low emission development, urban sustainability and the valorization of ecosystem services. He currently co-chairs the LEEDS GP working group on Sub-national Integration. From 2007-2012, he was the City Director for the William J. Clinton Foundation's Climate Initiative (CCI)-C40 Cities Climate Leadership Group in Lima, Peru. Scott has served as a technical expert with the UNFCCC, UNESCO and the Convention on Biological Diversity on issues of GHG mitigation opportunities, cultural heritage, governance, hydrology, historic urban landscapes and the sustainable use of biodiversity. He served as an official government delegate for the Republic of Panama to different multilateral environmental conventions and has published many reports, including collaborating as a lead author on the UN-supported Millennium Ecosystem Assessment.



Greg Bruce

*Executive Manager
Integrated Sustainability Services (Dept) Rowes Bay Sustainability Centre
City of Townsville North Queensland, Australia*

Greg Bruce is the principal designer and team leader responsible for implementing the Townsville IBM Smarter Cities Challenge outcomes. The ultimate goal of these efforts is the creation of an array of practical, affordable and sustainable residential living, business and government options. Greg has worked at the Townsville City Council for 18 years, following 14 years of military service. He recently served as a resource and presenter for the USAID funded 1st ASEAN Urban Climate Leadership Academy held in Jakarta, Indonesia.



Candia Bruce

Organizational Consultant

Working On It Professional Management Solutions

Candia Bruce is a seasoned organizational consultant who specializes in the fields of relationships, communication, leadership, culture, change, dispute management and sustainability.

Her diverse background and experiences give Candia a unique understanding of the interplay between human behavior, organizational dynamics and innovative thinking in the workplace.

Her passion is to “improve workplace relations and processes so that companies can enjoy long-term viability, while at the same time empowering their workers to achieve their full potential.”



Leah Flax

100 Resilient Cities

The Rockefeller Foundation

Leah Flax joined 100 Resilient Cities from the Federal Transit Administration of the U.S. Department of Transportation, where she served as a community planner working with public transit operators, reviewing projects for environmental compliance and overseeing grants, including over \$10 billion in emergency relief for Hurricane Sandy-related recovery and resilience efforts. Her previous experience includes econometric modeling and transportation planning at a top 20 international engineering firm and serving as an analyst for the City of New York at the Department of Transportation and Taxi and Limousine Commission. She specializes in multi-modal transportation planning, context-sensitive solutions, and transit-oriented development. She has led cross-sector planning efforts in diverse U.S. cities, including Biloxi, Mississippi where she worked for the local housing authority to develop recommendations for post-Katrina revitalization of East Biloxi’s historic commercial corridor. Leah also has expertise in environmental justice and public participation issues and has conducted research published by the Transportation Research Board of the National Academies on methods for involving traditionally underserved population in decision-making.

Leah holds a Bachelor of Arts in Metropolitan Studies from the New York University College of Arts and Science, as well as a Master of Urban Planning from the New York University Robert F. Wagner Graduate School of Public Service.



Cindy Steinhauser

*Assistant City Manager
City of Dubuque, Iowa*

Cindy Steinhauser currently serves as Assistant City Manager for the city of Dubuque, Iowa. Cindy graduated with degrees in finance and economics and holds certifications in economic redevelopment and community initiated development from the National Trust for Historic Preservation. Her responsibilities include implementation of the city's goals and priorities and responding to citizen issues. Cindy served as the initial staff for several projects, including the city's sustainability initiative, the arts and culture initiative and the Smarter Sustainable Dubuque pilot program with IBM. Other projects including transportation enhancement, neighborhood planning, emergency disaster planning, implementation of the Downtown Master Plan, the Historic Millwork District Revitalization strategy, the Port of Dubuque Master Plan and the city improvements for the America's River project. Under her direction, Dubuque was the recipient of the 2007, 2012 and 2013 All-America City Award from the National Civic League, the 2008 Most Livable Small Communities Award by the U.S. Conference of Mayors, the 2010 International Award for Livable Communities and the 2013 Top 25 Innovations In Government Award by the Harvard Kennedy School.

