

# KIKUMOTO LAB.

## Environmental Sensing and Design



Department of Human and Social Systems

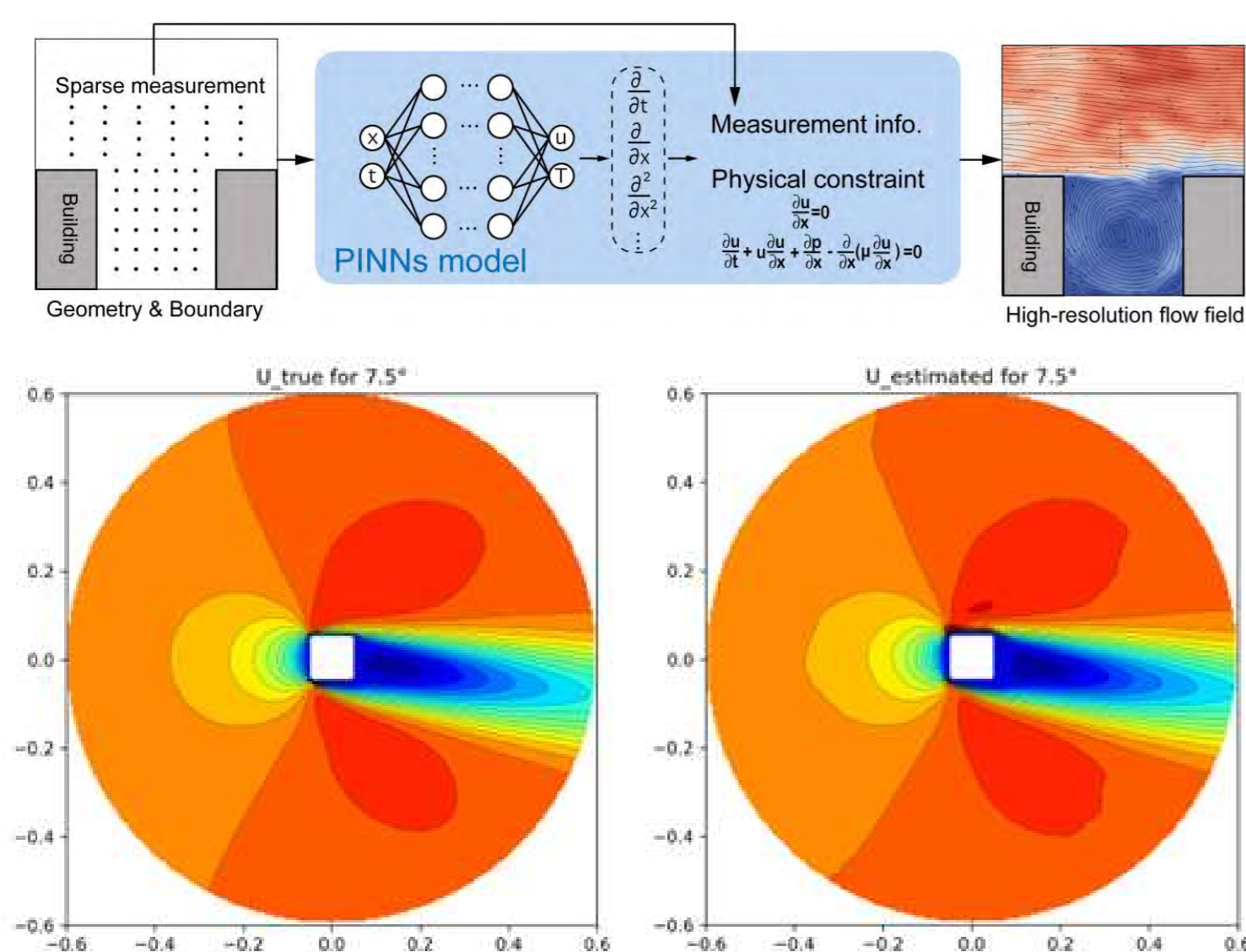
Control Engineering of Complex Environmental System  
Department of Architecture, Graduate School of Engineering

