

**Vendredi 06 novembre 2015
à 10h30**

Amphithéâtre Henri Benoît

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Microfluidics for designing polymer materials

Monodisperse particles or capsules are attractive colloidal materials for an extensive application including cosmetics, medicines and paints. Fine nano-scale particles are often produced through the controlled polymerization process like emulsion polymerization. On the other hand, Fine micro-scale particles are easily prepared from monodisperse droplets as a template. Microfluidics is one of the promising tools to prepare these colloidal materials because it provides controlled reaction media and water-oil interface. To prepare monodisperse particles, we have suggested “droplet-to-particle technology” by combining microfluidic emulsification and solvent diffusion technique (Soft Matter, 7, 9894-9897 (2011)). This facile process is applicable to microcapsule preparation using internal phase separation (Langmuir, 29, 14082-14088 (2013)) and spontaneous emulsification (RSC Adv., 4, 4872-4877 (2014)). In addition, recently we prepared nanofibers using “Jet-to-Fiber Technology”. In this talk, I will show you the attractive potential of microfluidics for polymer materials design.