Wizyta profesora Vasila Simeonova
(Uniwersytet w Sofii, Bułgaria)

charakter wizyty: profesor wizytujący (*visiting professor*, okres 23.04-14.05.2017)

program pobytu:

<u>**wykłady:**</u> *(15 godzin)* ***Sustainability management and pollution risk assessment modeling***

Program wykładów:
The models of sustainable development require sets of specific indicators able to describe in a reliable way the contribution of industrial, economic, ecological and societal activities in the complex processes of the industrial metabolism. The course of lectures suggested will give an overview of these models and indicators in historical and modern aspect. Special attention will be paid to another important issue in sustainabilty metrics – the option to use chemometrics and environmetrics (multivariate statistical approaches) as a tool for modeling of the pollution level of different ecological systems (waters, air, soil, biota).
Using a big variety of case studies the role of the environmetrics for intelligent monitoring data analysis will be demonstrated and interpreted. A new element in the data modeling will be the introduction of ecotoxicity tests data in the data analysis in search of specific relationship between physicochemical parameters of pollution and ecotoxicity responses.

Harmonogram wykładu:

Termin	Dzień tygodnia	Godzina	Miejsce
24.04.2017	**Poniedziałek**	**12.15.00 – 15.00**	**Minicentrum Konferencyjne (Luwr)**
25.04.2017	**Wtorek**	**12.15.00 – 15.00**	**Minicentrum Konferencyjne (Luwr)**
26.04.2017	**Środa**	**12.15.00 – 15.00**	**Minicentrum Konferencyjne (Luwr)**
27.04.2017	**Czwartek**	**12.15.00 – 15.00**	**Minicentrum Konferencyjne (Luwr)**
28.04.2017	**Piątek**	**12.15.00 – 15.00**	**Minicentrum Konferencyjne (Luwr)**

<u>**seminaria:**</u> Katedra Chemii Analitycznej
Program seminariów: *(30 godzin)*
Environmental History and Sustainable Development
Seminar 1: Changes in the environment from historical point of view and scientific and cultural responses to the changes. Case study: Garbology
Seminar 2: Scientific and technological impact on the environmental changes. Case study: Environmental changes in XX-th century
Seminar 3: Sustainability indicators. Ecological parameters(technological impact)
Seminar 4: Sustainability indicators. Economic parameters
Seminar 5: Sustainability indicators. Social aspects
Seminar 6: Sustainability and ecological legislation
Environmetrics and chemometrics
Seminar 7: Software package STATISTICA 8.0 – basic functions and basic statistics

Seminar 8: Statistical assessment of the metrology of monitoring analytical methods
Seminar 9: Principles of the experimental design
Seminar 10: Cluster analysis – major principle and application in environmental studies (soils, water, air). Hierarchical and non-hierarchical clustering
Seminar 11: Principal components analysis - major principle and application in environmental studies (soils, water, air). Principal components regression. N-way principal components analysis
Seminar 12: Advanced environmetrics – principles of neuron nets (self-organizing maps), ranking methods, classification methods, partial least squares regression
Seminar 13: Multivariate statistics in assessment of the environmental impacts on human health
Seminar 14: Case studies for multivariate statistical assessment of modern nanomaterials
Seminar 15: Case studies for multivariate statistical assessment of plant morphology and comparison of statistical models with phenomenological measurements and DNA analysis

Konsultacje: Katedra Chemii Analitycznej *(15 godzin)*
       Godziny konsultacji

Dodatkowa działalność:
- udział w badaniach
-przygotowanie wspólnych publikacji