3-year postdoctoral position or PhD position at Bordeaux: Rendering of the appearance of nanostructured surfaces.
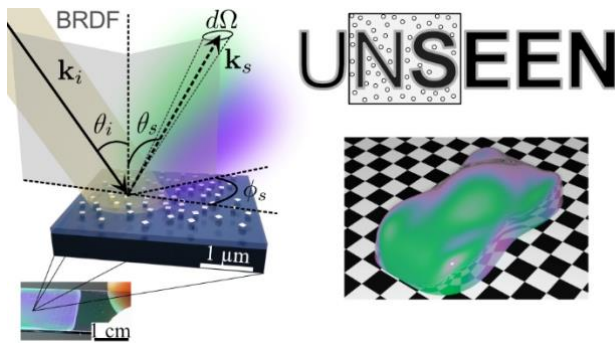

The visual appearance of curved objects is paramount in life and technology for fine and applied arts. The ERC project **UNSEEN** (2.2 M€) aims at creating new nanostructured surfaces (or metasurfaces) that offer new visual appearances.

The project starts on September 2023 in Bordeaux in a group of physicists at the Laboratoire Photonique Numérique et Nanosciences (LP2N) and will last 5 years. It will gather skills on optics, disordered media, rendering, structural color, and nanofabrication. The present offer concerns a 3-year postdoc position in modeling (rendering and BSDF model).

This highly interdisciplinary project will allow you gaining valuable experience in the domain the appearance of optical nanostructures. Your role will be:

- To render the appearance of macroscopic objects covered by the metasurfaces,
- To study how the metasurface morphology impacts the appearance and discover new appearances,
- To develop new simplified BSDF models for fast evaluation in the context of rendering,
- To develop new inverse methods to recover the morphological parameters of the metasurface from a desired appearance.

You will be a pivotal actor of the project since your expertise will directly impact the works on modeling and characterization. We aim at recruiting researchers with skills in optics and electromagnetism with a penchant for numerical studies or in numerics, possibly in computer graphics, and a penchant for optics and structural colors.

More information on the host group https://www.lp2n.institutoptique.fr/equipes-de-recherche-du-lp2n/light-complex-nanostructures.

This part of the project at the interface between optics and computer graphics will be co-supervised by Romain Pacanowski (INRIA Bordeaux, https://people.bordeaux.inria.fr/romain.pacanowski). More details on the topic can be found in Nat. Mater. 21, 1035–41 (2022) and ACS Nano 17, 6362–72 (2023).

The recruited scientist will have a CNRS CDD. The salary will follow the salary rules of CNRS according to the initial training and previous experience.

Instruction to apply:
Please contact: philippe.lalanne@institutoptique.fr & romain.pacanowski@inria.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)
- If available, evaluation reports about the PhD manuscript and the defense