



Fluorescence et couplage de nanoplaquettes de CdSe auto-assemblées

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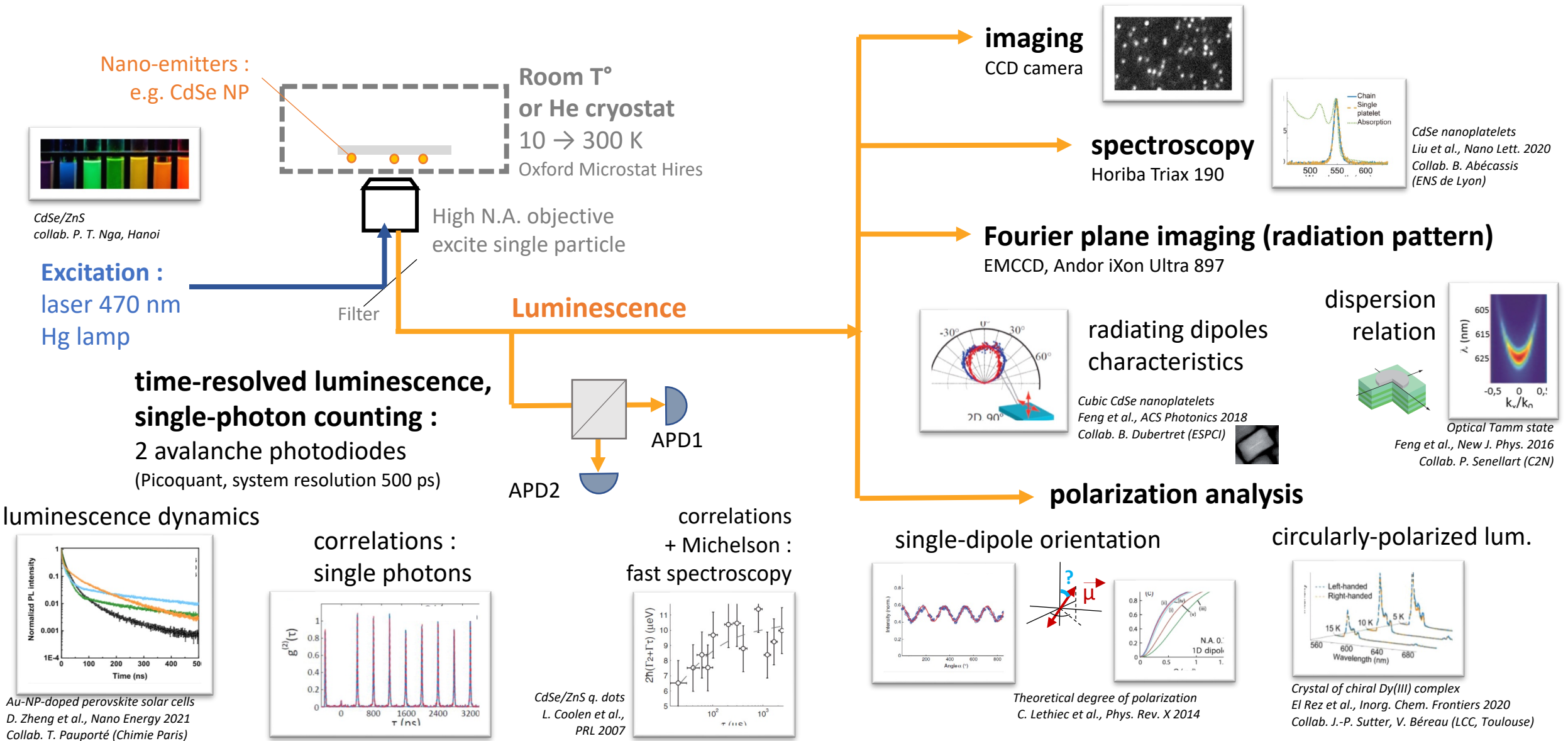
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Moléculaire**

