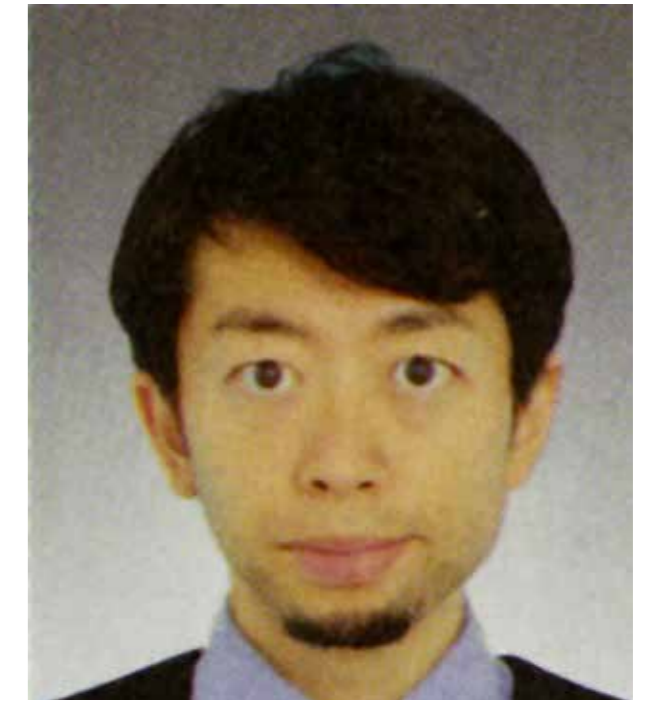# K. HONMA LAB.

Mathematical Engineering of Spatial Design

Department of Human and Social Systems, Design-Led X Platform
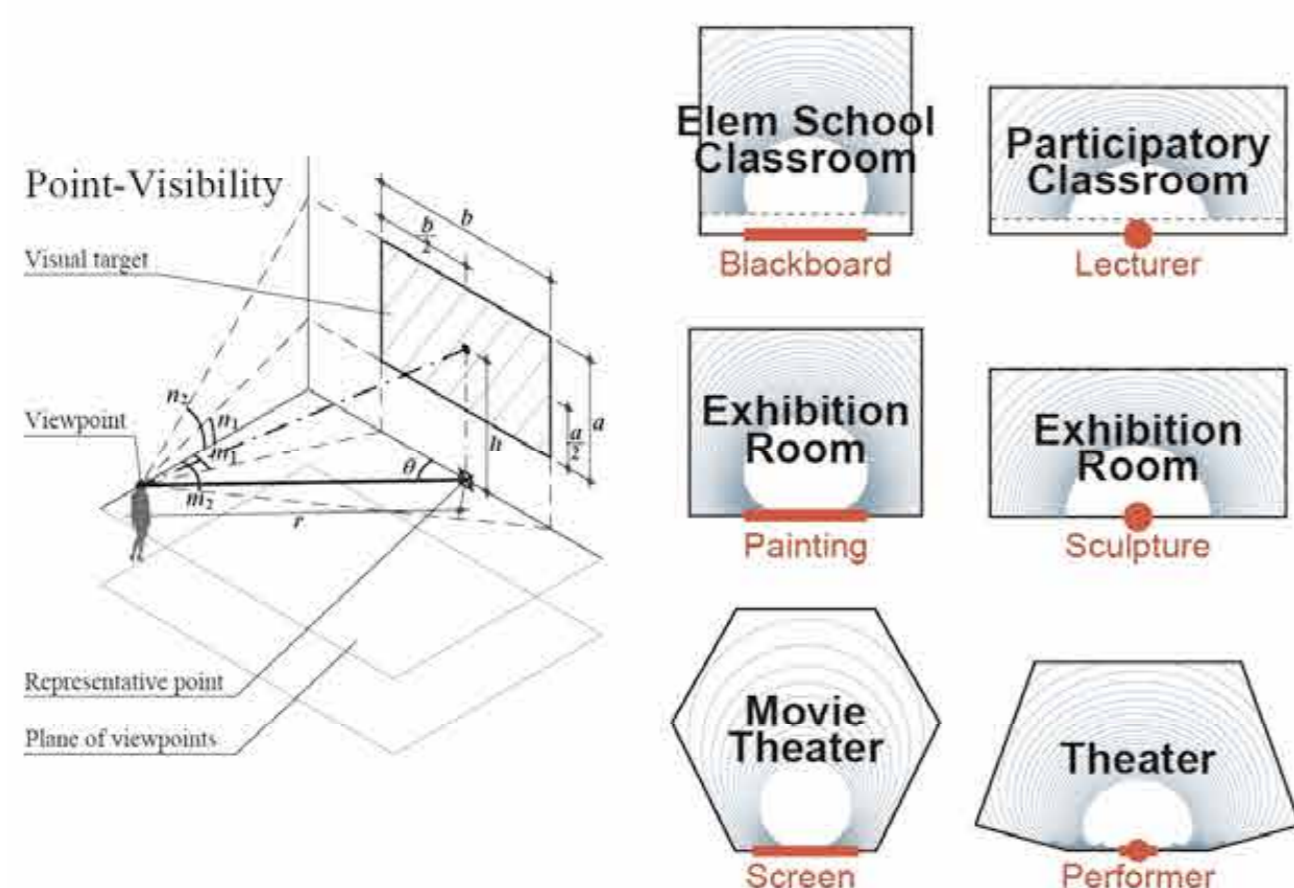Large-Scale Experiment and Advanced-Analysis Platform

