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Workshop on lab-on-chips Besançon, France, 3rd of May, 2018

The treatment of a huge number of diseases, including cancers, is tightly related to our capacity of understanding and harnessing the development of cell populations. Cell characterization and cell sorting are thus tremendous challenges for therapies of the future. These last years, significant progress have been made, especially due to the development of lab on chip devices.

The goal of this workshop is to analyze the state of the art in this domain, and to propose new approaches, based on both microfluidic and robotic, to perform even more precise cell characterization and sorting. This meeting, at the interface between several scientific domains, aims to make new collaborations emerge between biologists and technologists for a better control of cell populations.









Program:

- 9:30-9h50: Welcome
- 9:50 10:00: Introduction
- 10:00-10:30: Specific isolation of bacterial cells onto micro magnets using different labeling strategies Marie Frenea-Robin, AMPERE (France)
- 10:30-11:00: *Electrical and mechanical sensing single cells within microfluidic devices* Bruno **Le Pioufle**, SATIE (France)
- 11:00-11:30: Break
- 11:30-12:00: From innovative medicines to highly selective cell sorting Aude **Bolopion** (FEMTO-ST)
- 12:00-12:30: Real-time optimization based feedback micromanipulation using dielectrophoresis across the electrodes Zdenek **Hurak**, AA4CC (Czech Republic)
- 12:30-13:00: Lab on chip developments at the MN2S department Franck **Chollet**, Thérèse **Leblois**, MN2S (FEMTO-ST)
- 13:00-14:00: Lunch
- 14:00-15:30:Visit of the FEMTO-ST Institute, AS2M and MN2S departments15:30-16:00:Poster session
- 16:00-16:30: Microfluidic characterization of mechanical phenotype to discriminate pathological Red Blood Cells Magali Faivre, INL (France)
 16:30-17:00: Lab On Chip devices at LMIS4 / Controlled formation of cell
- aggregates by dielectrophoresis Jonathan **Cottet**, EPFL (Suisse)
- 17:00 17:15: Conclusion

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