Seminar Topics

DESIGN OF EXPERIMENT IN NATURAL SCIENCE

Seminar 1: **Basic scheme of the approach "black box" as compared to single-at-a-time experimentation**

Seminar 2: **Selection of input factor and output function. The principles and advantages of the experimental design**

Seminar 3: **Full factorial design on two levels of the input factors. Selection of low and upper level of the factors**

Seminar 4: **Construction of design of the type 2n. Standardization of the input factor values. Randomization principle.**

Seminar 5: **Calculation of the polynomial model. Regression coefficients, significance of the coefficients, comparison to experimental error**

Seminar 6: **Homogeneity of the system variation and check of the zero hypothesis**

Seminar 7**: Validity of the polynomial model**

Seminar 8**: Optimization by Box-Wilson approach. Comparison to mapping experiments in the region of optimum**

Seminar 9**: Simplex optimization. Advantages and disadvantages**

Seminar 10**: Economic experimental designs. Fractional factorial design. Fractional replicate. Comparison to full factorial design**

Seminar 11**: Random balance economic design. Construction of the experimental plan. Data interpretation. Role of the "dummy" experiments**

Seminar 12**: Plackett – Burman designs**

Seminar 13**: Central – composite designs and more complex models**

Seminar 14**: Correlation and regression analysis**

Seminar 15**: Introduction to intelligent data analysis. Cluster analysis. Principal components analysis**

Presented by: Prof. Dr. Vasil Simeonov, DSc, Faculty of Chemistry and Pharmacy, University of Sofia "St. Kl. Okhridski", Sofia, Bulgaria

e-mail: vsimeonov@chem.uni-sofia.bg

Termin	Dzień tygodnia	Godzina	Miejsce
01.04.2019	poniedziałek	12.15 – 15.00	Minicentrum Konferencyjne (Luwr)
02.04.2019	wtorek	15.15 – 18.00	Minicentrum Konferencyjne (Luwr)
03.04.2019	środa	12.15 – 15.00	Minicentrum Konferencyjne (Luwr)
04.04.2019	czwartek	12.15 – 15.00	Minicentrum Konferencyjne (Luwr)
05.04.2019	piątek	12.15 – 15.00	Minicentrum Konferencyjne (Luwr)