Mathematical Engineering of Spatial Design
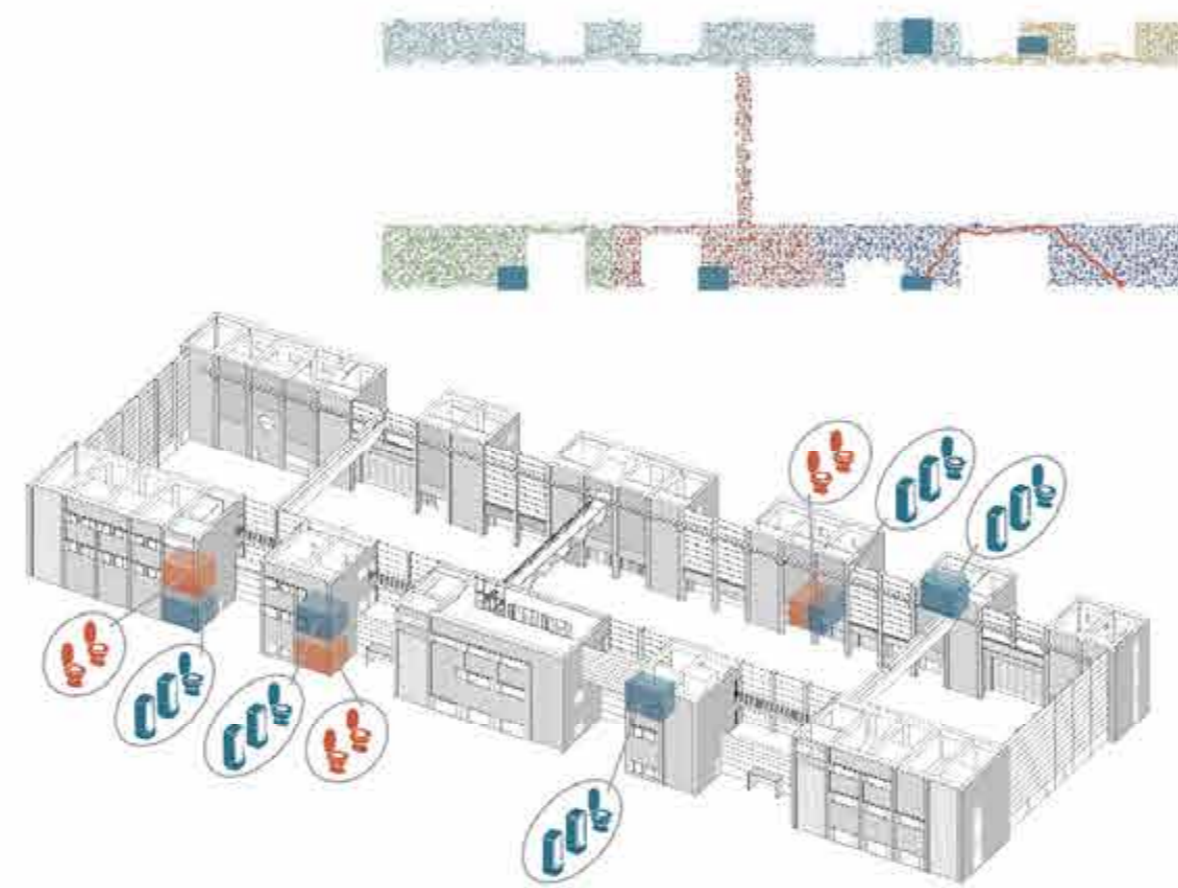Department of Architecture, Graduate School of Engineering   http://hnm.iis.u-tokyo.ac.jp/