Cindy is a member of ICMA currently serving on the Sustainability and International committees and has coordinated Dubuque's efforts as a five-time host community for the International Fellows Exchange program. She is a member of the Iowa League of Cities and the National League of Cities. She has also served on the national committee to develop criteria for the STAR Community Index program and continues to serve on the STAR Technical Advisory Committee.



Joseph Fiksel

*Executive Director
Center for Resilience, The Ohio State University*

Dr. Joseph Fiksel is Executive Director of the Center for Resilience at The Ohio State University and also heads the consulting firm Eco-Nomics LLC. He is an internationally recognized authority on sustainability and resilience, with over 25 years of research and consulting experience for government agencies, multi-national companies, and industry consortia such as the World Business Council

for Sustainable Development. Currently he is serving as Special Assistant for Sustainability to the U.S. Environmental Protection Agency, helping to incorporate systems thinking into their research programs.

A native of Montreal, Dr. Fiksel began his career at DuPont of Canada and later served as Director of Decision and Risk Management at Arthur D. Little and Vice President for Life Cycle Management at Battelle. He has published over 80 articles and five books, has testified before Congress and is a frequent keynote speaker at conferences. He holds a bachelor's degree from M.I.T., a doctorate in Operations Research from Stanford University and an advanced degree from La Sorbonne in Paris. His most recent book, *Design for Environment*, was published by McGraw-Hill in 2011.



Masoud Ghandehari

*Head of the Urban Observatory
Center for Urban Science and Progress, New York University*

Masoud Ghandehari is on the faculty of the Department of Civil and Urban Engineering at the Polytechnic School of Engineering and Head of the Urban Observatory at NYU's Center for Urban Science and Progress. Prior to joining NYU, he worked as a research fellow at The National Science Foundation Center for Advanced Cement Based Materials, and The Center for Quality Engineering and Failure Prevention at Northwestern University. Masoud began his career at Columbia University, and then worked with a consulting practice in New York City, where he worked on various large infrastructure renewal projects. Masoud did his graduate work at McGill University and Northwestern University with his doctoral thesis in Full Field Optical Metrology for Imaging Damage Localization.

Funded by the National Science Foundation, the Department of Transportation, international agencies and the private sector, Masoud's research in optical spectroscopy, sensing and imaging has developed applications and technologies suitable for diverse environments and in multiple scales, ranging from the molecular to the urban landscape. Masoud is the founding investigator of the New York State Resiliency Institute for Storm Events and founder of Chromosense LLC, which, supported by the National Institute of Health, is a pioneer in environmental sensing.

OPENING OF THE BCC GEOSPATIAL CENTER OF THE CREST INSTITUTE

October 3, 2014

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| 10:00am – 10:10am | Welcoming Remarks – BCC CREST Geospatial Center -
Dr. Sunil Bhaskaran |
| 10:10am – 10:20am | Mission of the Center - Prof. Reza Khanbilvardi and
Dr. Sunil Bhaskaran Memorandum of understandings |
| 10:20am – 10:25am | Signing of the MoU – BCC and CREST CUNY Institute |
| 10:25am – 10:45am | Ribbon Cutting for the Geospatial Center (ME 330) |
| 10:45am – 11:00am | Light refreshments (outside Schwendler Auditorium) |
| 11:00am – 11:10am | Spatial Informatics - Scott Muller SIG-GIS |
| 11:10am – 11:20am | Remarks by Greg Bruce (City of Townsville, Australia) |
| 11:20am – 11:30am | Remarks by Prof. Neal Phillip and Sunil Bhaskaran |