<https://www.iis.u-tokyo.ac.jp/~kkmt/>

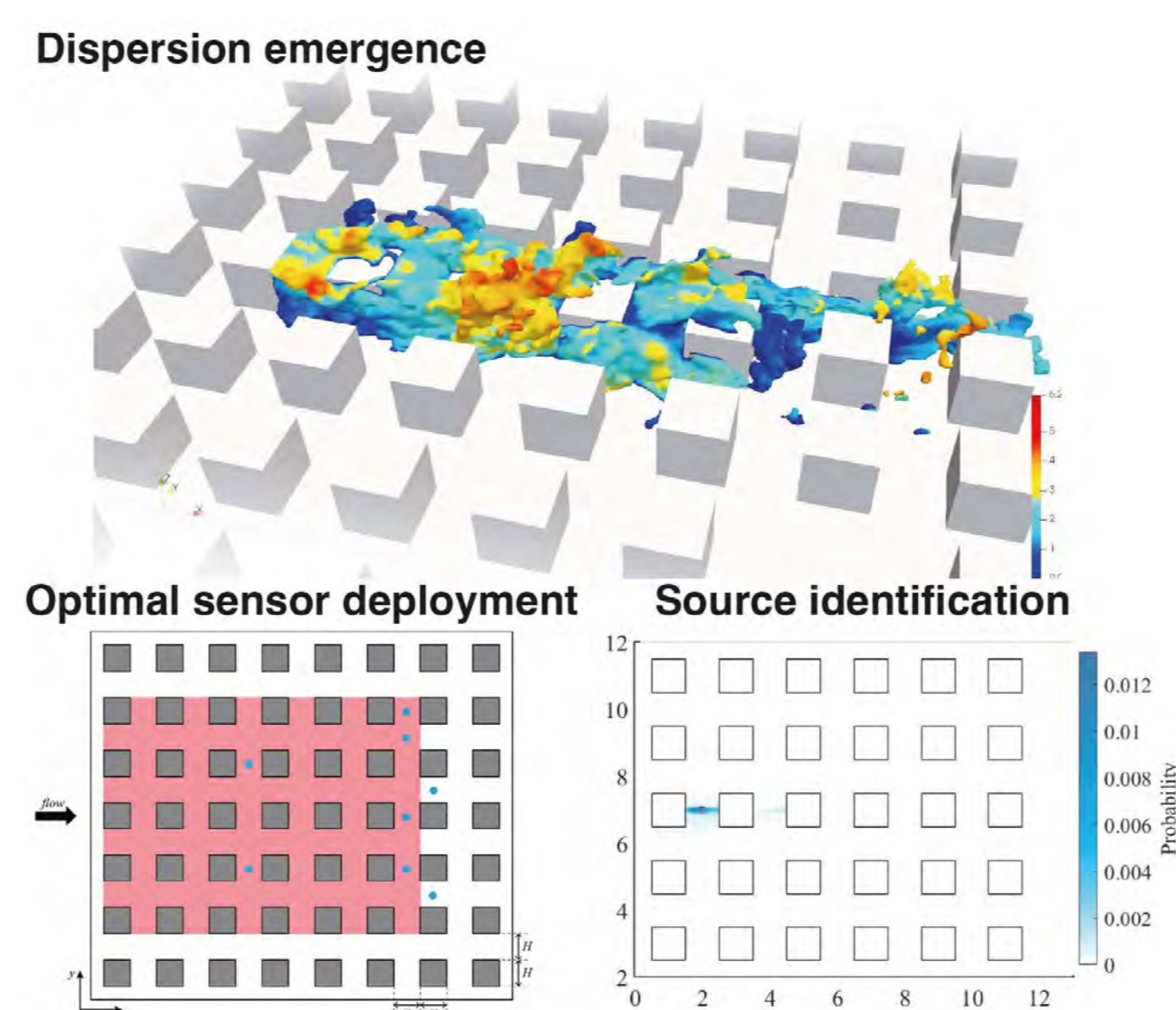
### Enhancing Environmental Sensing and Design

Creating safe, comfortable, and smart urban and architectural spaces requires a deep understanding and prediction of current and future environments, as well as design and control based on this knowledge. Our laboratory is engaged in the development of environmental sensing technologies based on advanced monitoring and simulation and their application to environmental design, mainly for air and thermal environments, utilizing computing and digital technologies.

