

## KIKUMOTO LAB.

## Environmental Sensing and Design



Department of Human and Social Systems

Control Engineering of Complex Environmental System

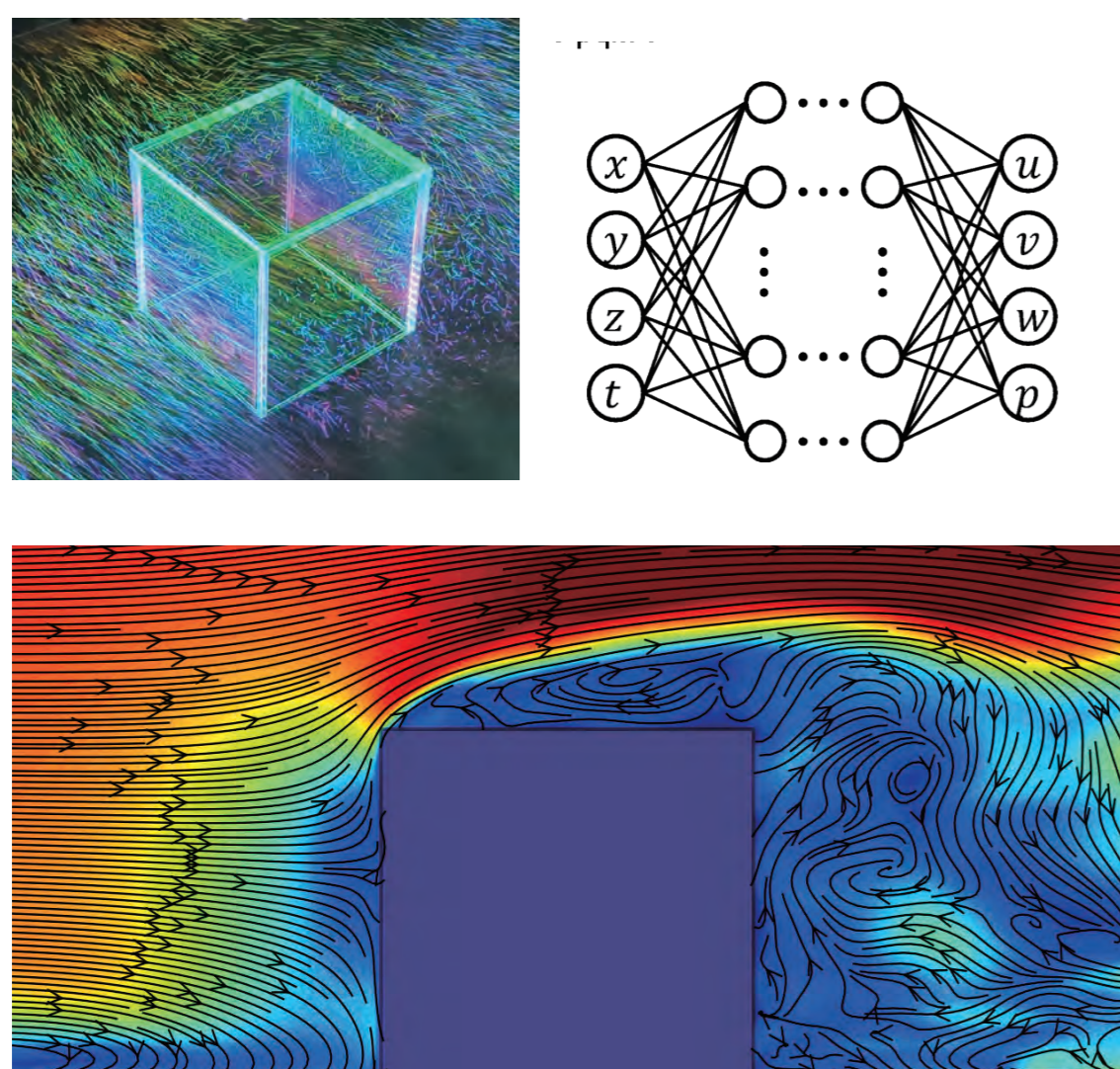
Department of Architecture, Graduate School of Engineering