SMARTER CITIES WORKSHOP-CONVENERS

Neal Phillip



Neal Phillip is the chair of the Department of Chemistry and Chemical Technology at Bronx Community College. Dr. Phillip was most recently the Interim Associate Dean of Academic Affairs for Student Success at BCC. Dr. Phillip holds a Ph.D. in environmental engineering, a master's in environmental engineering and bachelor's in chemistry and meteorology. He has published journal articles on atmospheric pollution, water and wastewater pollution and pedagogical educational research. Dr. Phillip established the Earth Systems and Environmental Science A.S. curriculum, the BCC Weather Station and most recently the Greenhouse Gas Monitoring program at the College through a \$50,000 grant from the CUNY Office of Research. Dr. Phillip has worked as an engineering advisor at Savin Engineers in Pleasantville, NY, developing design specifications for the retrofit of the four Westchester County water pollution control plants and implementing nutrient removal from NYC wastewater through novel biological and chemical processes. Dr. Phillip is currently engaged in work on sustainability and climate change resilience/adaptation with the City of Townsville in Queensland Australia. Townsville is the winner of an IBM Smarter Cities award and is one of seven cities in Australia designated as a solar city.

Dr. Sunil Bhaskaran



Sunil Bhaskaran holds a Ph.D. from the School of Civil and Environmental Engineering, University of New South Wales, Sydney. His research interests are in spatial analysis, image analysis, modeling, data integration and decision support systems. Sunil has over 16 years of experience in teaching GIS and remote sensing at the undergraduate, post graduate and graduate levels at universities in Australia and U.S. Sunil has worked as a consultant for several agencies and companies, including Verizon. He has authored over 50 research papers and technical reports and was the keynote speaker at the Sixth International Remote Sensing Conference in Iwate, Japan. He is a member of review panel of several journals and serves on the technical committee of the IEEE-IGARSS. Currently, Sunil coordinates the Earth Science and Environmental Technology program at BCC, and teaches and conducts research in applied geomatics at the Bronx Community College of the City University of New York (BCC-CUNY). He is a doctoral faculty at the Earth and Environmental Studies program, City University of New York. Sunil has been awarded over \$700,000 in research grants both from federal agencies and industry and was recently honored by the City University of New York for securing major institutional grants and outstanding contributions in research. Sunil is the founding director of the Bronx Community College Geospatial Center of the CUNY CREST Institute <http://www.bcc.cuny.edu/geospatial/>. He is a member of the ongoing smarter cities international collaboration between the City of Townsville, Australia and BCC, an initiative led by Prof. Neal Phillip (CUNY) and Greg Bruce (City of Townsville).

