Basic Statistics
M. Sami Khawaja, Cadmus
Full day 9:30am - 5:30pm
$150 (includes two breaks and lunch)

- **Reasons for statistics.** What the various statistical measures (mean, variance, proportion, range) are. How are they used? How to compute/interpret them.

- **Statistical Tests.** How to use statistics for testing differences among groups (e.g., participants and nonparticipants). Among different time periods (e.g., pre and post). What are the statistical tests? How you compute/interpret them. Confidence and precision. Point and interval estimates.

- **Sampling.** Types, sample size determination.

- **Data Sources/cleaning.** Program tracking, weather, economic, demographics. Outliers, identification, corrections.

- **Explaining variation.** Regression models, assessing quality of the regression model.

- **Expressing Uncertainty.** Acceptable uncertainty, tradeoff with cost, value of information, confidence and precision, method of improving confidence and precision, methods for decreasing sample size.

- **Additional tools (time permitting).** Nonparametric statistics, Bayesian Statistics, Qualitative Choice, Conjoint Analysis, Contingent valuation.

**Intended Audience:** Evaluators, program staff and program managers with limited knowledge of statistics. All statistical terms will be explained in simple terms using data from real project. The emphasis of the workshop is on interpretation of statistical results

**About the Instructor:** Dr. M. Sami Khawaja, a senior vice president at Cadmus, oversees the firm’s Energy Services Division (formerly Quantec, LLC), which currently has a professional staff of more than 150.

Dr. Khawaja has more than 25 years of economic consulting experience, and he specializes in forecasting, market transformation assessment, pricing, cost/benefit analysis, and statistical and quantitative analysis for utilities and government agencies. He is also nationally recognized as a leader of program design and evaluation methods.


An adjunct professor of economics at Portland State University, Dr. Khawaja teaches quantitative economics and statistics. He is one of the founders of the Applied Energy Economics and Policy graduate certificate program at Portland State.