

Two Lectures on  
**Info-Gap Theory and Its Applications**

Yakov Ben-Haim

Yitzhak Moda'i Chair in Technology and Economics

Technion – Israel Institute of Technology

yakov@technion.ac.il, info-gap.com

20 September 2016

EDF - R&D

Industrial Risk Management Department

Chatou, France

**Abstract**

**Info-gap theory** is a method for risk management, strategic planning, decision and design under uncertainty. The future may differ from the past, so our models may err in ways we cannot know. Our data may lack evidence about surprises: catastrophes or windfalls. Our scientific and technical understanding may be incomplete. These are info-gaps: the disparity between what we *do know*, and what we *need to know*, in order to make responsible decisions. Info-gap theory provides decision-support tools for modelling and managing severe uncertainty.

The **first lecture** discusses the basic intuition behind info-gap uncertainty and its distinction from probability. The **second lecture** discusses insights obtained from info-gap analysis of robustness to uncertainty. We consider simple illustrative examples of national energy policy, supply networks, environmental contamination, and spatial monitoring.