



INTERDISCIPLINARY CABRRES APPROACH

Sources, fate, management of deposits from urban runoffs

Problem statement

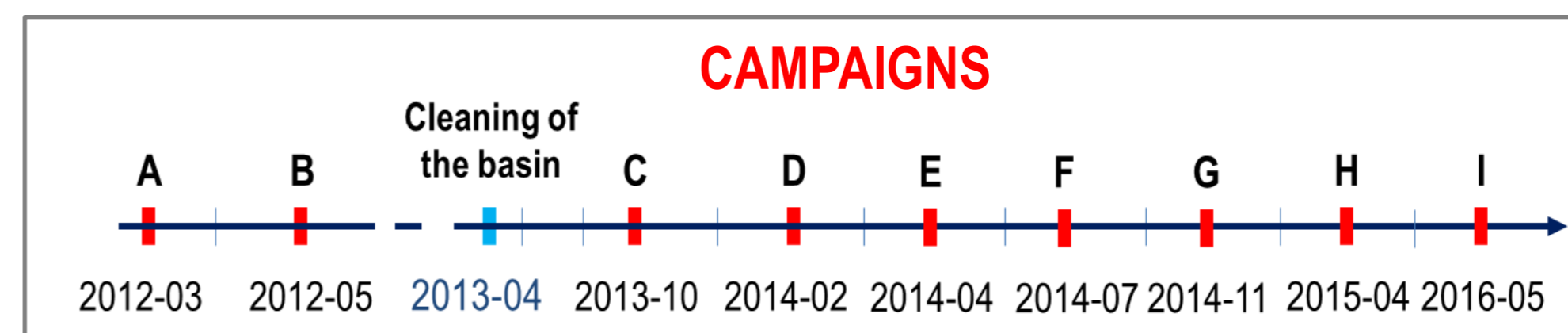
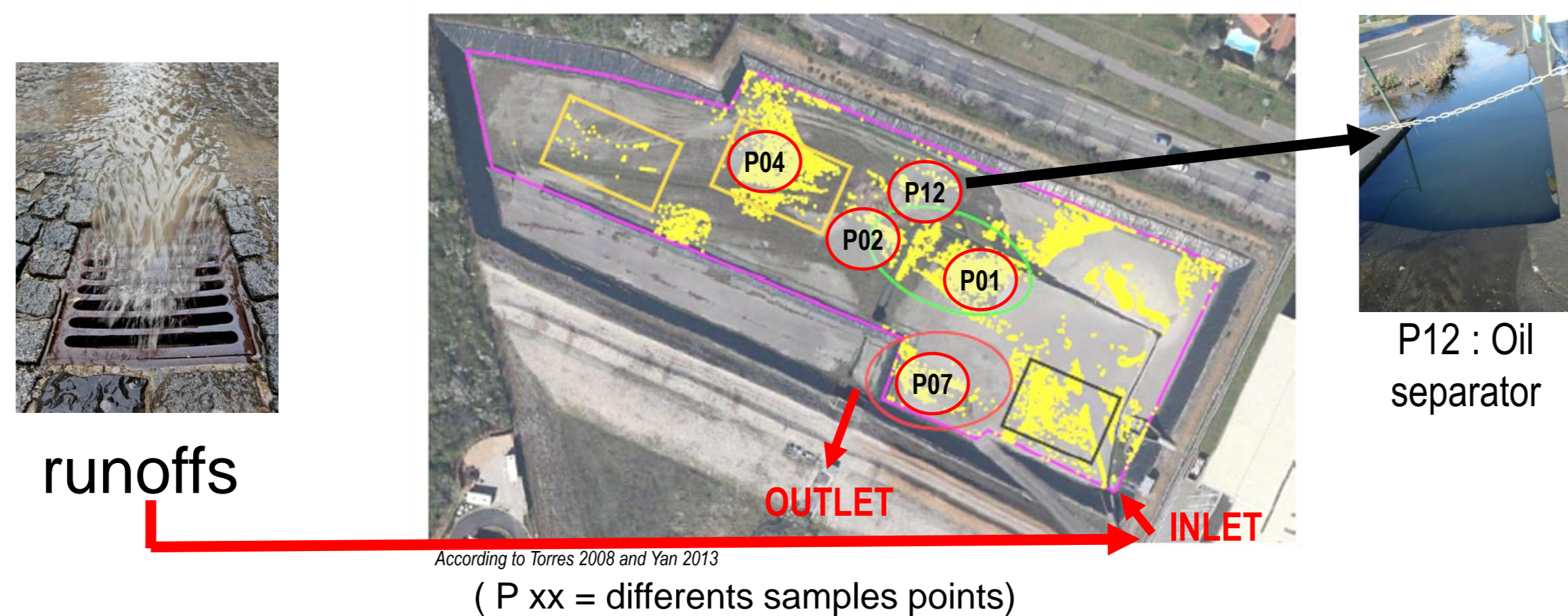
- Control of emerging particulate contaminants
Chemicals & hazardous microbes
- Understanding of settling/resuspension processes
- Treatment and reuse of accumulated sediments

