

## Keynote Speaker 1

Professor Barry Boehm

His honors and awards include Guest Lecturer of the USSR Academy of Sciences (1970), the AIAA Information Systems Award (1979), the J.D. Warnier Prize for Excellence in Information Sciences (1984), the ISPA Freiman Award for Parametric Analysis (1988), the NSIA Grace Murray Hopper Award (1989), the Office of the Secretary of Defense Award for Excellence (1992), the ASQC Lifetime Achievement Award (1994), the ACM Distinguished Research Award in Software Engineering (1997), and the IEEE Harlan D. Mills Award (2000). He is a Fellow of the primary professional societies in computing (ACM), aerospace (AIAA), electronics (IEEE), and systems engineering (INCOSE), and a member of the National Academy of Engineering.

Title: The Economics of Systems and Software Reliability

Abstract:

Is quality really free? Often, but not in many situations. Are organizations getting the best value for their investments in reliability? Frequently not. If different stakeholders are relying on the system and software for different properties, is there a single reliability metric to manage to? Frequently not. Is reliability affected by decisions on other system and softwareilities? Often quite seriously. This talk will review a number of data sources, case studies, calibrated models, and recent research on systems and software ility tradeoffs to suggest ways that can help improve an organization's return on investments in more reliable systems and software.

## Keynote Speaker II

Dr. Gerard J. Holzmann

Gerard J. Holzmann received his PhD from Delft University in The Netherlands in 1979. He then joined the famed Unix group in the Computing Science Research Center of Bell Labs, where he worked as a researcher until 2003. He left Bell Labs to start a new Laboratory for Reliable Software at NASA/JPL in Pasadena, CA. The LaRS group is chartered with finding long term improvements in the reliability of mission critical flight software for interplanetary spacecraft.

Holzmann also serves as Senior Associate Faculty member at the California Institute of Technology, where he teaches an annual course in logic model checking techniques. He is a Fellow of the ACM and of JPL, and a member of the US National Academy of Engineering.

Holzmann was the recipient in of the ACM Software System Award (2001), the ACM SIGSOFT Outstanding Research Award (2002), the Thomas Alva Edison Patent award (2003), the ACM Kanellakis Theory and Practice Award (2006), and the recipient of an Honorary Doctorate from Twente University in The Netherlands (2006).

He has published close to one hundred technical papers, four monographs, and holds eight U.S. patents.

Title: Getting it Right: The Mars Curiosity Rover Software

## Abstract:

After a development period of close to five years, the Curiosity Rover made a soft landing on Mars in August 2012. The rover has now been on the surface for well over a year and despite a software system of unprecedented complexity, it has performed almost flawlessly. I will review the unusually rigorous development process that we adopted to secure the reliability of the code.