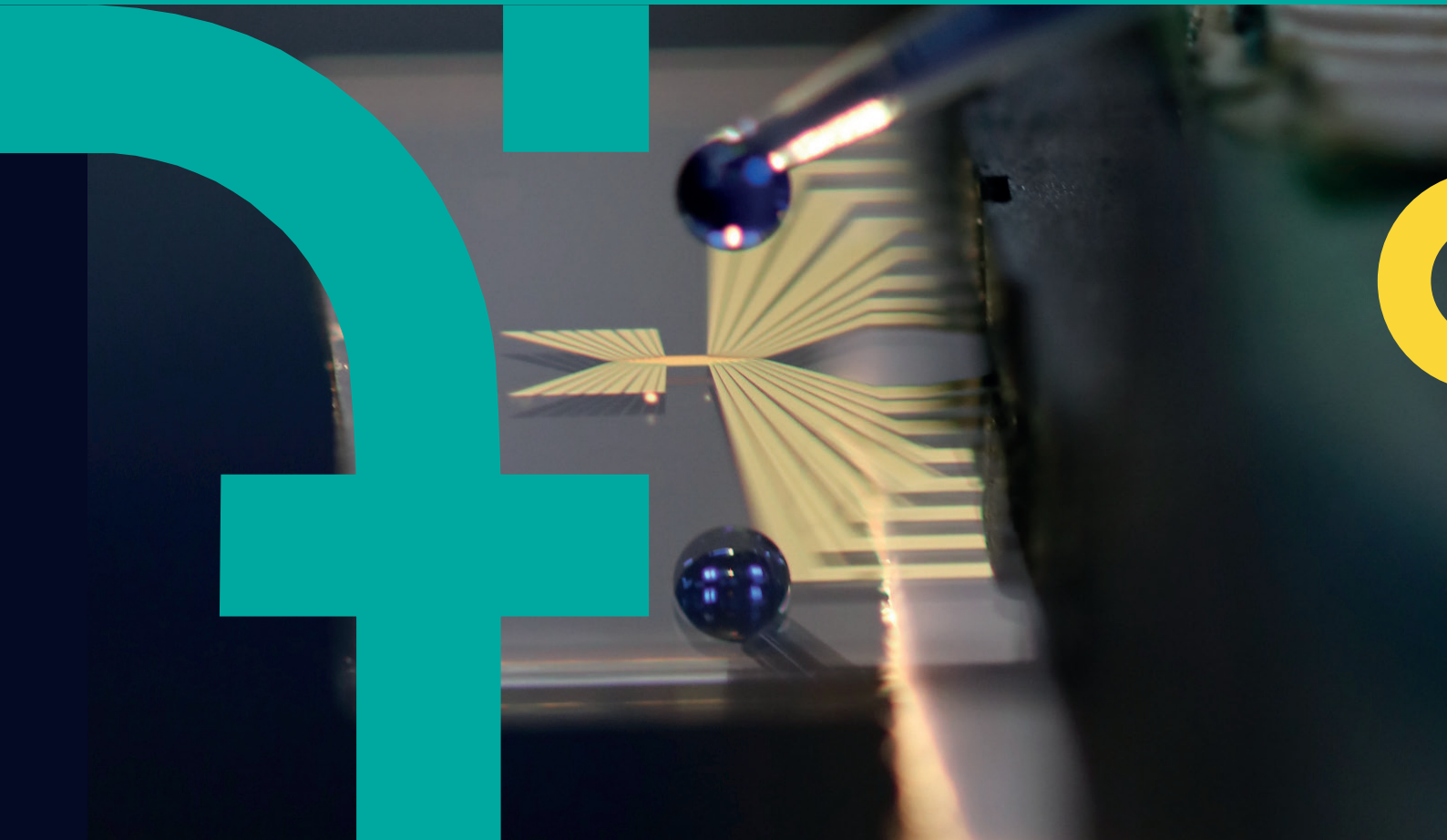


WORKSHOP ON MANIPULATION AND CHARACTERIZATION OF MICROMETER SIZE OBJECTS



BESANÇON - FRANCE

11th of June, 2024



Objects with sizes below 1 millimeter can take a wide variety of form, ranging from biological cells to fossils. The analysis of such tiny objects leads to major information for a better comprehension of our world. Very different fields are interested by such data, ranging from the development of innovative medicines to the definition of strategies for the protection of our environment.

Despite this variety, the analysis of such objects share common problematics, such as the difficulty of visualization, the difficulty to handle individual objects, the necessity to isolate and characterize specific entities from a raw sample, and the difficulty to apply and measure forces of low magnitude to characterize them.

The goal of this workshop is to present the problematics faced by the manipulation of such objects. Some are expected to be shared by many of the participants, while others will be specific to given domains. The strategies proposed in the state of the art to answer these problematics will be reviewed, and hopefully participants will gain inspiration from the technics developed in other domains. This meeting, at the interface between several scientific domains, aims to make new collaborations emerge between scientists of different fields to share innovative solutions for the manipulation and characterization of micrometer size objects.

All PhD, Post Docs, Master students and researchers interested in these research topics are most welcome to participate to this workshop.

Call for poster:

In parallel of the oral sessions, posters related to scientific works on manipulation and characterization of micrometer size objects will be presented.

If you wish to participate, please submit a poster in a pdf file at the following email address before the 28th of May, 2024: aude.bolopion@cnrs.fr



Registration

Registration is free but required.

Please register online before the 28th of May, 2024

Link for the registration:
<https://vu.fr/EjLqU>



PROGRAM

9:30-9:50

Welcome

9:50 – 10:00

Introduction

10:00 – 10:30

Lab on chip developments for the analysis of complex fluids

Therese Leblois, FEMTO-ST Institute (France)

10:30 – 11:00

Intriguing perspectives of microscale electrical sensing and manipulation

Federica Caselli, Univ. of Rome Tor Vergata (Italy)

11:00 – 11:30

Break

11:30 – 12:00

Development of microparticles sorting machines

Thibault de Garidel-Thoron, CEREGE (France)

12:00 – 12:30

Microfluidic chip combining hydrodynamic and dielectrophoretic traps for the controlled the contact between beads and cells: application to adhesion assays and immunotherapy

Clémentine Lipp, EPFL (Swiss)

12:30 – 13:00

Isolement et identification des microfossiles archéens exceptionnellement préservés
Frederic Delarue, UMR 7619 METIS (France)

13:00 – 14:00

Lunch

14:00 – 14:30

Poster session

14:30 – 16:00

Visit of the technological platforms of the FEMTO-ST Microfabrication facilities
Center of Micro and Nanorobotics

16:00 – 16:30

Microrobotics for single-cell manipulation and characterization

Sinan Haliyo, ISIR (France)

16:30 – 17:00

High precision positioning of micrometer size objects using microrobotics approaches
Aude Bolopion, FEMTO-ST Institute (France)

17:00 – 17:15

Conclusion

