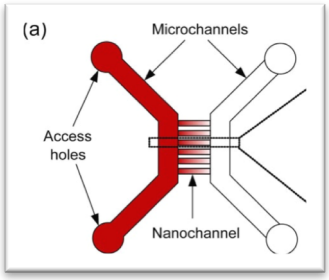
Master and engineering internship

Nanofluidic systems with integrated electroded

One of the great challenges of the 21st century is to succeed in the "energy transition". In this context, we want to identify new processes and sources of energy.
One way to recover energy is to use the properties of liquid flows near surfaces using porous membranes. It is thus possible to convert osmotic energy (difference of salinity between sea and still water) into electrical energy thanks to these membranes. The approaches developed so far remain however model and conceptual.



In view of applications, we then want to design integrated systems via nano / micro fabrication techniques (oxides deposition, microfluidics, photolithography, electron microscopy, AFM ...). One of the limiting steps concerns the integration of electrodes within a microchannel. To achieve this goal, we propose an innovative approach based on sub-micrometric gold colloids.

We are looking for a candidate with a taste for experiments and microfabrication. This internship is part of a project in the Auvergne-Rhone-Alpes region, and involves various partners (LiPhy, CEA LETI, iLM).

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