**Wind Resistant Design of Bridges – Shared Experience**

**Seung Woo Lee, PhD**

*Director***,** *Research Institute, TESolution Co. Ltd, Gyeonggi-do 456-825, South Korea*

**ABSTRACT**

Natural wind is turbulent and varies in a complex, random way both in space and time. If wind flow meets an obstacle, wind forces acting on the body is generated. Unless the body is extremely streamlined and the speed of flow is very low and smooth, these forces will fluctuate. The nature of wind forces may stem from fluctuation (turbulence) in the oncoming flow, vortices shed on the surface and into the wake of the body, and from the interaction between the flow and the oscillating body itself. The first of these effects for bridge structures is known as buffeting, the second as vortex shedding, and the third as motion induced vibration such as flutter and galloping. The wind resistant design of bridges is a complex process involving many steps of planning, research, analysis, testing and countermeasures to prevent undesired wind-induced vibration and achieve stability of bridge structures against wind statically and dynamically. This seminar will highlight some of the wind engineering aspects of design process based on the current engineering practice in Korea. The design process will be introduced step by step accompanied by practical examples. The aim of this seminar is to offer an introduction to the wind resistant design of bridges and share experience in this field.