

Environment + Chemistry = Environmental Chemistry? Challenges and Illusions in an Exciting Field of Chemistry

Professeur René P. Schwarzenbach

Institut pour la Protection et la Technologie de l'Eau, ETHZ / EAWAG - Duebendorf

Environmental chemistry is a fascinating field of environmental sciences that, on the one hand, relies heavily on the concepts and methods of fundamental chemistry, but, on the other hand, also requires a profound knowledge of the properties and functioning of environmental systems. Torn between the complexity of the molecular world and the complexity of the macroscopic world, and torn between fundamental science and very practice-oriented problems, environmental chemists continuously face the challenge of finding the “right” compromise between absolute scientific correctness and ridiculous oversimplification. This dilemma will be illustrated by examples taken from our current research. In addition, these examples should demonstrate how well environmental chemistry topics would be suited for the basic education of chemistry students. Fact is, however, that this is very rarely happening. Why is it that chemistry students around the world are so poorly educated in environmental chemistry? This will hopefully also be a matter of discussion.