

**Instructor:** Dr. Florian Battke, Dr. Battke SCIENTIA, Life Science Services

**Date:** November 7-8, 2019

**Time:** 9:00 - 17:00 h

**Location:** R 00 003C, Hermann-Herder-Straße 9

Please register with the school management. Please bring your own laptop.

### **COURSE OUTLINE**

#### **Introduction of basic statistical principles**

- Basic concepts of statistical data analysis
- General descriptive statistics

#### **Statistical methods**

- Background and requirements of statistical methods:
  - Distributions and test statistics
  - Confidence intervals
  - General method of hypothesis testing
- Applying statistical methods:
  - Tests on outliers, Gaussian distribution and homogeneity of variance

- Critical interpretation of test results
- Parametric and non-parametric hypothesis testing
- Analysis of variance (ANOVA) and post-hoc tests
- Correlation and regression analysis

### **Exercises**

- with student's own data or training sample data
- Introduction to analysis software (e.g. GraphPad Prism®)