

## Poster-Session

### Thin Film Technologies for Energy Saving Solutions in Architecture

Dr. Cindy Steiner, Dr. Matthias Fahland

*Fraunhofer Institute for Organic Electronics, Electron Beam and Plasma Technology FEP*

[cindy.steiner@fep.fraunhofer.de](mailto:cindy.steiner@fep.fraunhofer.de)

Glass facades characterize modern architecture but its uncontrolled heat transmission is challenging. Smart coatings based on thin film technology may control the optical transmittance, especially in the infrared region. State-of-the-art technologies, such as SolarControl-systems and low-E thin film coatings (low emissivity) on glass or polymeric film result in permanent energy transmittance properties. With this poster cost-effective retrofit solutions with switchable optical properties will be shown. Electrochromic films allow to switch a window between a dark state and a clear state by an applied voltage whereas thermochromic films lead to a self-sufficient regulation of transmitted thermal radiation depending on the external temperature. Both solutions allow significant reduction of the total energy transmittance of windows lead to reduction of energy demand of the building. First results of integrated windows in demo buildings at various European locations will be shown.