Objectives

- Sources of micro-organisms conveyed on sediments
Related to social and economic activities on the catchment
- Evolution of sediments quality
- Spatial distribution of hazardous chemicals adsorbed on sediments
Ecotoxicological and chemical characterizations

Experimental site and Methodology

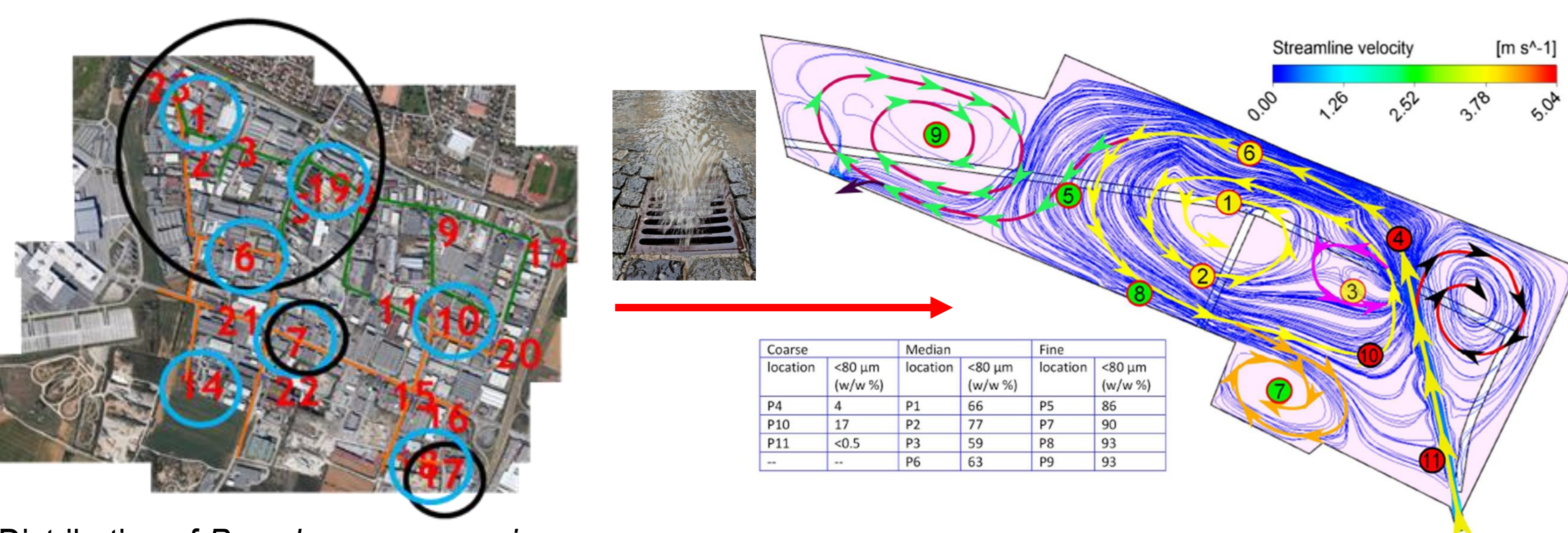
Catchment & Retention/Detention basin at Chassieu (OTHU experimental site), France (69) : At the outlet of a 185 ha industrial catchment drained by a separate stormwater network [Surface = 11,000 m²; Storage capacity = 32,000 m³]



- Samplings
- Grab samples of sediments (n=5 X 7 series) and runoffs (n=21 X 3 series)
- Quartaring method
- Sampled campaigns

