

January 23 – 24, 2017 The Florida Hotel & Conference Center | Orlando, Florida

TE-19|Tuesday, January 24 and Wednesday, January 25|8:00 AM to 5:00 PM|Two Day (16 Hours) Course Title: The NIST Uncertainty Machine and the NIST Consensus Builder

Instructor: Antonio Possolo, PhD, National Institute of Standards and Technology (NIST)

The NIST Uncertainty Machine (NUM) and the NIST Consensus Builder (NICOB) are web-based applications accessible worldwide via any internet browser. The NUM provides a user-friendly interface to uncertainty analysis for measurement models of the type described in the GUM ("Guide to the Expression of Uncertainty in Measurement"), using the GUM approach and also the Monte Carlo method of the GUM Supplement 1.

The NICOB provides a user-friendly interface for the analysis and reduction of measurement results obtained in interlaboratory studies, including key comparisons: computation of consensus values, characterization of associated uncertainty, evaluations of reproducibility, and degrees of equivalence.

This course will provide a hands-on familiarization with the NUM and with the NICOB, using concrete examples and real data from a wide range of fields of measurement science, and will also give the participants sufficient background and guidelines to empower them to make the particular choices needed to apply these tools thoughtfully and appropriately. The participants will have the opportunity to apply these tools also to their own data during the course, and to share their experiences while doing so.

The participants are expected to have general familiarity with the basic notions and methods of uncertainty analysis as are explained in the GUM (or in NIST Technical Notes 1297 and 1900), but do not need to possess specialized knowledge of probabilistic or statistical methods. The course will include a brief tutorial introduction to the R environment for statistical computing and graphics, which the participants may like to use to supplement some of the calculations done using the NUM or the NICOB.

Instructor Biography:

Born in Lisboa, Portugal, a naturalized U.S. citizen, living in the U.S. since 1978, earned a Licenciate in Geology from the Classical University of Lisboa, Portugal, and a Ph.D. in statistics from Yale University (under John Hartigan's guidance).

Pre-doctoral professional engagements

Lecturer in the Classical University of Lisboa

Geologist of the Geological Survey of Portugal

Research Assistant to John Hartigan (Yale)

Teaching Assistant for Frank Anscombe (Yale)

Research Assistant to Felix Chayes (Geophysical Laboratory, Carnegie Institution of Washington)

Post-doctoral professional engagements

Assistant Professor in the statistics departments of Princeton University and of the University of Washington in Seattle



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Associate Technical Fellow of The Boeing Company (1989-2000) Statistician of The General Electric Company (2000-2006) Chief of NIST's Statistical Engineering Division since October 1st, 2006