

## K. HONMA LAB.

Design × Engineering - Shaping the Spaces of the Future



Department of Human and Social Systems  
 Design-Led X platform, Large-scale experiment and advanced-analysis platform

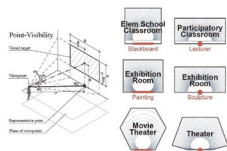
Mathematical Engineering of Spatial Design

Department of Architecture, Graduate School of Engineering

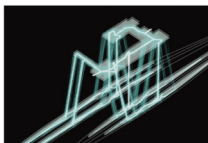
<http://hnm.iis.u-tokyo.ac.jp/>

We aim at "fusion of design and engineering" in the fields of 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) Architectural and urban analysis using geographic big-data
- (4) Spatial design and interaction control based on biometric data such as eye gaze and brainwaves
- (5) Activities of "Design-Led X"



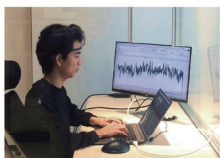
Room shape optimization



Planning based on network analysis



Architectural design



Brainwave-based environment control



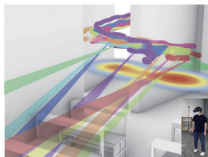
Urban analysis using big-data



Design of changeable space



Spatial analysis using 3D isovist



Quantification of spatial experience



Activities of "Design-Led X"