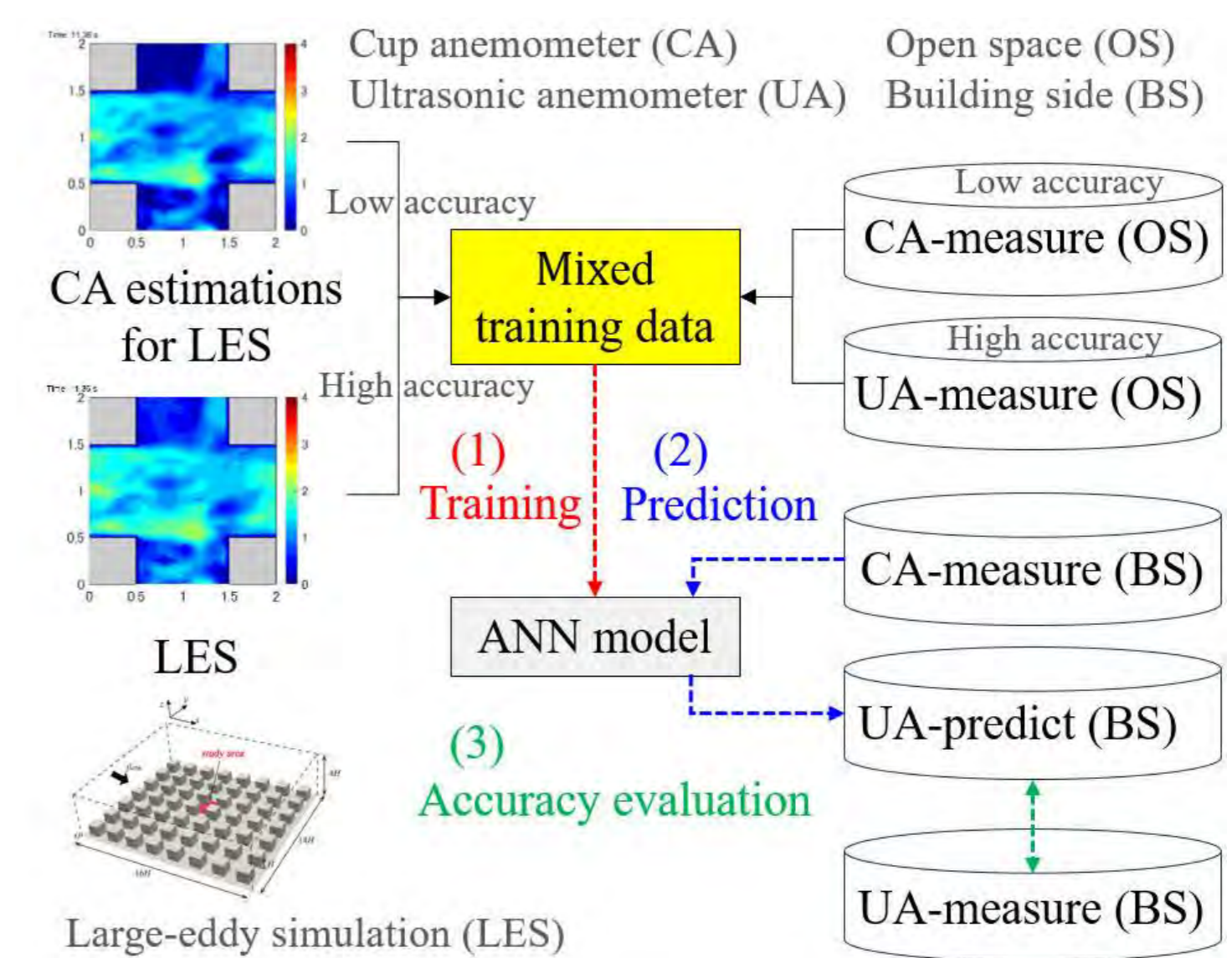
#### Innovative Environmental Sensing utilizing Computing and Digital Technologies