<http://venus.iis.u-tokyo.ac.jp>

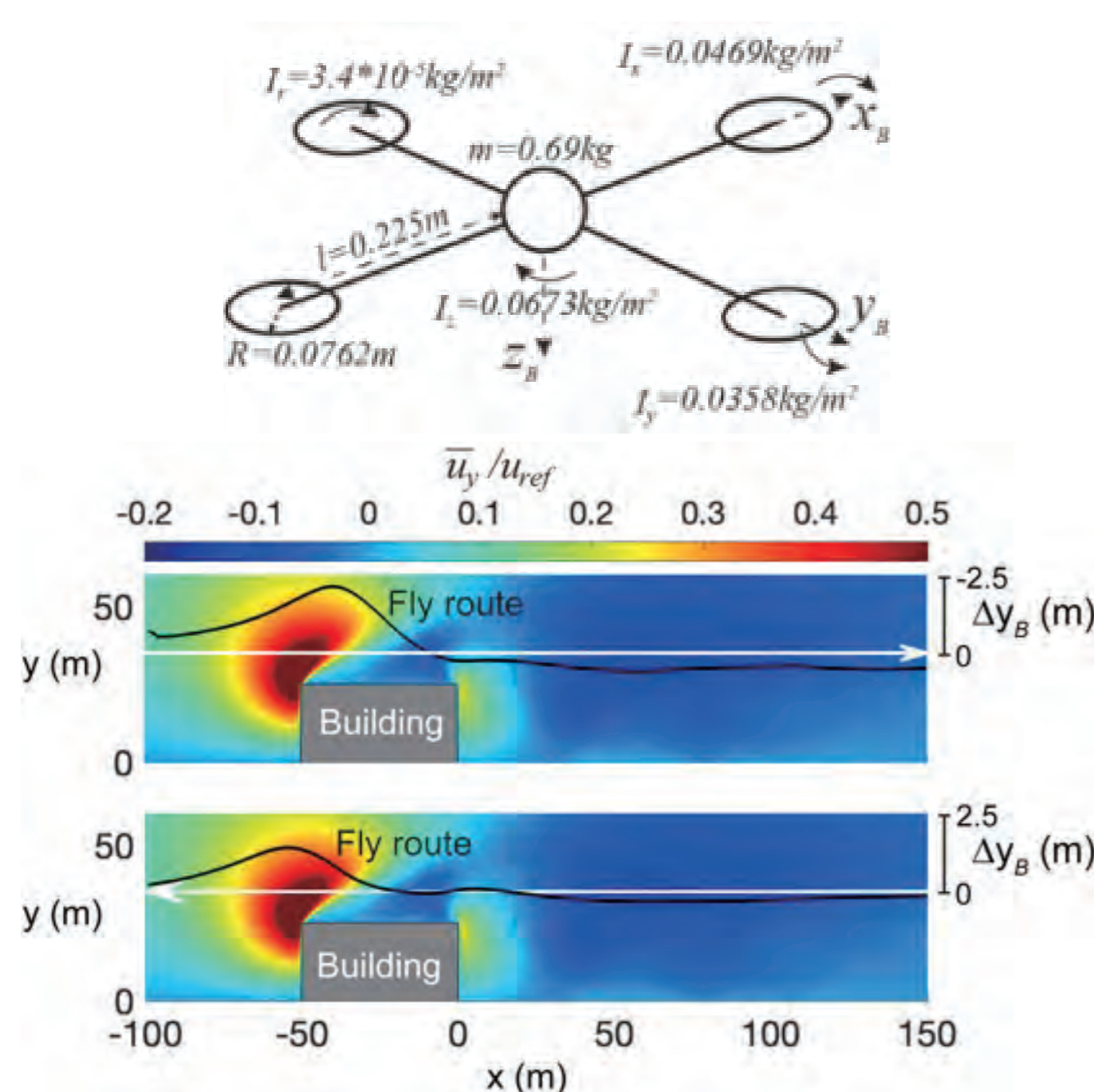
## Enhancing Environmental Sensing and Design

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.

