

You Now Have Permission to be Uncertain

Probability Management

The New Way to Communicate, Calculate and Calibrate Risk

Annual Conference, San Diego — February 17-18, 2015

Featuring

- Harry Markowitz – Nobel Laureate and ProbabilityManagement.org Board Member
- Doug Hubbard – President of Hubbard Decision Research and Author of How to Measure Anything
- Sam Savage – Executive Director, ProbabilityManagement.org and Author of The Flaw of Averages
- Case Studies – Presentations by executives from Chevron, Lockheed Martin, Government Finance Officers Association, Lone Star Analysis

Learn how to

- Communicate uncertainty between analysts and decision-makers as auditable data
- Calculate the chances of achieving financial targets or incurring losses interactively in Excel without macros or add-ins
- Calibrate the opinions of experts, when no data is available
- Aggregate risk models across software platforms across the enterprise
- Determine the most important uncertainties to resolve
- Give your organization the permission to be uncertain within specified limits

Who should attend?

- Senior decision-makers in organizations facing inherent uncertainty, especially in the fields of Energy, Finance, Healthcare, Security and Supply Chains
- Risk Management professionals
- Project Managers
- Simulation users, in particular those familiar with Oracle Crystal Ball, @RISK and Risk Solver Platform
- Entrepreneurs and innovators

Leverage the event by sending teams of a decision-makers and analysts. Discounts available for multiple attendees from the same organization.



Probability Management 2.0
The next generation of interactive simulation

Join us in San Diego to keep your organization at the forefront of this exciting new discipline.

Registration

[Click here or visit probabilitymanagement.org to register online.](http://probabilitymanagement.org)

\$1,500 registration fee

\$1,200 early registration fee until 12/12/14

Registration includes:

- Books by Doug Hubbard, Harry Markowitz and Sam Savage
- Breakfast and lunch on February 18

30% discount for additional people from the same organization. Contact melissa@probabilitymanagement.org for discount code.

Location

The 2015 Probability Management Conference will take place at the beautiful Catamaran Resort Hotel and Spa in San Diego, CA. A limited number of rooms are available at a discounted rate if booked by January 16.



**Probability
Management**



Leading Firms Endorse Open Standard for Linking Risk Applications

Oct. 13, 2014 - ProbabilityManagement.org announces its open SIPmath™ 2.0 Standard for linking simulation applications into auditable, enterprise-wide risk management networks.

Simulations have been used for decades to manage uncertainty within stand-alone applications in areas as diverse as finance, engineering and energy. The SIPmath Standard, developed by Palo Alto-based nonprofit ProbabilityManagement.org, allows companies to link the results of their simulations together using new data structures and free software tools.

The SIPmath 2.0 Standard will be formally introduced on Nov. 9, 2014 at the INFORMS Annual Meeting in San Francisco.

"SIPmath can be a breakthrough in the way we think about and analyze uncertainty," said Brian Putt, Decision Analyst at Chevron, one of the nonprofit's corporate sponsors, which also include several other Fortune 500 Companies.

"Uncertainties drive decision-making at all levels of business and government, where they are often replaced with single *average* best guesses," said Dr. Sam L. Savage, Executive Director of ProbabilityManagement.org and Consulting Professor at Stanford, "Unfortunately, this leads to a set of systematic mathematical errors, which I refer to collectively as the Flaw of Averages. This explains why so many projects are behind schedule, beyond budget and below projection."

The new standard communicates uncertainties as arrays of auditable data called SIPs (Stochastic Information Packets). For example, the SIP representing the roll of a die consists of thousands of simulated rolls stored in Excel or a database. The associated metadata would include the number of rolls and the name of the person who rolled the die.

"SIPs are an ideal means for modeling and conveying uncertainty in a standardized fashion," said Eric Wainwright, Co-Founder and Chief Technology Officer of Oracle's Crystal Ball simulation package. "The standard will play an increasing role in the way organizations manage uncertainty through their informational and predictive systems."

Calculating with SIPs is called SIPmath, and Microsoft Excel has recently become powerful enough to use SIPs to calculate uncertainties as easily as it calculates numbers, without relying on macros or add-ins. "In fact," said Savage, "thousands of trials can be run before your finger leaves the 'Enter' key." This places the benefits of interactive simulation within reach of tens of millions of managers, scientists, engineers and educators.

"The notion of performing arithmetic with uncertainties is as foundational as the arithmetic of ordinary numbers," said Dr. Duane Crum, the California State Leader of Project Lead the Way, a nonprofit that promotes STEM (Science, Technology, Engineering & Mathematics) education. "SIPmath makes the arithmetic of uncertainty accessible to school children, with practical lessons ranging from understanding why it is so hard to get projects done on time to deciding how many boxes of Girl Scout cookies the troop should purchase."

When dealing with uncertainty, technology is only half the battle. In today's litigious "give me a number" corporate culture, many organizations cannot acknowledge uncertainty for fear of incurring liability. Yet in the age of big data, we are suddenly awash in statistical information that can quantify uncertainty more precisely than ever before. Nobel Laureate and board member of ProbabilityManagement.org Harry Markowitz said, "The standardization of the representation of such information - with associated provenance - is essential to not clumsily drown in this ocean of data."

Through such standardization, ProbabilityManagement.org will provide a common language for uncertainty that elevates the discourse between stakeholders in disputes over risk, and gives management the "permission" to be uncertain within specified limits.

The discipline of probability management is a network phenomenon. For example, the revolution of the smartphone was not in the already proven technologies of computers, mobile phones, and touch screens, but rather in the network of 100 million nodes suddenly sharing photos, videos, traffic conditions, etc. Similarly, the revolution of SIPmath is not in the proven technologies of simulation, array arithmetic, or big data, but rather in a network of risk models in such popular applications as Oracle's Crystal Ball, Palisade's @RISK, MathWorks' MATLAB and Frontline Systems' Risk Solver, which has the potential to share common understandings of uncertainty and risk throughout society.

Probability Management, Inc. is a 501(c)(3) non-profit that is changing the way we think about uncertainty through standards, best practices and education. Its board of directors includes Nobel Laureate in Economics, Harry Markowitz. Its sponsors include Chevron Corporation, General Electric, Lockheed Martin, Wells Fargo Bank, Lone Star Analysis, Ortec Consulting, Computer Law LLC, and the Foundation for Creative Dispute Resolution. Executive Director Sam L. Savage is author of *The Flaw of Averages: Why we Underestimate Risk in the Face of Uncertainty*, and is a Consulting Professor at Stanford University. To learn more visit ProbabilityManagement.org.