Environmental Soft Sensing by fusing Physical Models and Data



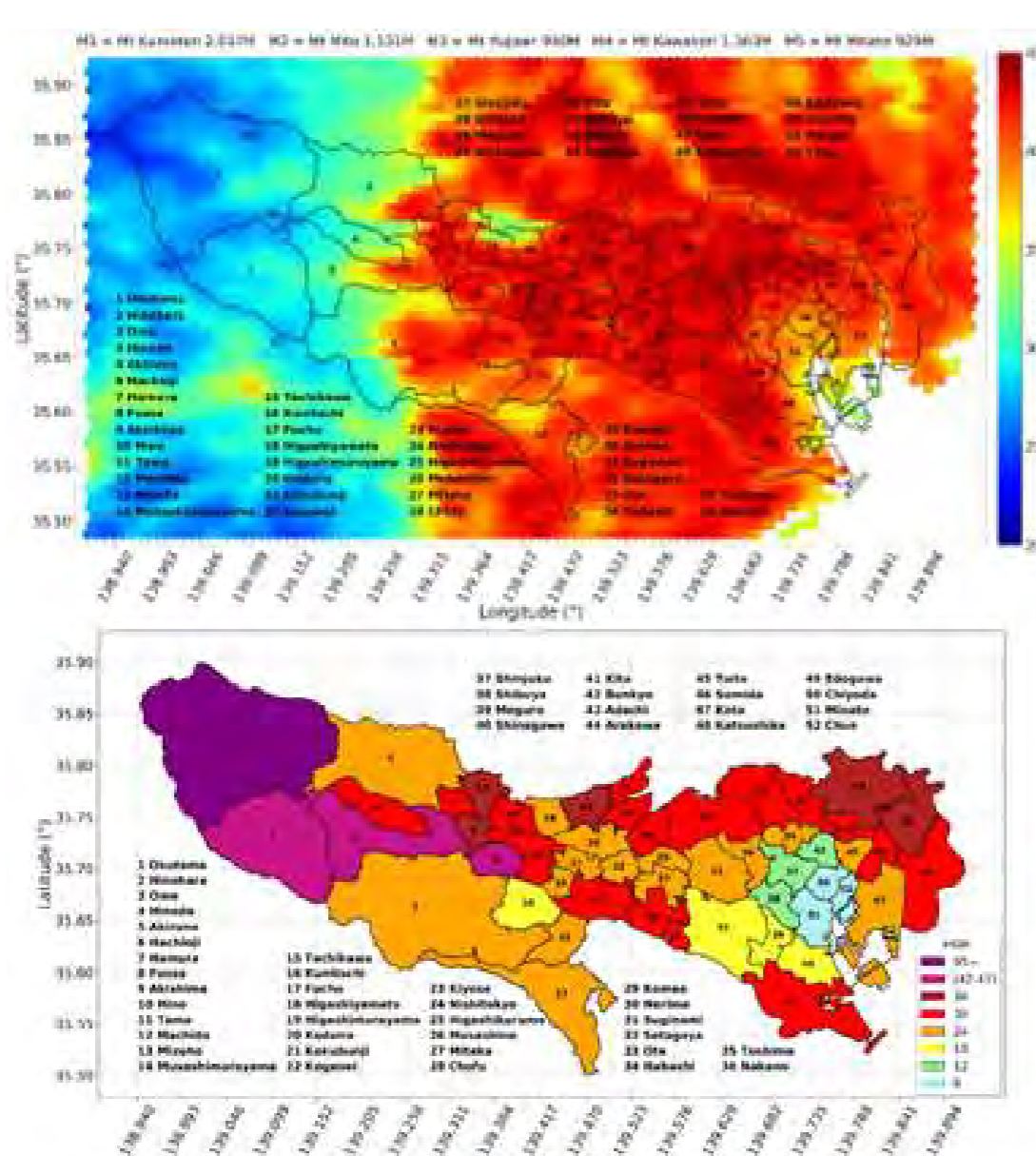
Inverse Analysis and Sensor Placement Optimization of Environmental Factors



