ABSTRACT:

In this presentation, I will talk about professional software development and the challenges of producing and supporting a statistical software package. I will share some of my experience on how to produce high-quality software, including verification, certification, and reproducibility of the results, and on how to write efficient and stable code. I will also discuss some of the aspects of commercial software development such as clear and comprehensive documentation, consistent specifications, concise and transparent output, extensive error checks, and more.

BIO: Yulia Marchenko is Vice President, Statistics and Data Science at StataCorp LLC. She received her M.S. in Statistics in 2004 from Texas A&M University under the supervision of Jim Calvin and her Ph.D. in Statistics in 2010 under Marc Genton. She joined StataCorp in 2004 and has been with the company for almost 20 years. Yulia has more than 25 years of software development experience. Her primary responsibility is to oversee Stata's scientific software development. Her statistical areas of interest include Bayesian analysis, multiple imputation, meta-analysis, multi-level modeling, survival analysis, power analysis, causal analysis, skewed distributions, and other areas of statistics, biostatistics, and econometrics.