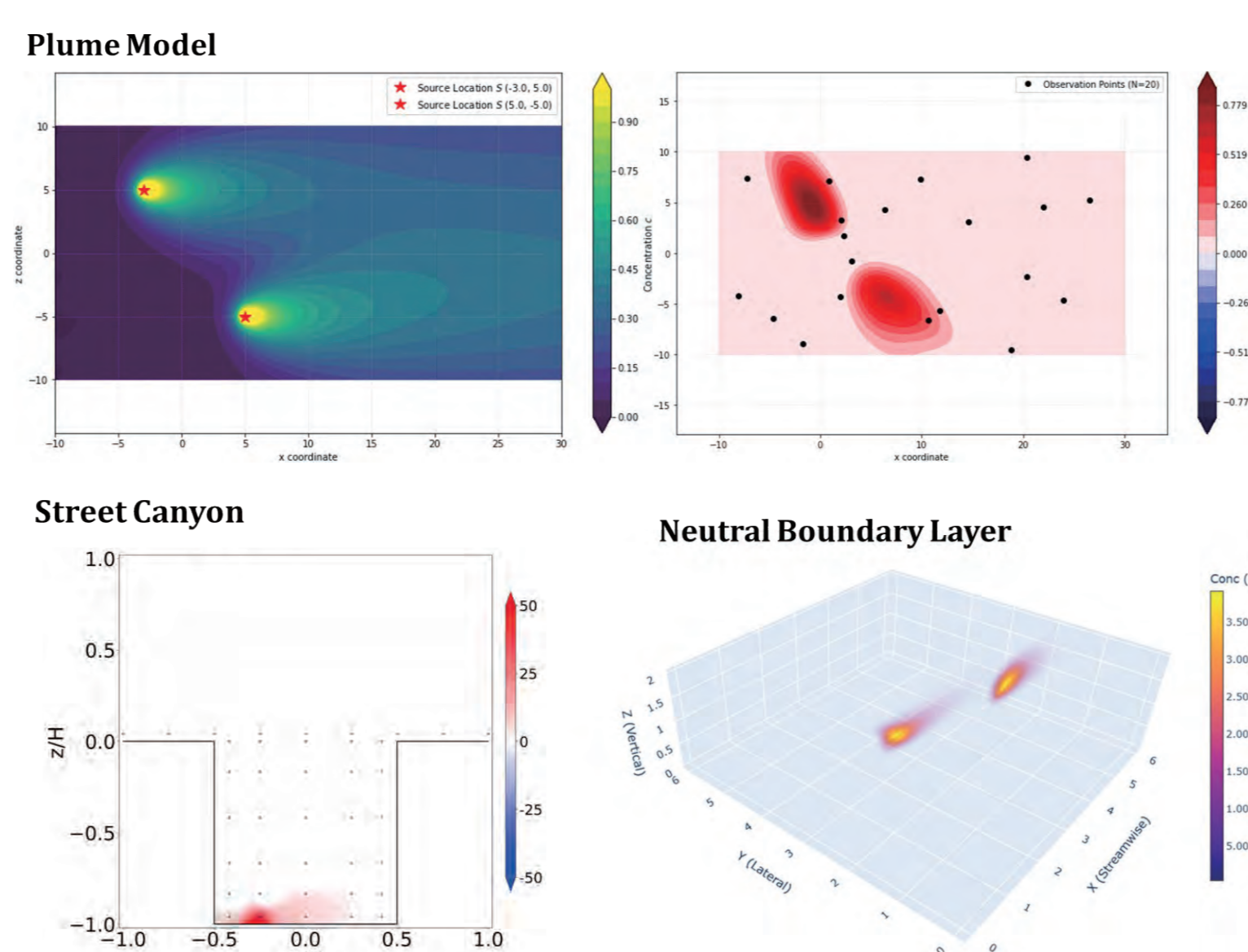
## Innovative Environmental Sensing utilizing Computing and Digital Technologies