Results

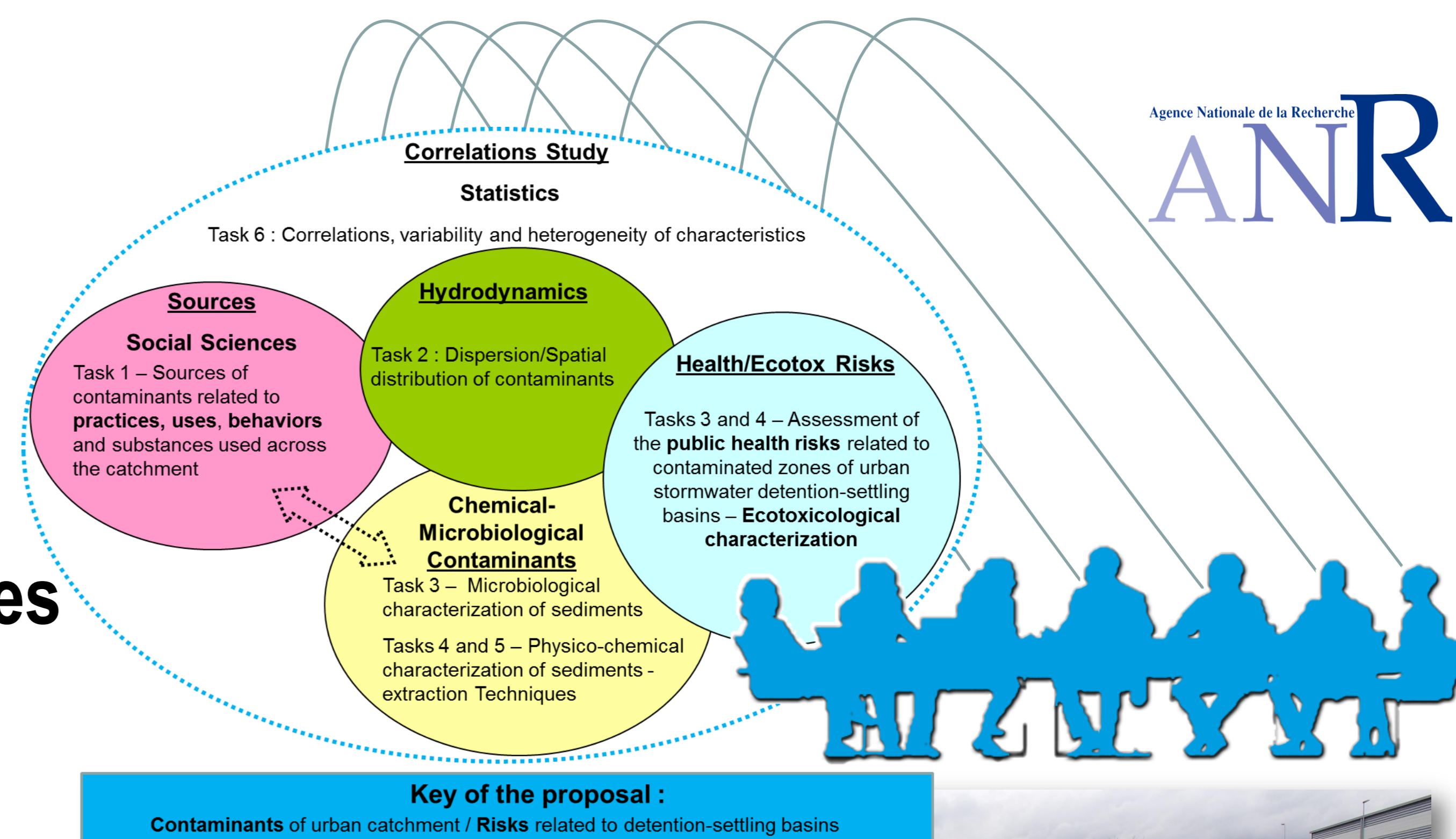
Micro-organisms & velocity



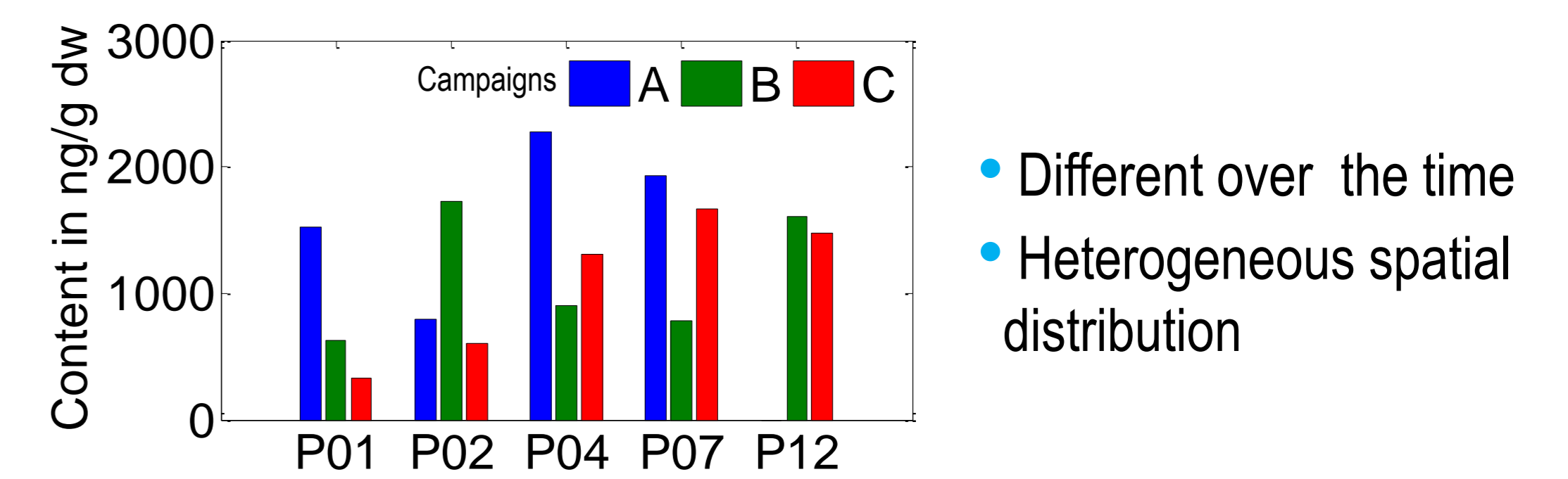
- Distribution of *Pseudomonas aeruginosa*
- Distribution of *Escherichia coli*

