

## **THEORY AND TOOLS OF GREEN ANALYTICAL CHEMISTRY**

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### **Objectives:**

The objective of the course will be to introduce the principles of the so called Green Analytical Chemistry and to discuss the ways for greening the work in the analytical laboratory

### **Program**

- 1 The Green Chemistry Paradigm**
- 2 The Green Analytical Chemistry Basis**
- 3 Steps of the analytical work and possibilities for greening it**
- 4 The use of Chemometrics for sample analysis without sample treatment**
- 5 Automation in GAC**
- 6 Reduction of consumes and wastes**
- 7 Detoxification of Wastes**
- 8 Improving teaching activities and publications in the frame of GAC**
- 9 Ethical aspects and economical opportunities of GAC**

### **Summary**

Green Analytical Chemistry is a hot topic of today analytical chemistry and it offers tremendous possibilities for improving the analytical tasks through the replacement of toxic reagents, the strong reduction of energy and reagents consumes and the efforts to avoid the deleterious side effects of analytical methods for both, the environment and the operators.

In 2011 our research team has published two books on the field:

**M.de la Guardia and S. Armenta**“Green Analytical Chemistry: Theory and Practice” Elsevier Amsterdam 2011

**M.de la Guardia and S. Garrigues( ed)** “ Challenges in Green Analytical Chemistry. RSC London 2011

And we are also preparing a Handbook on Green Analytical Chemistry which will be published in the next months by Wiley and Blackwell.

So, the purpose of this course is to explain the main concepts and practices of GAC and to share our experience with the students of Gdansk