

A Scale of Risk: A Multidimensional Evaluation and Comparison of Risks

Monday 26 November 2018 09:20 (20 minutes)

This presentation offers a conceptual framework for ranking the relative gravity of diverse risks. The framework identifies the different aspects including moral considerations that should inform the evaluation and comparison of diverse risks and in turn shape the decisions for risk mitigation. A common definition of risk includes two dimensions: the probability of occurrence and the associated consequences of a set of hazardous scenarios. This presentation first expands the definition of consequences to include temporal aspects related to the duration of the consequences (which could be shortened by improving the resilience) and puts forward considerations on whose consequences matter. Then, the presentation expands the definition of risk to include a third dimension, namely, the source of a risk. The source of a risk refers to the agent(s) involved in the creation or maintenance of a risk. The source of a risk captures a central moral concern about risks. Finally, a scale of risk is proposed to categorize risks along a multidimensional ranking, based on a comparative evaluation of the consequences, probability, and source of a given risk. A risk is ranked higher on the scale the larger the consequences, the greater the probability, and the more morally culpable the source. The information from the proposed comparative evaluation of risks is targeted to inform the selection of priorities for risk mitigation.

Presenter: Prof. GARDONI, Paolo (Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, USA)

Session Classification: SESSION I