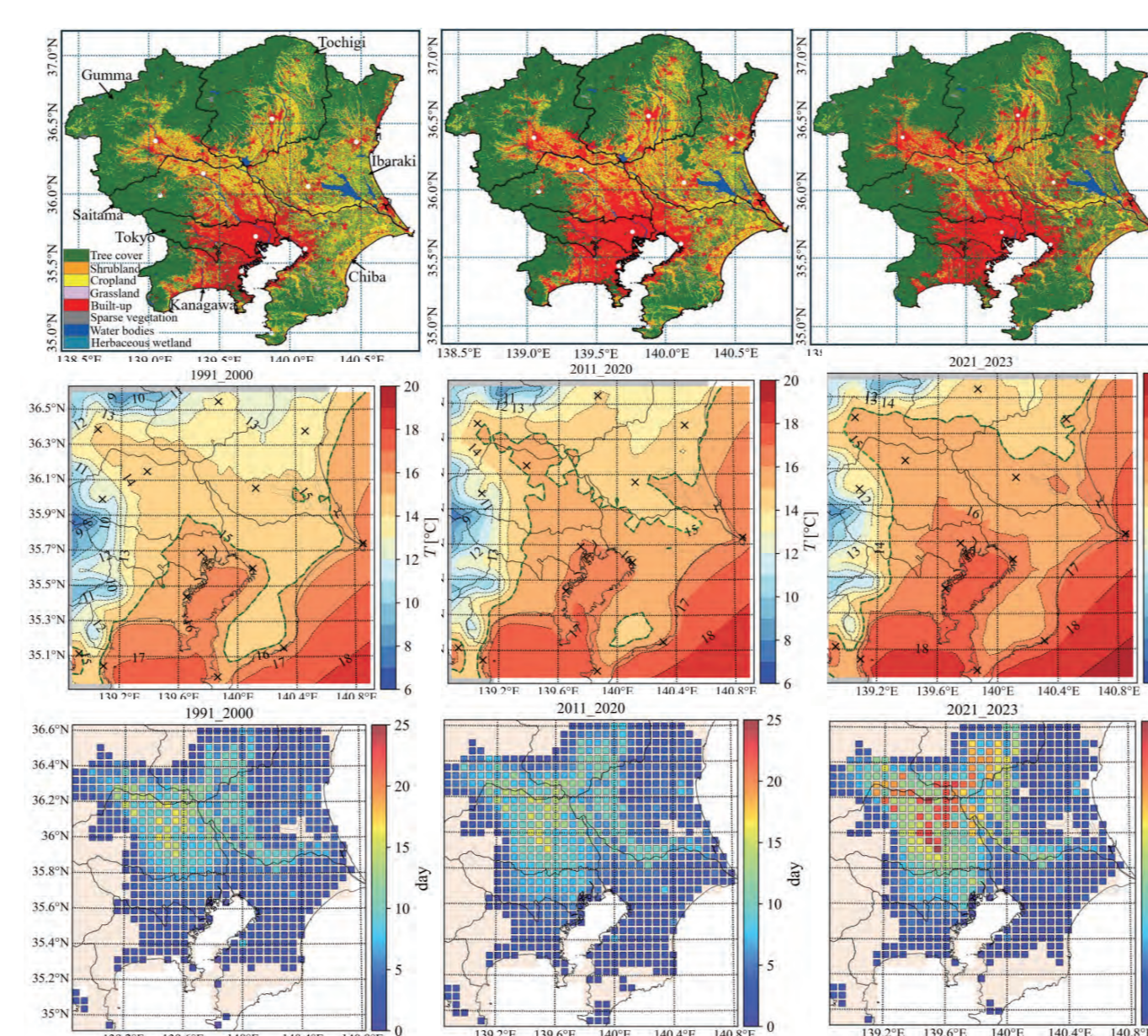
Advancement of Airflow Measurement  
Around Buildings with Machine Learning