Summary

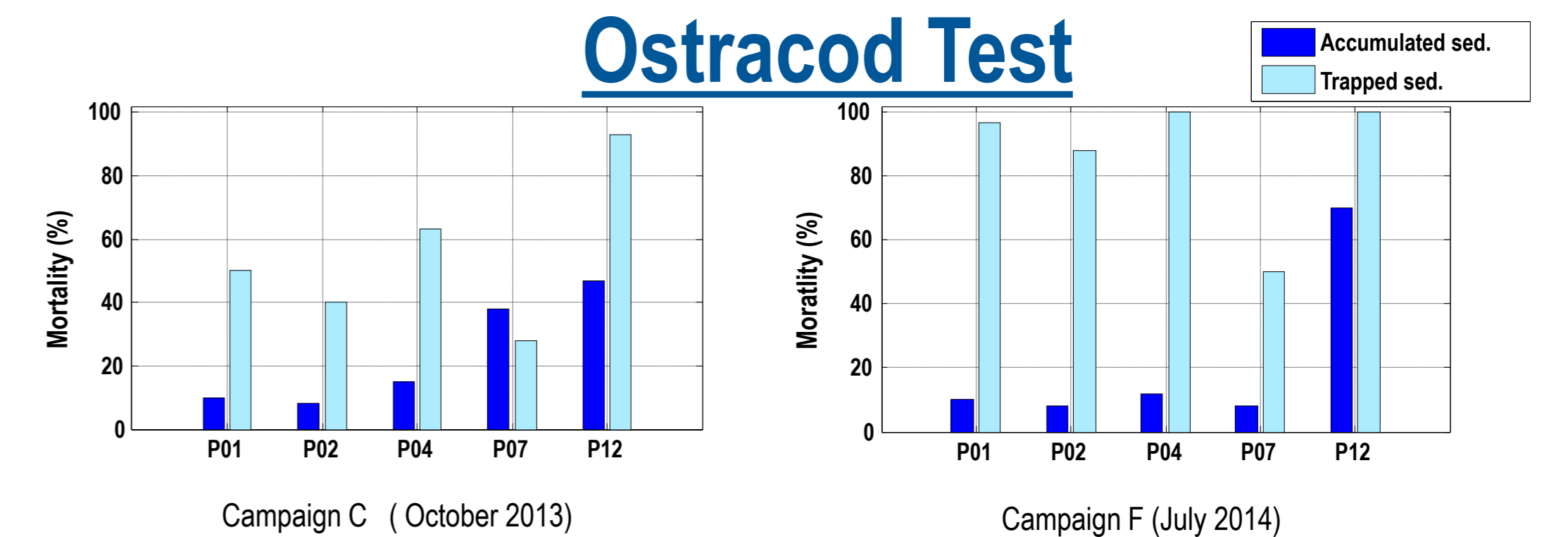
- P. aeruginosa*, a bacterial pathogen, showed a biased distribution pattern that could depend upon social/economic activities, and lead to a contamination of runoff waters
- Ecotoxicity was lower for old sediments
- Hydrodynamics and physical processes impact sediment distribution patterns
- New urban sediments management practices considering their quality are needed



Content of Σ 16 PAHs



Ostracod Test



- Ecotoxicity of trapped sediments (= recent sediments) >> ecotoxicity of accumulated sediments (= old sediments)

