


Requests for Collaboration

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Research Interests	
<ul style="list-style-type: none">● Wind pressure field around buildings and structures● Unsteady wind forces applied on building● Wind tunnel technique considering the wind-induced phenomena in natural wind	
Creative Achievements in The Application of New and Existing Science and Technology	
<p>(1) Development of an estimation technique of unsteady wind forces applied on building I developed the technique which can estimate the unsteady wind forces, added mass or aerodynamic damping forces, applied on buildings and structures as time functions by using of the wavelet transform.</p> <p>(2) Improvement of the method of Proper Orthogonal Decomposition(POD) analysis Regarding the time series of wind pressures around buildings as complex envelope, I improved the method of POD analysis which can divide the pressure field into components for expressing the advection phenomena of wind pressures. This method has been also used for the validation of the results of Computational Fluid Dynamics analysis.</p> <p>(3) Field investigations of wind-induced phenomena on buildings and structures I have been involved in the field measurements with large scale models of high and low-rise buildings, solar photovoltaics panels and a mobile phone antenna pole. I had also taken part in a field measurement of the wind pressures on a chimney of a power plant. I would like to use the knowledge from these investigations for the improvement of wind tunnel techniques.</p>	
Research Theme That I Want to Collaborate	
<ul style="list-style-type: none">● Field measurements of wind pressures on buildings and structures● Refinement of wind tunnel technique to reflect strongly the wind-induced phenomena in natural wind● Development of educational tools for learning the wind forces applied on buildings and structures in contradistinction to seismic forces	
A List of 5 Key Publications	
<ul style="list-style-type: none">• Wind Pressures and Vortices on a Cubic Building in Natural Winds, Yoshihito Taniike, <u>Tetsuro Taniguchi</u> and Junko Ikeuchi, Proceedings of the Fifth Asia-Pacific Conference on Wind Engineering, pp.525-528, 2001• Estimation Technique of Vibration Characteristic by Wavelet Transform, <u>Tetsuro Taniguchi</u> and Yoshihito Taniike, Proceedings of International Symposium on Network and Center-Based Research, pp.205-210, 2004• Pressure time series for the fatigue assessment on a roofing system, Koji Takamori, Hiroaki Nishimura, <u>Tetsuro Taniguchi</u> and Yoshihito Taniike, Proceedings of the thirteenth International Conference on Wind Engineering, File No.233, 2011• Wind Loads Acting on PV Panels and Support Structures with Various Layouts, Daisuke Somekawa, <u>Tetsuro Taniguchi</u> and Yoshihito Taniike, Proceedings of the 8th Asia-Pacific Conference on Wind Engineering, pp.235-242, 2013• Study of the three-dimensional fluctuating pressure field above a flat plate roof, Ryohei Nakamura and <u>Tetsuro Taniguchi</u>, Proceedings of the 7th International Symposium on Computational Wind Engineering 2018, No.111, 2018	