

Presentation of the funded projects in 2010  
for the Programme "Blanc International SIMI 6"

**ACRONYM and project title**

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**KUN-SHEN** – Barrier island hydro-morphodynamics driven by typhoon events

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# Blanc International Programme SIMI 6

## 2010 Edition

<b>Project title</b>	<b>KUN-SHEN – Barrier island hydro-morphodynamics driven by typhoon events</b>
<b>Abstract</b>	<p>Taiwan is located in a sub-tropical region exposed to extreme meteorological events and is on the track of numerous major typhoons. More than 38 typhoons crossed Taiwan in less than 10 years. The south-western coast of Taiwan displays well-expressed lagoon systems that do not exist elsewhere in Taiwan. Sand barriers are well developed, and interesting morphologic features occur, such as wash-over deposits and storm inlets. In the vicinity of Tainan county, Cigu lagoon and the Wan-tzu-liao sand barrier are one of the most striking examples of such littoral systems around the world. The project aims at characterizing misunderstood phenomena that occur during typhoon-like events and their consequences on the sand barrier hydro-morphodynamics of Cigu littoral. The challenge of the project is to join together a field work approach, physical experimentations, numerical modelling and a more general naturalistic point of view with theoretical physics.</p> <p>On that basis, the works aim at providing new informations relative to extreme wave transformation and wave/ wave interaction to the coastline, nearshore morpho-dynamics under extreme events, over-washing and subsequent wash-over deposition processes. Specific attention will be paid to the characterization of the changes of instantaneous water elevation and submersion of the barrier island itself. Other fundamental questions such as the existence of threshold phenomena in the beach dynamics driven by extreme events will be discussed.</p>
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