ABOUT BRONX COMMUNITY COLLEGE

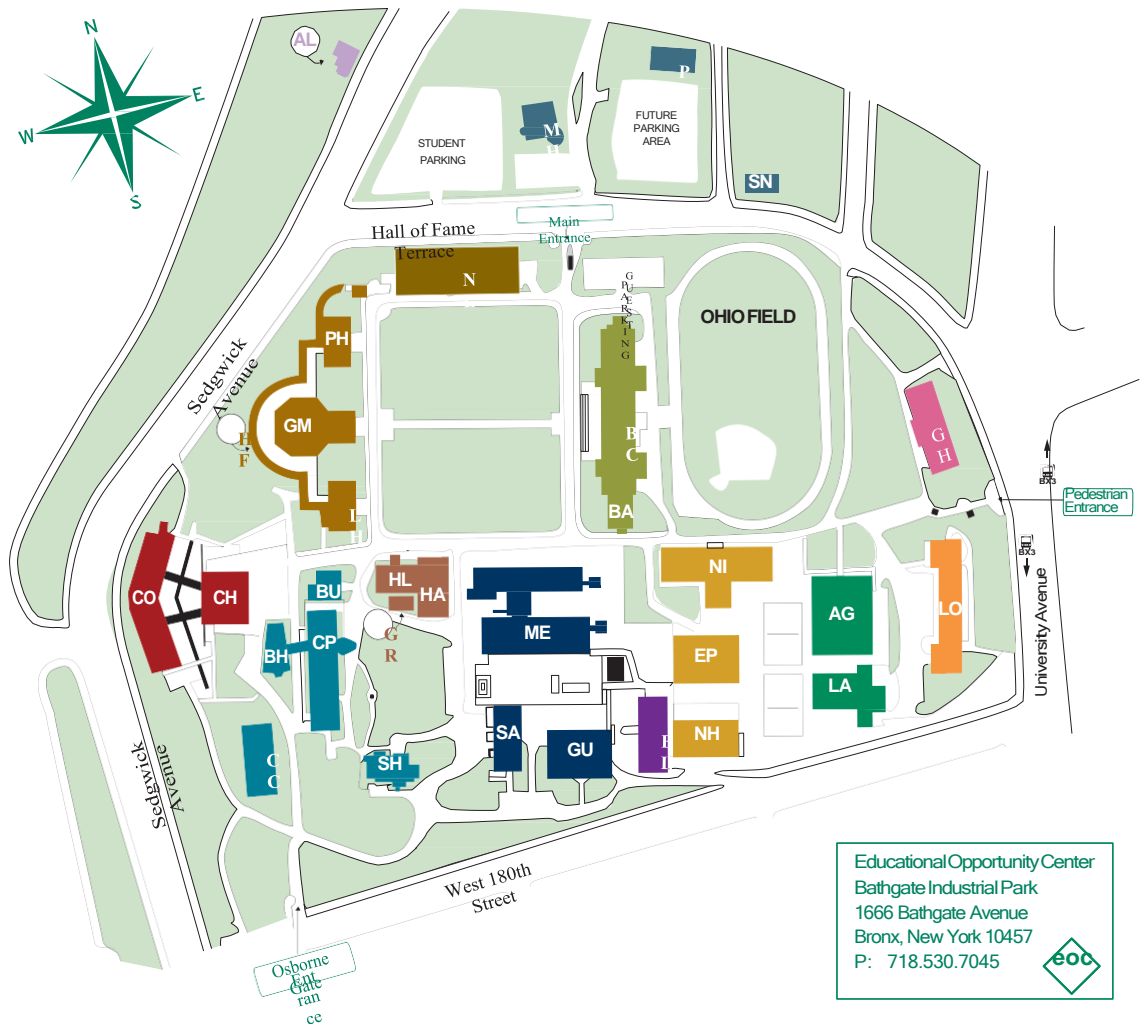
Bronx Community College of The City University of New York, a Hispanic Serving Institution (HSI) with students representing approximately 100 countries, offers more than 30 academic programs that prepare students for careers and to continue their education at four-year colleges. Located on a 44.6-acre tree-lined campus, BCC is home to the Hall of Fame for Great Americans, the country's first hall of fame. The College provides its approximately 11,000 students with quality academic programs, outstanding faculty and flexible class schedules. In October 2012, the BCC campus was declared a national historic landmark, becoming the country's first community college campus to receive such a designation. For more information about Bronx Community College, visit www.bcc.cuny.edu



Gould Memorial Library Rotunda




The Hall of Fame for Great Americans



Educational Opportunity Center
 Bathgate Industrial Park
 1666 Bathgate Avenue
 Bronx, New York 10457
 P: 718.530.7045



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| AL | ALTSCHUL HOUSE | HA | HAVEMEYER ANNEX |
| AG | ALUMNI GYM | HL | HAVEMEYER LAB |
| BA | BROWN ANNEX | LH | LANGUAGE HALL |
| BH | BEGRISCH HALL | LA | LOEW ANNEX |
| BL | BLISS HALL | LO | LOEW HALL |
| BU | BUTLER HALL | MH | MACCRACKEN HALL |
| CC | CHILDREN'S CENTER | ME | MEISTER HALL |
| CP | CARL POLOWCZYK HALL | NL | NORTH HALL & LIBRARY |
| CH | COMMUNITY HALL | NH | NEW HALL |
| CO | COLSTON HALL | NI | NICHOLS HALL |
| EP | ENERGY PLANT | PG | PATTERSON GARAGE |
| GH | GOULD HALL | PH | PHILOSOPHY HALL |
| GM | GOULD MEMORIAL LIBRARY | BC | ROSCOE BROWN STUDENT CENTER |
| GR | GREENHOUSE | SA | SAGE HALL |
| GU | GUGGENHEIM HALL | SH | SOUTH HALL |
| HF | HALL OF FAME FOR GREAT AMERICANS | SN | SNOW HALL |

  Ground floor accessible only