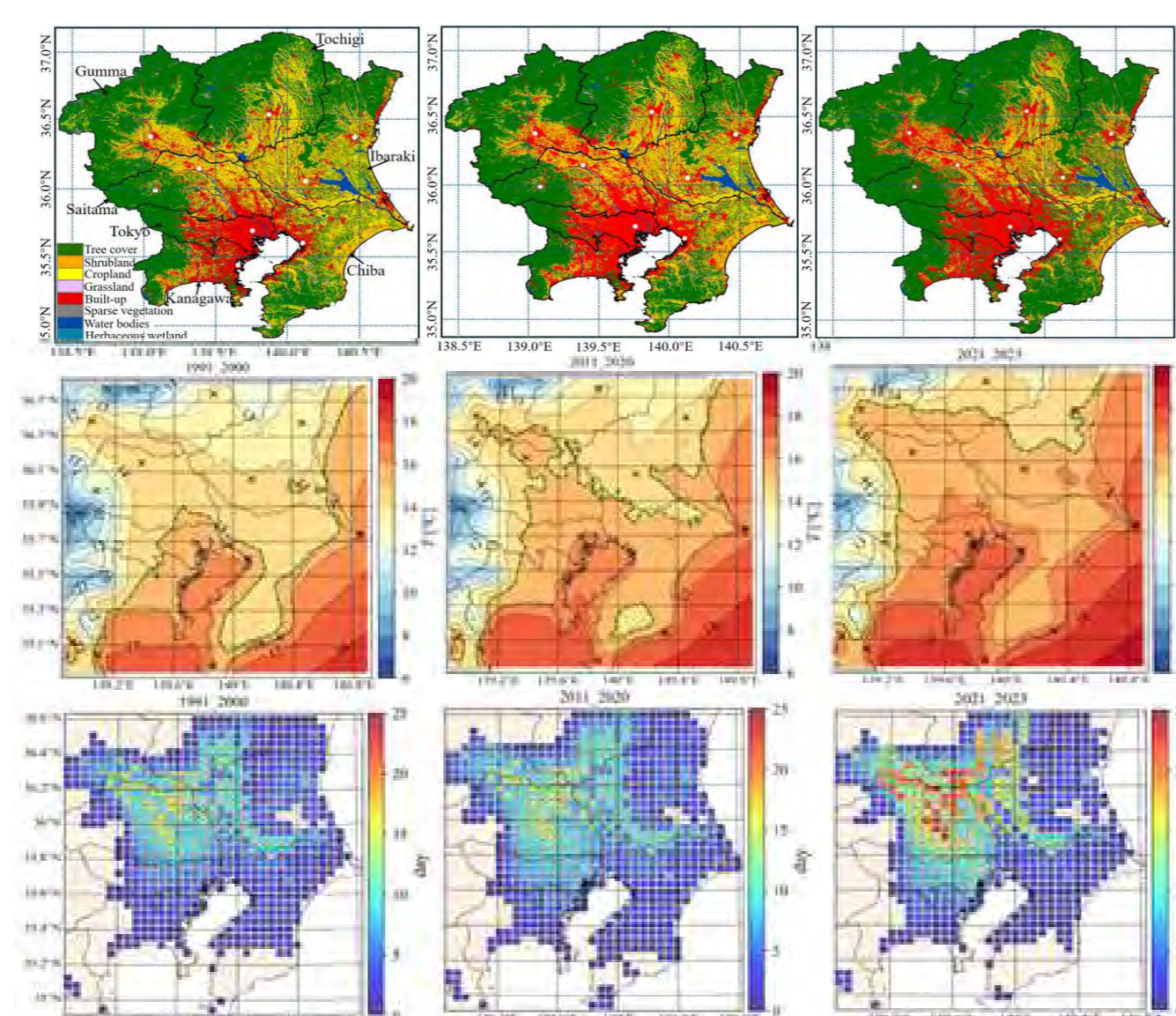
Improvement of Environmental Sensor Accuracy using Data-driven Methods

