

**FALL 2007 SEMINAR SERIES**

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**Date: Friday, August 31, 2007**

**Time: 11:00 am - 12:00 pm**

**Room: SL 165**

**Reception at 10:45 am (cookies and refreshments served)**

**Everyone is invited**

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**Space Solar Power – Definitions and Standards**

**Dr. Edward J. Bair, Emeritus Professor of Chemistry, Indiana University, Bloomington, IN.**

**Abstract.** Space solar power is a plan to harness the world's electric power grids to the solar power above the Earth's atmosphere. Properties that are independent of scale can be improved independently. However the critical questions do not have geometric similarity that allows testing on a small scale. Ultimately the only way to validate the system is to build it. This places a severe burden on the standards used in planning.

A single power plant would reveal little that is not already known. The critical questions are about a 5000 GW system of 1000 plants worldwide. Terminology, standards, ultimate goals, and detailed plans that are unclear invite a multi-trillion dollar mistake. The plans must make better use of the ample power, zero gravity, and zero pressure of the space environment. They must do this in ways that take full advantage of past experience without being bound by it. The seminar suggests a hierarchy of standards as a way to start.

**About the Speaker.** Dr. Edward J. Bair is an Emeritus Professor of Chemistry at Indiana University, Bloomington whose academic research career involved laboratory measurements of the kinetics, photochemistry, spectroscopy, and energy exchange in systems of small molecules such as those in the atmosphere. Several decades of consulting on solar energy projects acquainted him with most of the major solar power facilities in the United States. These associations led to a realization that the future energy problem is vastly under-estimated.