

## A Study on Urban Design Simulations for Reducing Impacts of Snow and Wind in Snowy and Cold Cities

Tsuyoshi SETOGUCHI, Prof. of Faculty Engineering of Hokkaido University, developed New Sustainable Urban Design Approaches for Winter Cities, snowy and cold cities and regions. The most unique point of the New Urban Design is to develop the experiments of the snow simulations using urban models and wind tunnel with blowing powders, it's no longer other research existing in the world. He developed the architectural designs and urban block figures in downtown area preventing from cold climate impacts, snow drifts and strong cold winds, on urban public spaces. One of the useful results of his research is that the urban design approach unified height of the buildings of the urban block is efficient reducing the snow impacts. It's the quite deferent approach with warmer climate urban design. Furthermore it indicates a beautiful urban landscape unified height of buildings is also preventable the snow impacts. Finally, he developed the new sustainable design approaches relationship between urban design and environmental evaluations in the cold and snowy cities. His researches successful reflected to the actual planning projects, New Wakkanai Station Complex Redevelopment Project and Urban Design studies on downtown Sapporo City. His research made a original urban design approach for Winter Cities.