

# K. Honma LAB.

## [Fusion of Design and Engineering in Architectural and Urban Planning]

Department of Human and Social Systems / Design-Led X Platform

Mathematical Engineering of Spatial Design

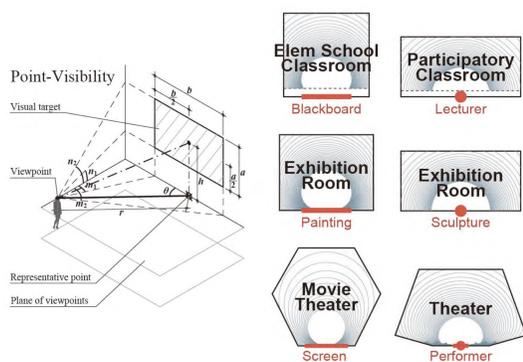
Department of Architecture

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

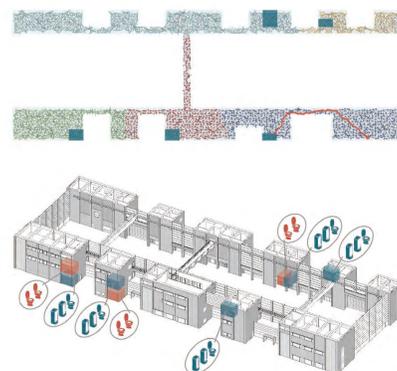
We aim at "fusion of design and engineering" in architectural and urban planning.

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"



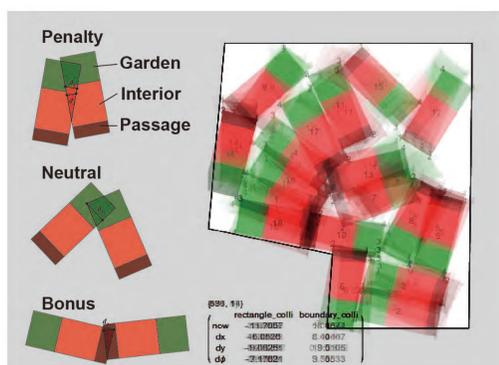
Room shape optimization



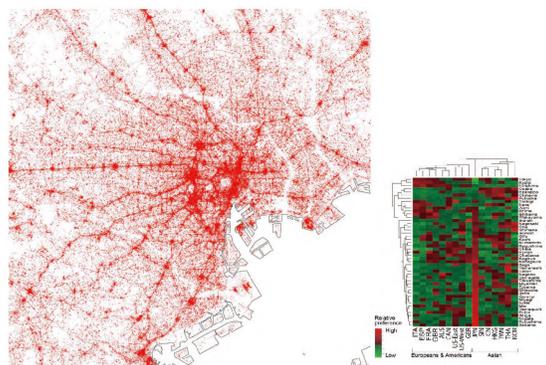
Room allocation optimization



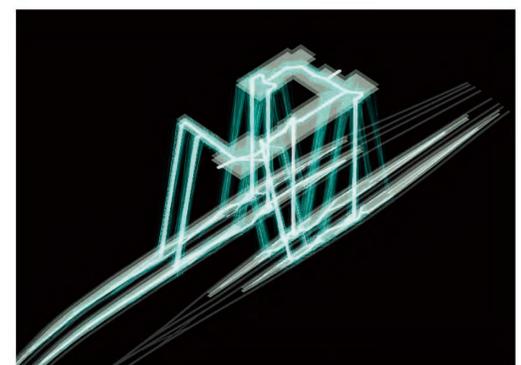
Architectural design



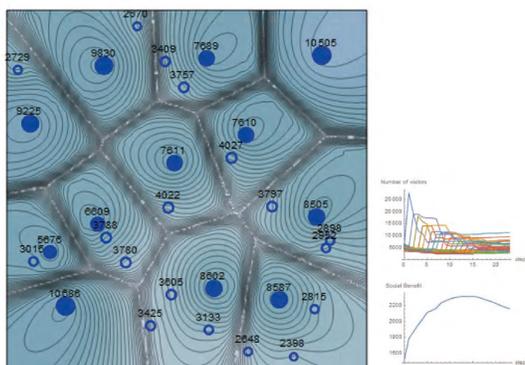
Packing problem of dwelling units



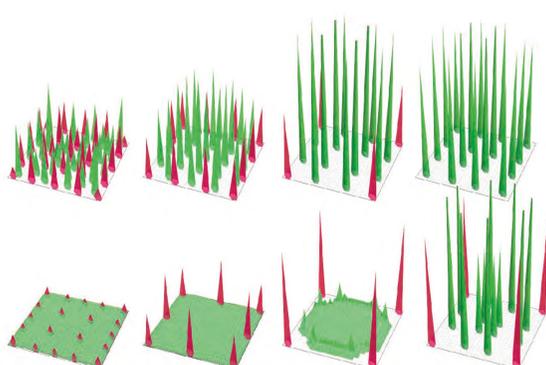
Urban analysis using big-data



Planning based on network analysis



Facility location problem



Urban growth model



Activities of "Design-Led X"