We aim at "fusion of design and engineering" in architectural and urban planning.
Toward this future goal, we are conducting the following research in recent years:
(1) Development of new spatial analysis methods for architectural and urban design
(2) Innovative architectural and urban design driven by the developed spatial analysis methods
(3) Urban analysis using geographic big-data
(4) Theoretical research on facility allocation and urban growth based on behavioral choice model
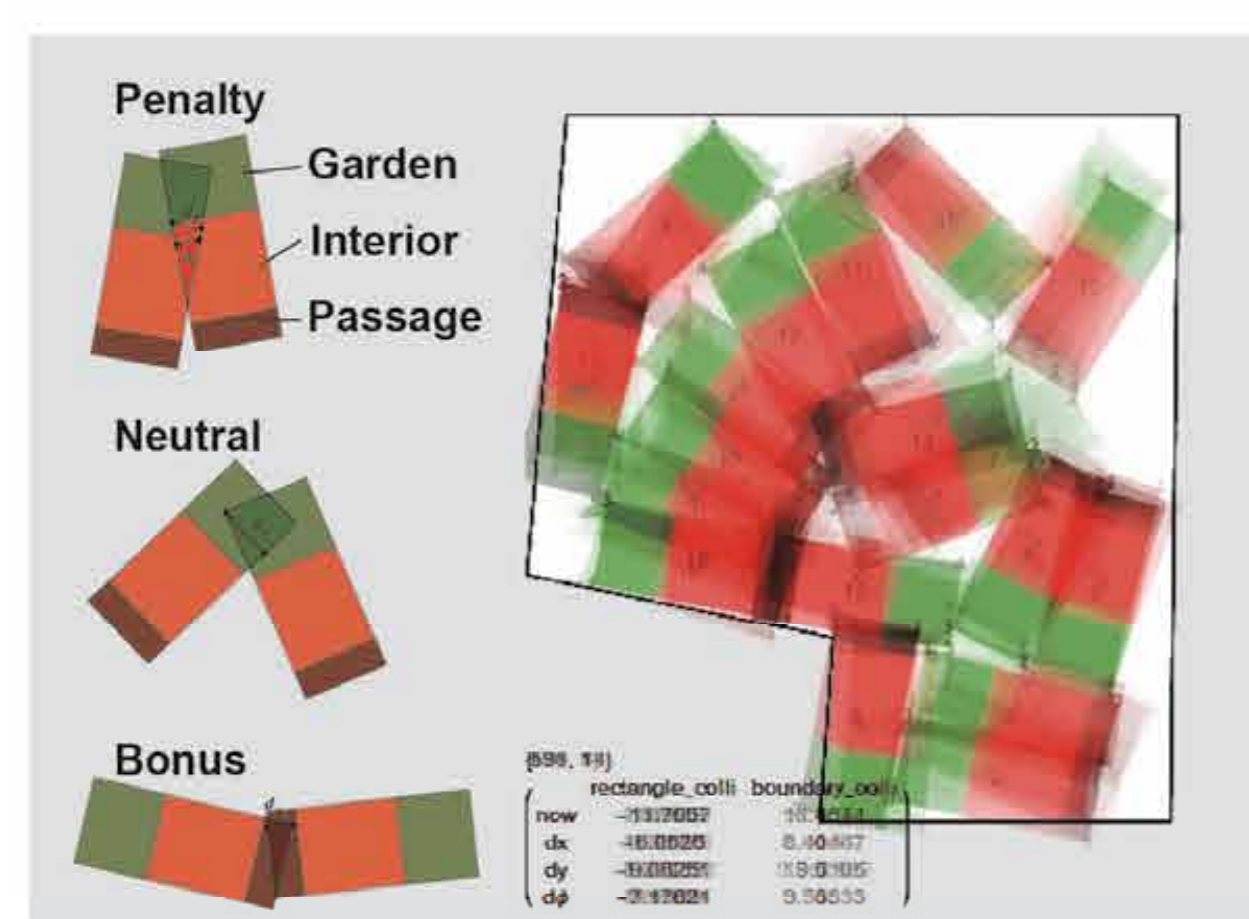(5) Activities of "Design-Led X"
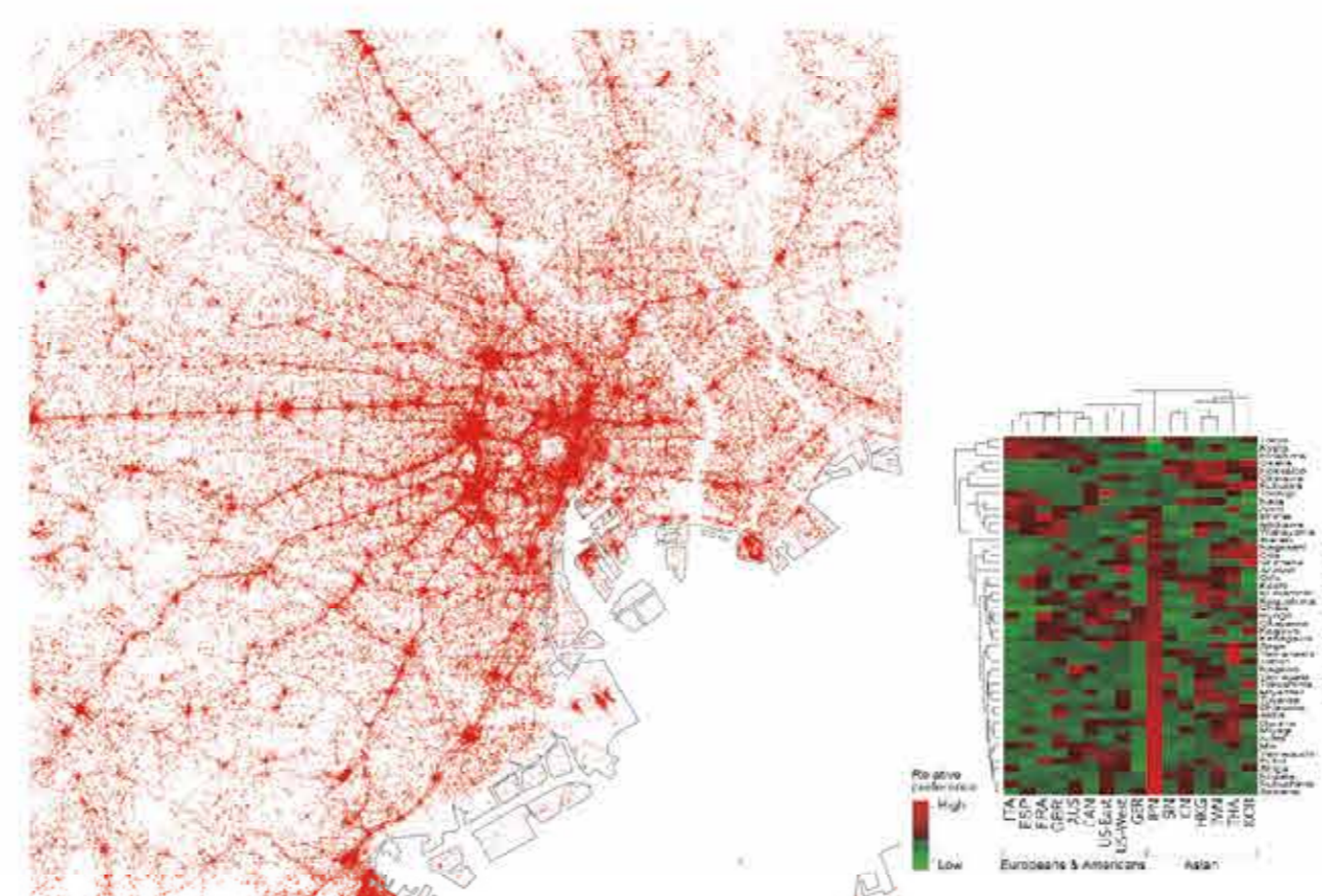