Drone Flight Stability in  
Urban Environment

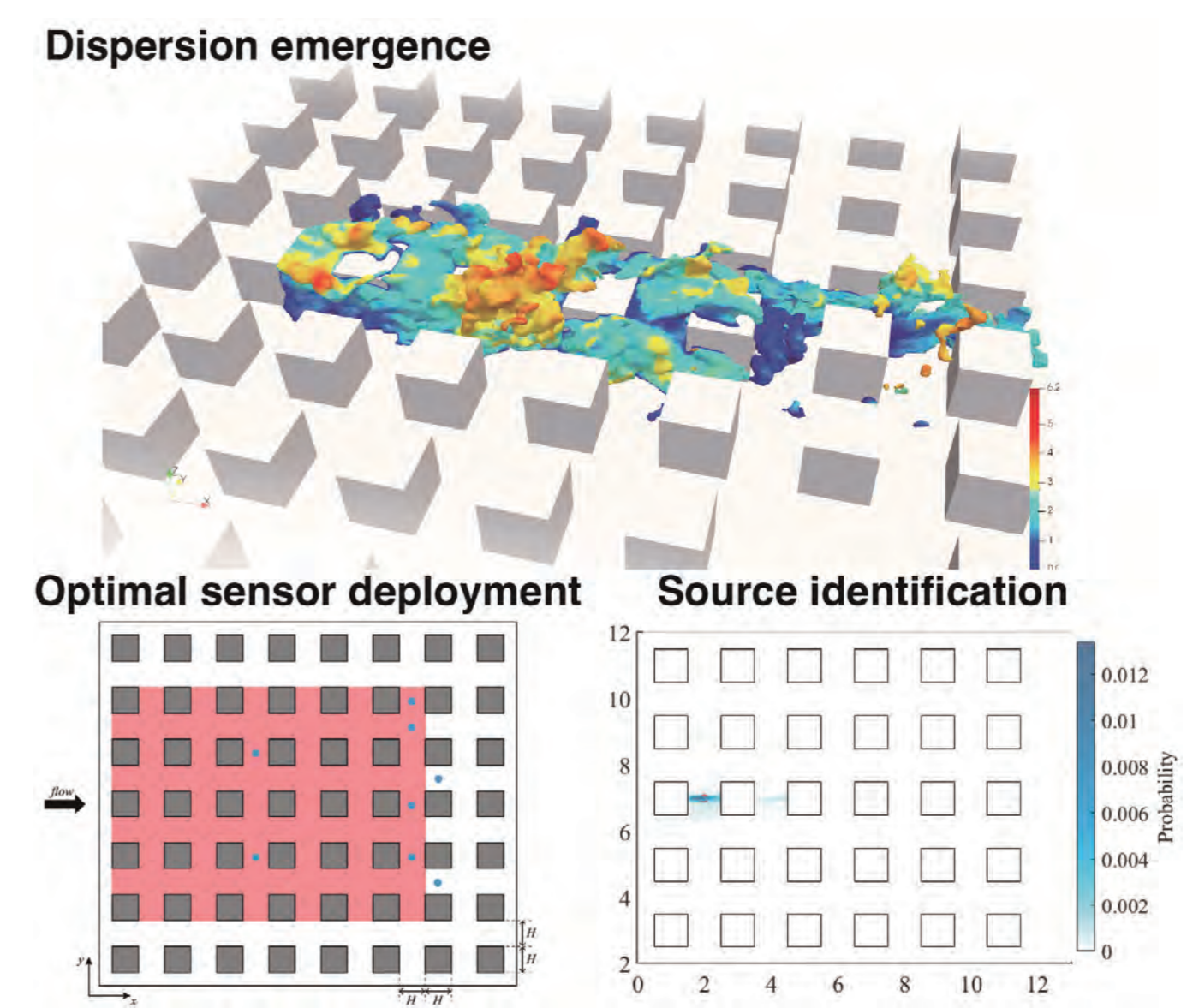
Drone Flight Stability in Airflow  
Environments Around Buildings