#### Future-oriented Urban Environmental Sensing

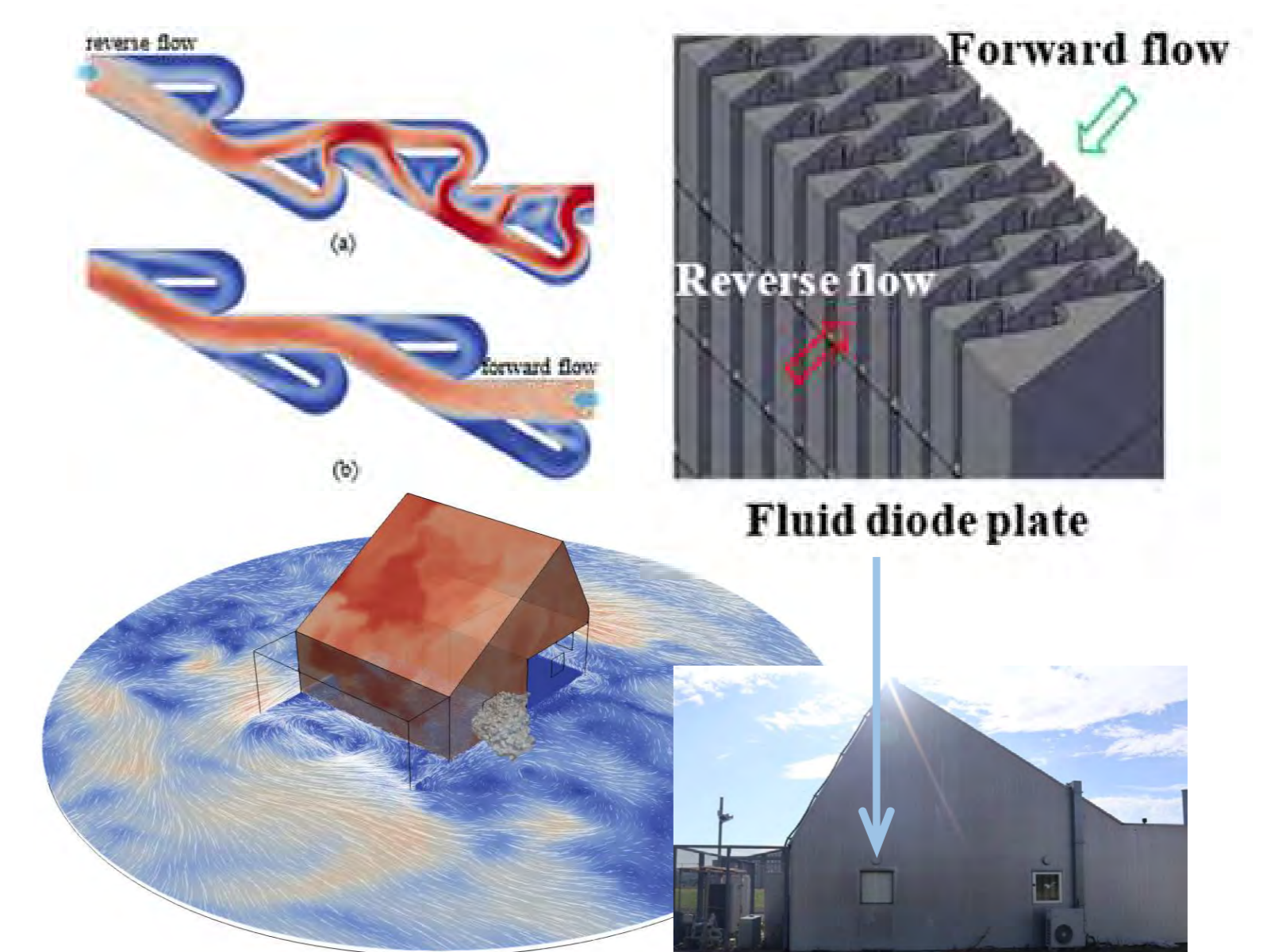
#### Smart Building Environment Control



Analysis of Urban Environmental Change and Impacts on Health, etc.



Urban Environmental Information Analysis by Data Fusion



Advanced Natural Ventilation Control with High Functional Components

