



**WORKSHOP ON NEW MATERIALS FOR RENEWABLE ENERGY  
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**CONDUCTING POLYMER BASED PHOTOELECTROCHEMICAL  
SOLAR ENERGY CONVERSION**

**Teketel Yohannes ANSHEBO**

Addis Ababa University, Dept. of Chemistry  
Addis Ababa, Ethiopia

ABSTRACT 11:

Investigation of the photoelectrochemistry of conducting polymers was mainly focused on their use as protective films against photocorrosion and as photoactive electrodes in liquid junction photoelectrochemical cells (PECs). Discovery of conjugated polymers having semiconductor-like behavior has started to stir excitement because such materials are not only able to function in a similar manner to the inorganic semiconductors but also have important advantages such as: low cost, light weight, ease of fabrication and the possibility of large area coatings. Their use as photoactive electrodes is of increasing interest, as the processing possibilities of conjugated polymer materials have become more developed. Furthermore, the high absorption coefficients of these materials and the possibility of varying the band gap by molecular engineering have opened up new options for solar energy conversion.

In the second presentation an overview of the studies made in our group on conducting polymer based photoelectrochemical solar energy conversion will be given. The photoelectrochemical cells contain a thin film of semiconducting conjugated polymers as a light-harvesting unit, a redox couple, and a counter electrode.