



## **Awareness to the mitigation of the hydraulic risk through LEGO models**

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Awareness to the “mitigation of the hydraulic risk” represents a social theme of growing importance. The introduction of new educational and popular tools that facilitate the comprehension of the hydraulic risk and improve the risk perception is very important.

LEGO bricks constitute a tangible building material, simple, well-known and especially modular, which can guarantee immediate connection between theoretical and practical aspects, as well as immediate visualization of the results.

Using LEGO bricks, a scale elevation model that reproduces a part of the territory crossed by a river reach has been built. The model is equipped with hydraulic basins and pumps for the simulation of transitory flows and floods. The basic geometry of the model, river cross sections included, may be modified through the grafting of pre-assembled external elements like buildings, bridges, vegetation and sediments, as well as elements more dedicated to the mitigation of the hydraulic risk like storage areas, weirs, dams, levees and hydraulic bypass regulated by mechanical slide gate. The use of the LEGO model is useful in many different ways: i) in the context of a multi-disciplinary collaboration between several thematic areas; ii) within the recruitment activities and counseling in the occasion of meeting with the students; iii) during demonstrative manifestations and scientific divulgation activities dedicated to the promotion of hydraulic risk perception. Serious games may be organized using this LEGO model in order to increase people engagement and active participation as well as to incite competition and encourage best practices.