Room shape optimization
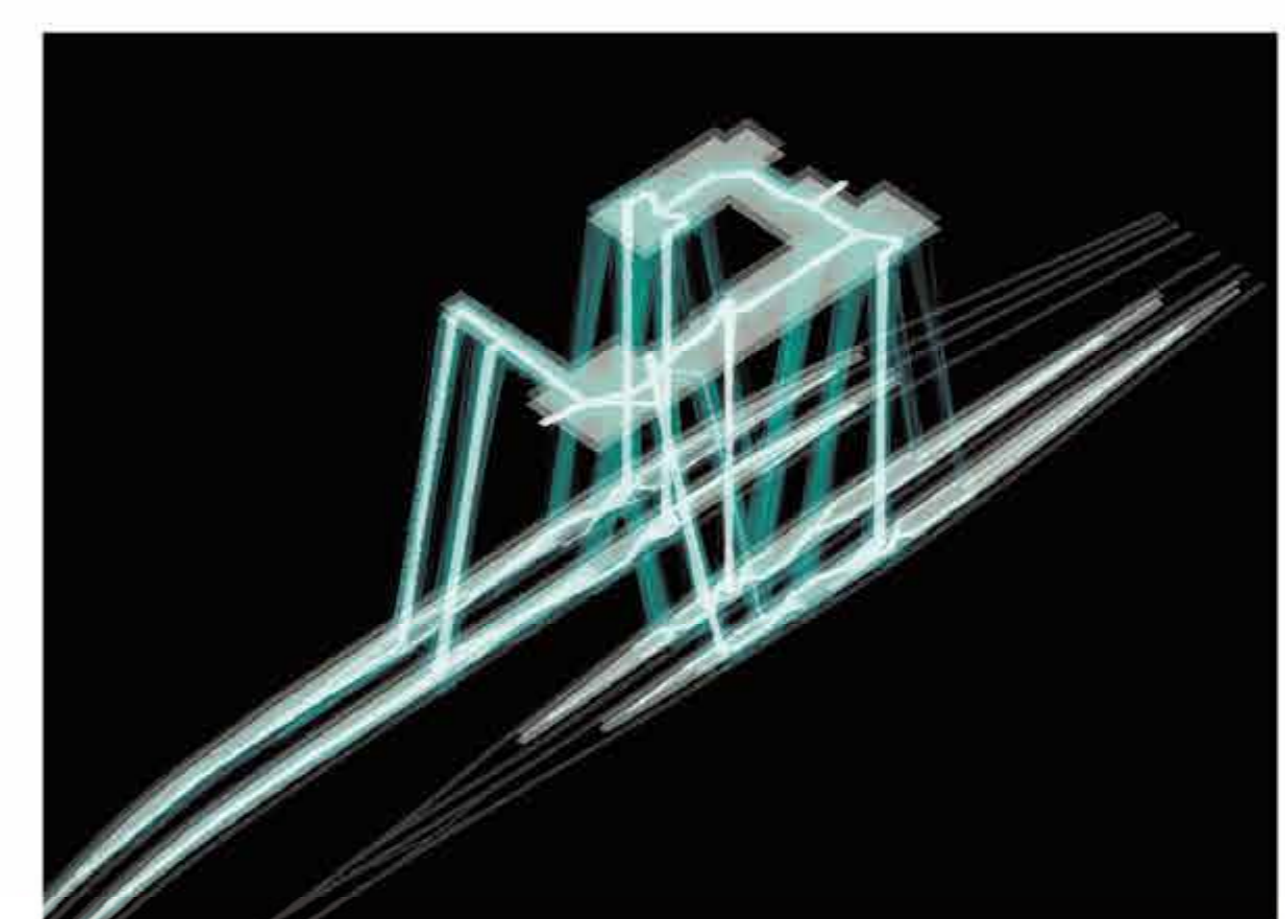

Room allocation optimization
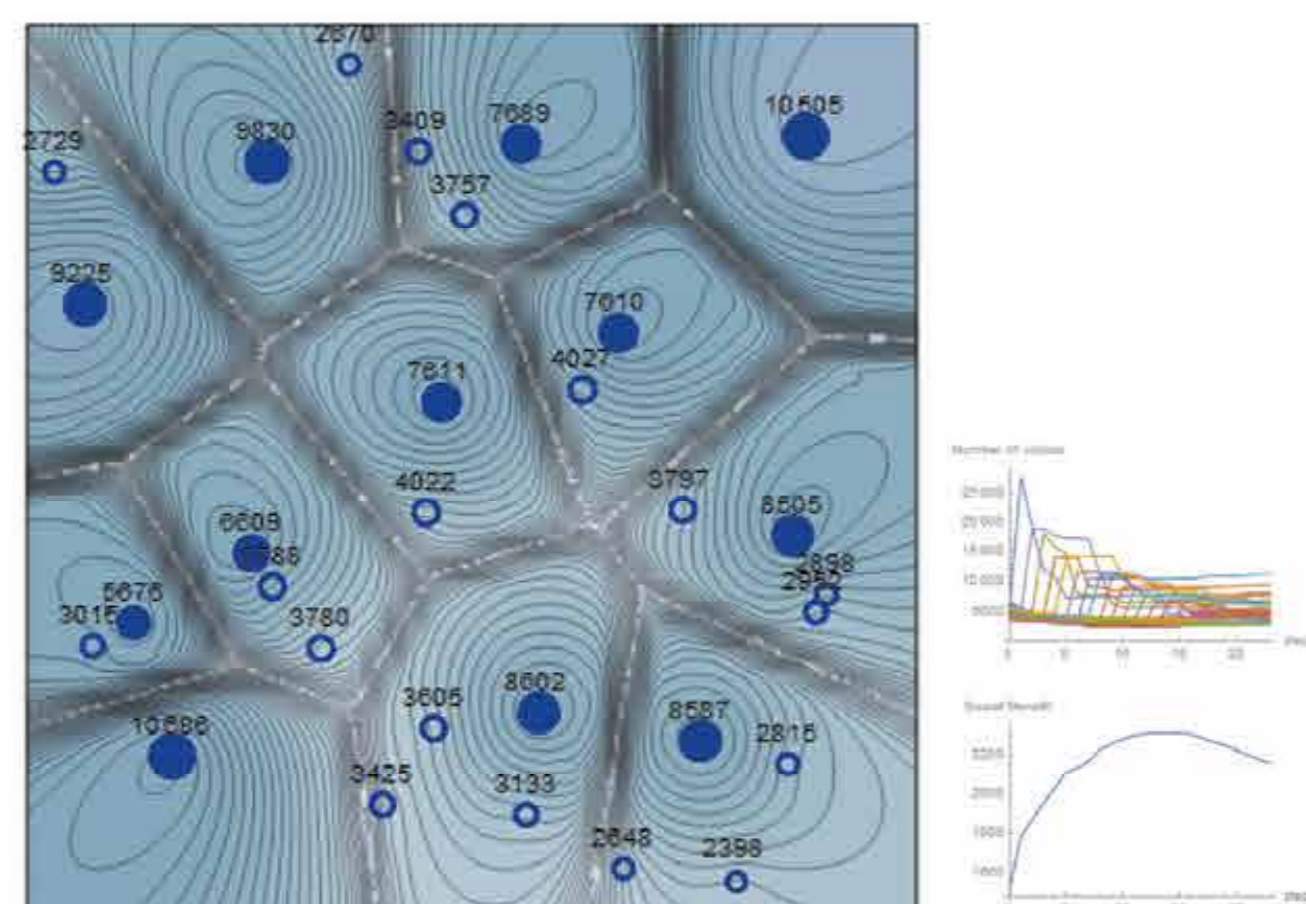

Architectural design

