Contribution ID: **46** Type: **Oral Presentation**

Modelling of plasmon-enhanced fluorescence in a single light-harvesting complex near a gold nanorod

Thursday, 25 March 2021 15:20 (20 minutes)

LHCII — the main light-harvesting complex of plants and green algae — is the most abundant membrane protein on earth. Here, we investigate theoretically the effect of exciton-plasmon coupling on LHCII's fluorescence quantum yield and compare our modelling results to experimental data where plasmon-enhanced fluorescence has been reported in an LHCII–gold nanorod system. One of the models relies on the modified Gersten-Nitzan approach; the other is based on classical plexcitonics. We show that the latter is more robust and leads to more
realistic enhancement factors.

Primary author: Mr UGWUOKE, Luke (University of Pretoria)

Co-authors: Dr KYEYUNE, Farooq (University of Pretoria); Prof. MANCAL, Tomas (Charles University, Prague); Prof. KRUGER, Tjaart (University of Pretoria)

Presenter: Mr UGWUOKE, Luke (University of Pretoria)

Session Classification: Computational biology

Track Classification: Computational biology