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Urban Informatics for Sustainability and Resilience (UrbInSuRe) Center

UrbInSuRe Center aims to use "big data" and Informatics to create smarter and more livable cities. Over half of the world's population currently lives in urban areas, a number predicted to grow to 60 percent by 2030. Urban areas face unprecedented and growing challenges that endanger both human and ecosystem health, such as: inner-city food deserts, health problems, and poverty; urban sprawl and inefficient transport leading to chronic pollution problems; increased flooding, droughts, sea level rise, and severe storms from climate change. Currently cities lack knowledge and technologies to address these "wicked" problems, for which no single discipline or approach can be applied because they involve "systems of systems". Our unifying theme will be water system grand challenges, such as increasing severe storms and nutrient problems at large scales, including their mutual interconnections with other key urban systems (transportation, food, energy, social, economic, and other environmental systems).

Cities are recognizing that the increasing stream of data and information ("Big Data") and modeling can support rapid advances on these challenges. The objective of UrbInSuRe is to partner university researchers with city planners, policy makers, engineers, and others to address these challenges, leveraging and advancing a prototype transformative technology platform and collaborative process. Novel methods for synthesizing data from the Web and community partners, low-cost sensing and robotics, and social computing will be combined with data-driven modeling at multiple spatial and temporal scales to support adaptive, information-based, and smart decisions. Specifically, UrbInSuRe will:

1. Build a culture of trans-disciplinary innovation and collaboration on urban challenges using data-driven modeling and systems-based frameworks and approaches.
2. Provide shared resources (funds, space, staff, and cyberinfrastructure) to incentivize and support collaborative urban research, education, and public engagement.
3. Support education and training needed for teams of faculty, staff, and students from diverse relevant disciplines, as well as their urban collaborators, to contribute to these activities.

Research Themes

- **Data-Driven Urban Informatics and Technologies**
- **Risk and Resilience of Waterfront Cities**
- **Rural and Urban Interfaces**
- **Healthy Urban Living: Improving Human and Ecosystem Wellbeing in the Urban Environment**

Recent space activity

Kangjae Lee
Meeting Notes commented Apr 03, 2015
2015-03-05 Meeting notes created Apr 03, 2015
2015-02-23 Meeting notes created Apr 03, 2015
2015-02-20 Meeting notes created Apr 03, 2015
ChicagoPublicSchool updated Apr 03, 2015 view change

Space contributors

- Kangjae Lee (2481 days ago)
- Barbara Minsker (2482 days ago)
- Jong Lee (2694 days ago)
- Rob Kooper (2694 days ago)