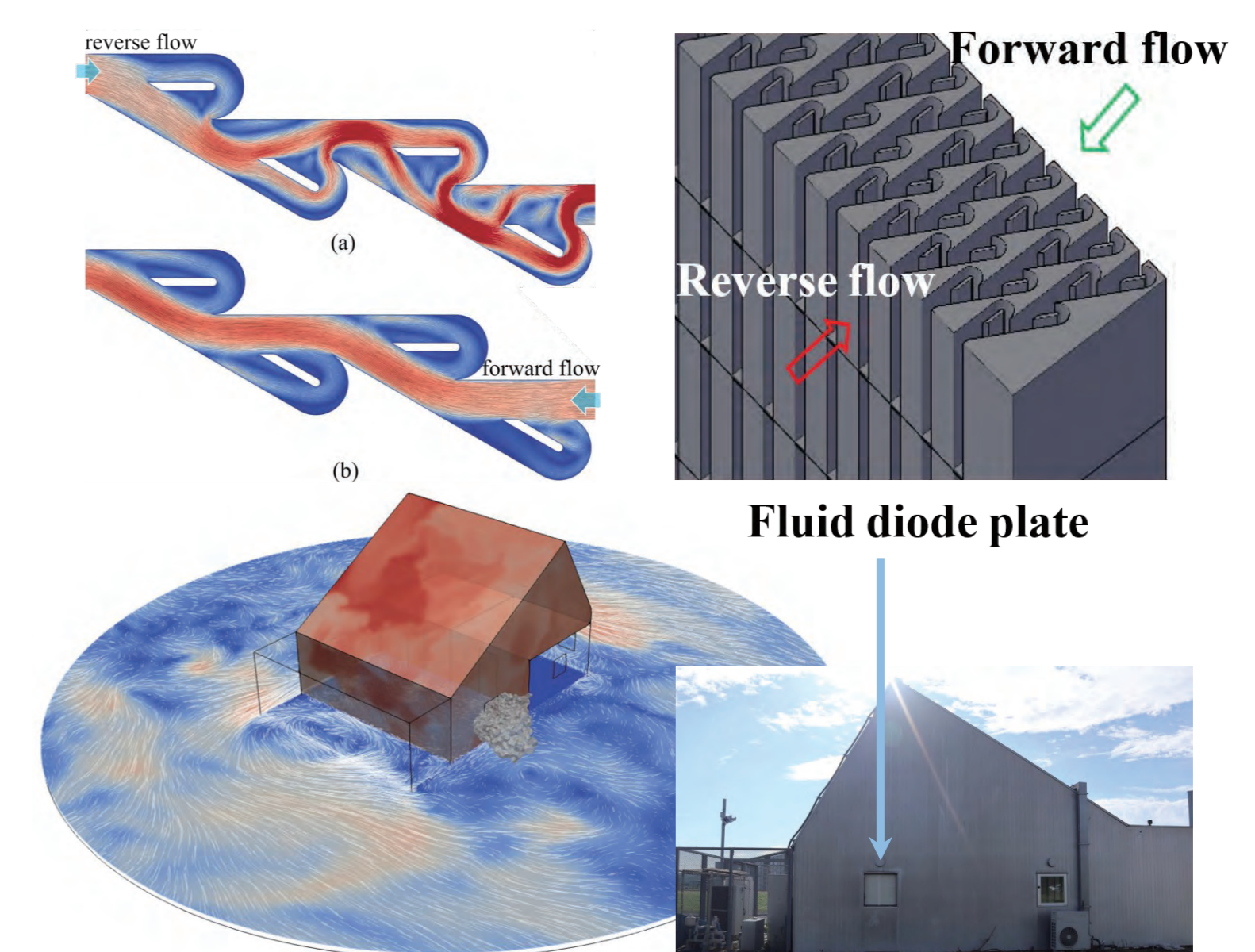
Enhancement of Environmental Sensors  
Accuracy with Data-Driven Approaches

Future-oriented Urban  
Environmental Sensing

Urban Environmental Information  
Analysis with Data Fusion Technique



Inverse Analysis and Sensor Placement  
Optimization of Environmental Factors

Smart Building  
Environment Control

Advanced Natural Ventilation Control  
with High Functional Components