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## Sorting of nanogel mixed dispersions by directed assembly on surfaces using AFM nanoxerography

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This work presents a simple approach for directionally assembling thermoresponsive colloidal nanogels onto surfaces in minutes using AFM nanoxerography. Charge patterns written by AFM are used as electrostatic traps to obtain complex directed assemblies of anionic nanogels (N- isopropylacrylamide copolymerized with acrylic acid) and cationic nanogels (using quaternary ammonium functional groups). Mixed dispersions of these two types of hydrogels are also selectively sorted onto combinations of negative and positive charge patterns in various manners depending on the ratio between the concentrations of each nanogel type. Taking advantages of the fast and high resolution nanoxerography technique, this work offers a new way to separate soft nanoparticle aqueous dispersions onto surfaces. It also allows one to obtain information about the effective charge and proportion of the different nanoparticle species present in mixed colloidal dispersions and to make enviro-intelligent and tunable coatings.

### Biography

Lauryanne Teulon is currently a PhD student in INSA – Université de Toulouse, LPCNO. She has completed her graduation from the Engineering School of Centrale Marseille. She is now studying anti-counterfeiting tags made by an innovative technique, so called AFM Nanoxerography. Her research interests are nano-objects directed assembly, nanogels and microfluidic devices.

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