Interactions between flow, sediment transport and pollutant migration in aquatic environment: From experiments to mathematical modeling

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Course description:

This series of lectures intends to familiarize students with the behavior of sediment associated pollutants in surface waters. It will guide the students from observations of physical phenomena in experimental reactors and natural water bodies to mathematical formulation of the governing transport-transformation equations both in experimental reactors and surface waters and their numerical solution in surface waters.

Syllabus of the lecture subjects:

1. Investigation of cadmium desorption from different sized sediments
2. Concurrent adsorption of heavy metal pollutants by sediment with different grain sizes
3. Experimental investigation of the effect of flow turbulence and sediment transport patterns on the adsorption of cadmium ions onto sediment particles
4. Governing equations and their physical interpretation in numerical modeling of heavy metals migration in river
5. Cadmium adsorption by sediment in a turbulence tank
6. Two-dimensional numerical eco-toxicological modeling of chemical spills

TERMINY WYKŁADÓW			
Data	Dzień tygodnia	Godzina	Sala
2014-06-23	Pn	9.15-12.00	Hydro 205
2014-06-24	Wt	9.15-12.00	Hydro 205
2014-06-25	Śr	9.15-12.00	Hydro 205
2014-06-26	Cz	9.15-12.00	Hydro 205
2014-06-27	Pt	9.15-12.00	Hydro 205

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