

## **Recent Progresses KCAP Has Made on Artificial Photosynthesis**

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The key research areas that are being studied in KCAP are the development of water oxidation photocatalysts that work in the visible region,  $H^+/e^-$  transfer membranes,  $CO_2$  reduction catalysts, methods to assemble the above three components into integrated systems, membranes for the separation of water and alcohol. In this talk, the progresses that KCAP has made on above topics will be presented. In particular, the recent progress on the integration of nanocomponents into devices and a novel photocatalytic hydrogenation of  $CO_2$  into fuel will be presented.