

## **Contested Issues Game Structuring Workshop Introduction**

In October 2014, three researchers from Delft University of Technology, the Netherlands, were invited to conduct a Contested Issues Game Structuring (CIGAS) workshop related to flood protection in the Houston-Galveston Bay Area by Prof. Jim Blackburn and Prof. Phil Bedient of the SSPEED Center. Following the disastrous flooding due to Hurricane Ike in 2008, several influential stakeholders held diverse opinions on appropriate solutions for future flood protection. This contestation led to an impasse. The workshop aimed to engender commitment to joint action.

With the CIGAS approach we strive to co-create an extended insight of the contested environment by means of action research, game structuring and system modeling techniques in a two-day workshop. The participants are understood to have different interests and values. The purpose is thus not to reach consensus, nor to solve conflicts. The aim is to explore the existing different values and interests, and possible outcomes for the environment at stake. Knowledge of the biophysical and social systems and the effects of infrastructural measures serve as input to the process. We take this knowledge with as the 'bandwidths' within which system responses can occur. A Pareto-optimal analysis of several combinations of these outcomes is executed. Then feasible coalitions of stakeholders and potential clusters of actions to reach a combined outcome can be specified.

The October 2014 workshop was seen as a first run in which we explored whether the method would work in the Houston Galveston Bay situation and whether it needs to be adapted for eventual further use in this context. The workshop was a success in the sense that it brought a diverse group of participants together, and enabled deep and insightful discussion of value-laden outcomes for the Houston-Galveston Bay area. This acted as an incentive for the creation of a platform where key-players can discuss the contested issues at stake and collaboration on flood protection measures. A follow-up workshop to establish shared criteria, against which potential flood protection measures can be evaluated, is being discussed at this time.