**TRIBE TEČAJ**   
Fascination for Statistics   
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**OBJECTIVE**  
- Interest in and knowledge about statistical methods for biomedical research  
- Practical application in Excel  
- Preparation, analysis, interpretation, and presentation of data (basics)

**OUTLINE**Audience Ph.D. students in biomedicine, 1st/2nd year, basic/moderate knowledge  
Date April 11th - 14th   
Language English  
Preparation Bring your own data, read as an example Gratwohl et al. (2010), JAMA  
Schedule 4 afternoons  
Structure Theory, practical work, discussion

**PROGRAM**

**DAY 1 - Preparation**  
Realization and descriptive statistics: correlations, moments, structure  
Estimated underlying distribution: probability density and cumulative distribution  
Optimization criteria: mathematical arguments and the role of preferences  
**Goal:** Master standard descriptive statistics and deduce tender points thereof

**DAY 2 - Analysis**  
Problem statement: formulating the desired result in a testable way  
Central limit theorem: the magic of the normally distributed sample means  
Hypothesis testing: statement, interpretation, and justification  
**Goal:** Formulate your problem statement and understand 'significance'

**DAY 3 - Interpretation**  
Correlation: causality from content, not statistics  
Linear regression: standard ordinary least squares (OLS)  
Transformations: necessities and consequences for the error term  
Goal: Discern correlation and causality and set up a meaningful OLS model

**DAY 4 - Visualization**  
Driving your point home: visual support or manipulation?  
Graphs: alternatives for distributions, proportions, models, time series, shares  
Statistical information: empirical or estimated confidence intervals  
**Goal:** Realize the power of framing and depiction to make your point

**INFORMATION AND REGISTRATION**: **tribe@mefst.hr**