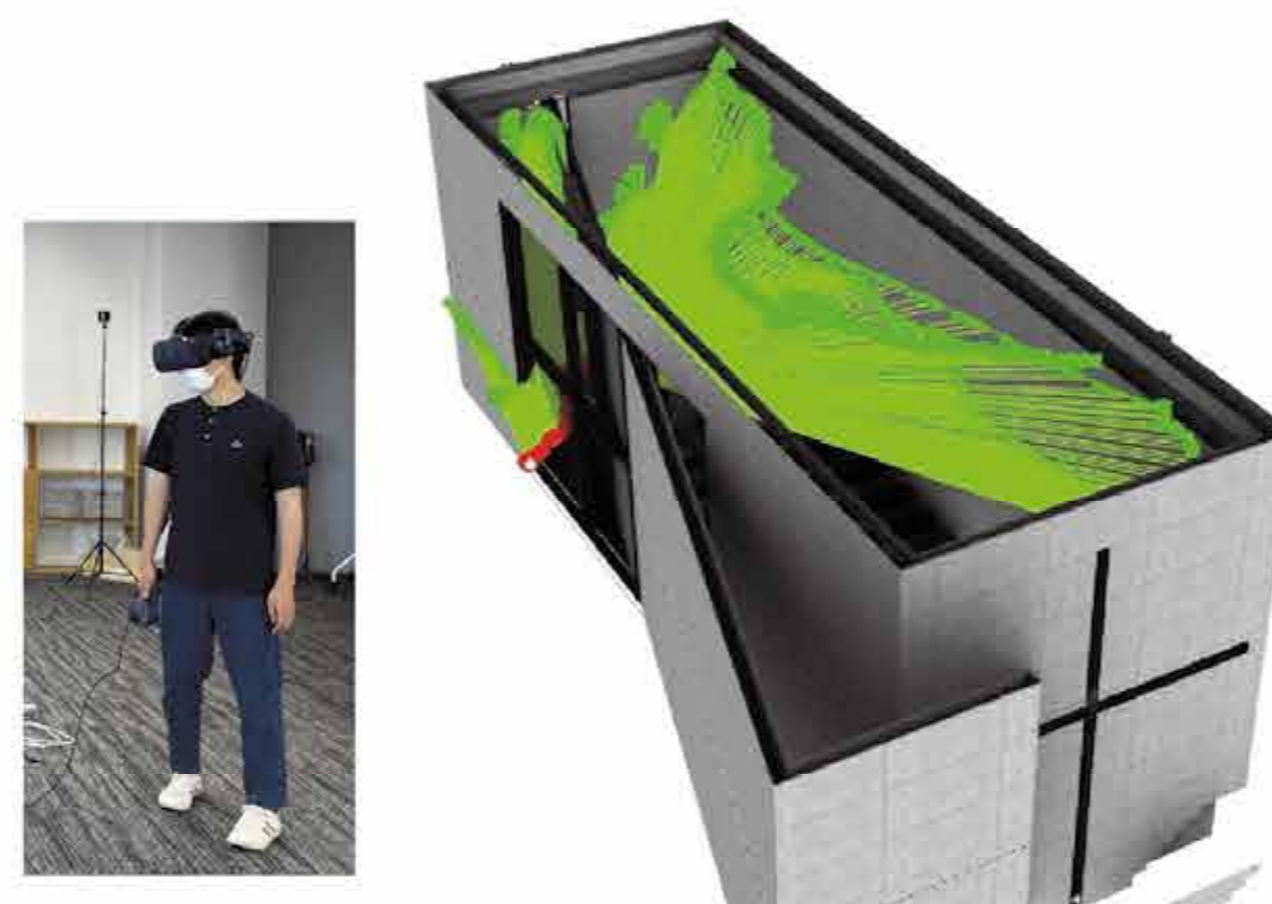Packing problem of dwelling units

Urban analysis using big-data

Planning based on network analysis

Facility location problem

Quantification of spatial experience

Activities of "Design-Led X"

Institute of Industrial Science, The University of Tokyo