Invited Lecture
Applications of Computational Geometry in Architecture

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Geometry has been developed in ancient days, motivated by the necessity for building architectural objects such as Pyramids. Nowadays, in designing buildings, architects make full use of computer graphics, computer aided design and other software tools in which various techniques of computational geometry are employed. Thus, there has been a close connection between architecture and geometry for a long time.

We shall give a talk about our research progress carried out in our laboratory which has found several interesting applications of computational geometry, and has found some new, interesting problems of computational geometry. Topics we shall touch upon are

1. Mesh generation problem arising in designing good truss topology,
2. 3D model reconstruction from photos, and
3. The problem of finding optimal room layout.