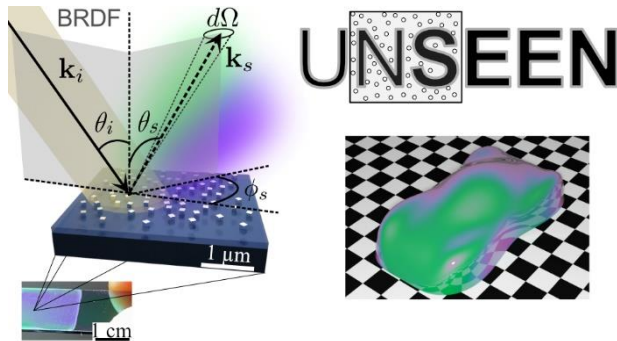


Several 2/3-year postdoctoral research positions are available in BORDEAUX on

DISORDERED OPTICAL METASURFACES AND APPEARANCE

The visual appearance of flat surfaces and curved objects is paramount in life and technology for fine and applied arts.



The ERC project **UNSEEN** (2.2 M€) aims at creating nanostructured surfaces (or metasurfaces) that offer new visual appearances, unseen in nature. The metasurfaces will be composed of disordered monolayers of high-index resonant nanoparticles, either deposited from a colloidal solution on solid support or

fabricated with advanced lithography and further replicated.

The project will start on September 2023 in Bordeaux at the Laboratoire Photonique Numérique et Nanosciences (LP2N) and will last 5 years.

It will gather skills on optical metasurfaces, complex media modelization, computer graphic rendering, structural color and nanofabrication. **Several 2/3-year postdoc positions are available.**

We look for highly motivated candidates, with interpersonal skills and previous experience on either

- Modeling light scattering in nanostructured complex media
- designing metasurfaces for optimized performance for specific applications
- manufacturing the metasurfaces, in collaboration with other fellow groups specialized in colloidal chemistry and nanofabrication by ebeam writing.
- measuring the BRDF of disordered metasurface and characterize their appearance
- rendering the appearance of complicated objects covered by the metasurfaces.

This highly interdisciplinary project will allow you gaining valuable experience in the domains of optical metasurfaces. We aim at understanding the **link between nanostructure morphologies and appearance**, discovering clues to design novel appearance and demonstrating them. Besides any striking visual effects, the project addresses the fundamental question of how to shape far-field radiation in the spatial and spectral frequency domains with nanostructured surfaces. This is the right time to join us and become an important player in the project.

More information on the group in which you will be working can be found at

<https://www.lp2n.institutoptique.fr/equipes-de-recherche-du-lp2n/light-complex-nanostructures>.

More details on the topic can be found in Nat. Mater. 21, 1035–41 (2022) and ACS Nano 17, 6362–72 (2023).

Instruction to apply: contact philippe.lalanne@institutoptique.fr with

- resume, publications list,
- motivation letter,
- recommendation letter(s),
- in case the PhD thesis has not yet been defended: expected date of defense and elements to confirm it (e.g. a short email from the advisor),
- evaluation reports about the PhD manuscript and the defense.