Single molecule spectroscopy



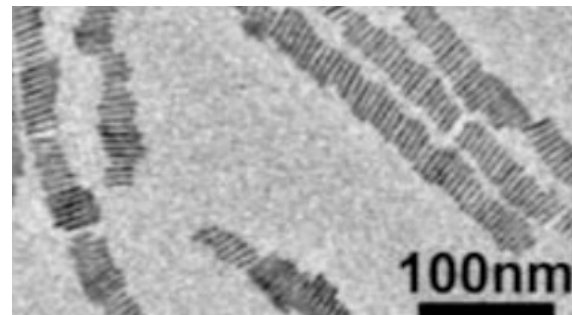
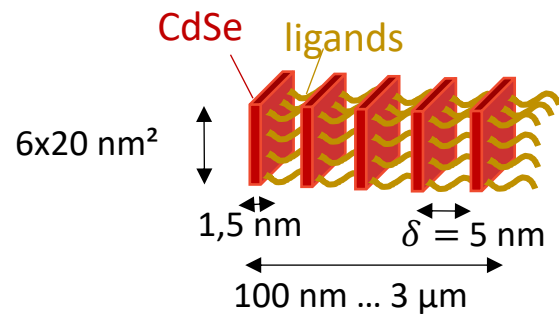
Coupled self-assembled nano-emitters

Interactions between close-packed light nano-sources :

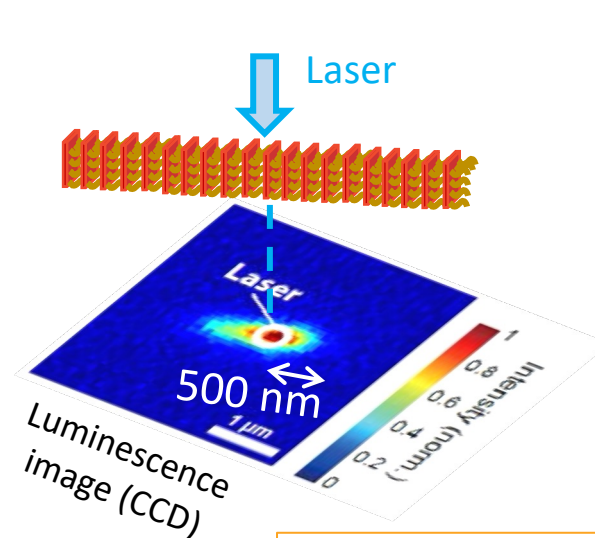
- Dexter energy transfer (tunnel ; $d < 1 \text{ nm}$)
- Förster energy transfer – FRET (Coulomb dipole-dipole ; $d < 5\text{-}15 \text{ nm}$)
- superradiance (constructive interference ; $d < \lambda$)

... what model system to study these interactions ?

Self-assembled chains of CdSe nanoplatelets :



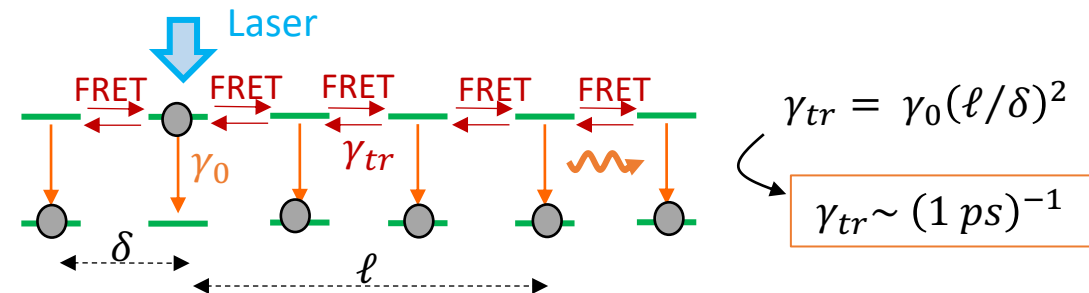
FRET exciton transfer :



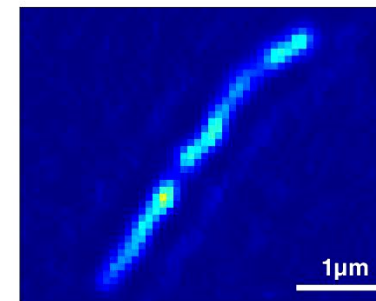
J. Liu et al.,
Nano Lett. 2020

FRET diffusion
over $\ell \approx 500 \text{ nm}$

Random walk modelling :



FRET-mediated enhanced quenching :



collective blinking
of ≈ 70 emitters

all excitons funneled by
FRET to a single quencher