



**QMC Opening Workshop  
August 28-September 1, 2017**

**Lecture:**  $\infty$ -Variate Integration

**Speaker:** G. W. Wasilkowski

**Abstract:**

We present results on efficient approximation of integrals with infinitely many variables. We provide new concepts of worst case truncation and superposition dimensions and show that, under modest error demands, these dimensions are very small for functions from weighted tensor product spaces. We also present Multivariate Decomposition Method that is almost as efficient as quadratures for univariate problems.

The presentation is based on papers co-authored with A. Gilbert, M. Gnewuch, M. Hefter, P. Kritzer, F. Y. Kuo, F. Pillichshammer, L. Plaskota, K. Ritter, I. H. Sloan, and H. Wozniakowski.