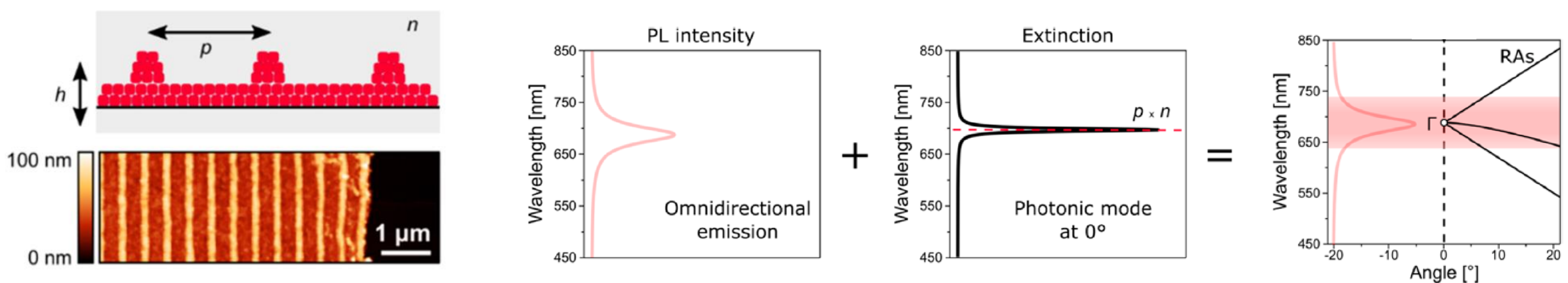


Optical modelling of photonic structures based on luminescent nanocrystals

The project

- The goal is to model emission characteristics of luminescent nanocrystals (NCs) assembled into photonic structures
- Deliberate deposition of NCs into metasurfaces permits tuning of the polarisation and directionality of the emitted luminescence in the far field



"Directional Amplified Photoluminescence through Large-Area Perovskite-Based Metasurfaces," ACS Nano, 17, 2399 (2023)

- We aim to model these metasurfaces to understand experimentally observed emission characteristics and to optimise designs for parameters such as luminescence intensity, linear polarisation, emission directionality

Your profile

- Interest in modelling of light-matter interactions and interference phenomena
- Curiosity about photonic engineering and connecting experiments with theory
- Background in physics/materials science with a good understanding of classical optics

The group

- Lively modelling group with good supervision experience
- Tight interaction with experiments conducted in the KahmannLab (Exp. Semiconductor Physics) is envisioned