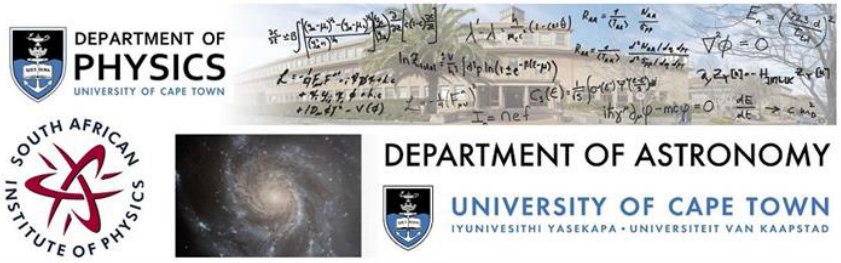

Contribution ID: **555** Type: **Oral Presentation**

Biological photovoltaic building blocks for solar energy harvesting

Monday, 4 July 2016 09:00 (1 hour)

Abstract content
   (Max 300 words)
Formatting &
Special chars

The harvesting of solar energy in photosynthesis is dependent upon an interconnected macromolecular network of membrane associated chlorophyll-protein complexes. In the past decade my workgroup and others have elucidated the structure and functioning of these networks to great detail. Here I will briefly discuss our efforts in high resolution AFM imaging of native membranes and the models derived from light spectroscopy. In the second part I will discuss our recent efforts in applying and mimicking the natural assemblies in hybrid biosolar cells, photosynthesis based electrodes as components for sensors, photovoltaics and, possibly, photofuels. If time allows, I end with our recently designed algae powered robot which showcases the possibilities and won the 18th Japan Media Arts Festival New Face Award.

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Session Classification: Winter School: The Biophysics of Cells and Macromolecules

Track Classification: Track F - Applied Physics