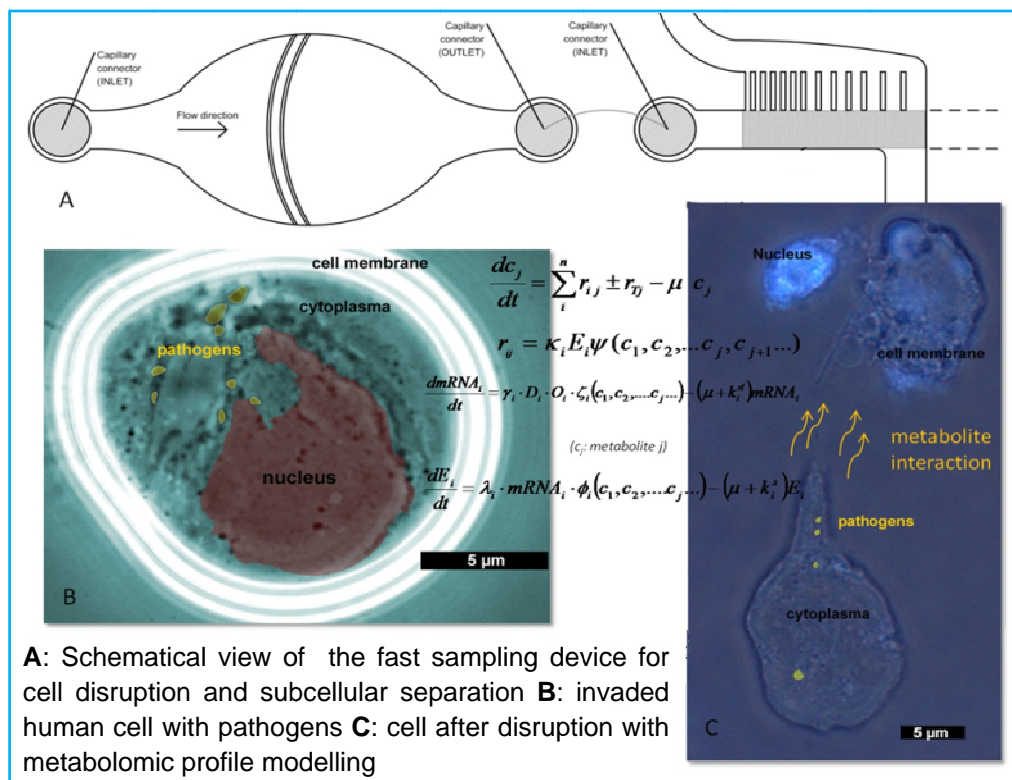


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## Description

The study of host-adapted metabolism of pathogens requires metabolic profiling and flux analysis of cells taken and treated under representative physiological conditions. The many steps between cultivation and determination of the metabolites or fluxes can cause large variations of the results or even falsify conclusions in worst case. **Technologically**, we develop a real-time controlled cultivation system and an automated fast-sampling, quenching and cell handling system for metabolic profiling and flux analysis of pathogens and subcellular organelles under exactly controlled and representative physiological conditions. Particular emphasis will be put on the development of new technologies and methods for studying metabolism of invading pathogens and the response of host cells under in vivo conditions. The **scientific goal** of this project is initially to study the metabolic peculiarities and adaptation of the “small colony variants” (SCV) of pathogens such as *S. aureus* and *P. aeruginosa* with the techniques and methodology developed. In particular, the metabolism and regulatory response of SCVs to oxidative stress and iron starvation as often encountered in host response to bacterial infection will be studied.



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