

## SFB – Colloquium

Speaker: **Prof. Dr. Stefan Meskers**

Molecular Materials and Nanosystems  
Eindhoven University of Technology



Date: Tuesday, 09 May 2023, 14:15, H34

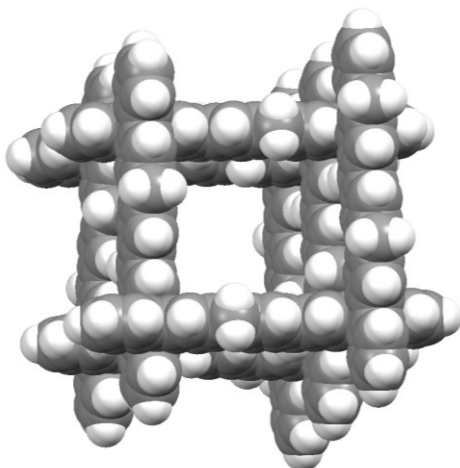
Topic: Spectroscopy of molecular materials in terms of  
coupled oscillators and a relativistic point of view

### Abstract:

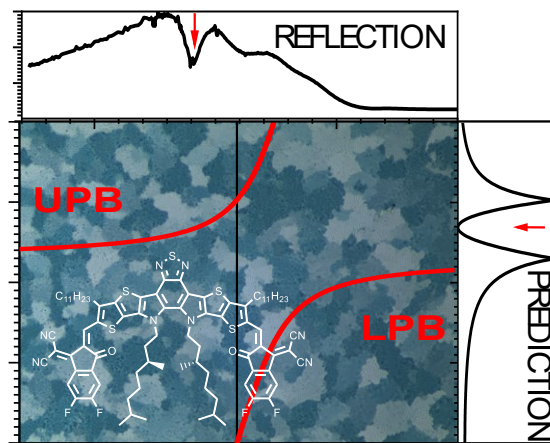
Relativistic effects have traditionally been studied focusing on massive particles as their speed approaches  $c$ . In this talk we will explore an alternative route, involving quanta of electromagnetic energy. When we alter the effective speed at which these quanta propagate away from  $c$  via interaction with excitable matter, do the rules of optics need further amendments?

The work of H.A. Lorentz and his discussions with A. Einstein provide a point of entry into this discussion. Starting from the concept of a Lorentz oscillator we will explore non-locality in the response of chiral coupled oscillators through the circular polarization of light emitted. A lattice of Lorentz oscillators provides a model to describe reflection of light by tightly packed crystals of dye molecules resonant with electronic excitation.

Host: Prof. Dr. John Lupton



*Square helical polymer.*



*Polycrystalline films of non-fullerene acceptor*