

# CBC Virtual Seminar Series



**Assistant Professor Thomas La Cour Jansen**  
**University of Groningen, Netherlands**

## Lessons from Simulation of Time-Resolved Spectroscopy on Light-Harvesting Systems

Natural light-harvesting systems as found in plants, algae, and especially bacteria are efficient in absorbing photons and transporting their energy to reaction centers, where the energy is converted to chemical energy. Time-resolved spectroscopy allow the detailed study of the mechanism and dynamics of the light harvesting process. However, these spectra are often congested and challenging to interpret. I will discuss how simulations can be used to distinguish between different processes including energy transport, exciton delocalization, electronic coherence, nuclear coherence, and exciton annihilation. Increasingly detailed models of light-harvesting systems allow increasingly refined understanding of the molecular scale dynamics directing the light-harvesting process. Some of these lessons may aid the design of future artificial light-harvesting systems for photo-voltaic applications or for improving crop yield.

### *Biography*

Thomas la Cour Jansen was born in Denmark where he completed his M.Sc. in Copenhagen. He received his Ph.D. from the University in Groningen in 1998. He is currently a PI working on computational spectroscopy at the University of Groningen. His recent interests include the coherent multidimensional spectroscopy, structure determination, quantum mechanical materials design, and ultrafast dynamics. His work involves diverse complex systems ranging from proteins and natural light-harvesting systems to hybrid perovskites and organic photovoltaic systems.

**Date:** 26<sup>th</sup> June 2020, Friday  
**Time:** 3.00 pm to 4.30 pm  
**Venue:** Zoom Platform  
**Host:** Associate Professor Tan Howe Siang

*For Zoom registration:*

