

Inadvertent Nanotechnology Purified Air In Medieval Churches.

By Judith Kane

A new study has found that medieval glaziers who created gold-coloured stained glass windows for churches inadvertently developed a photocatalytic air purifier with nanostructured gold catalysts that is essentially a solar powered nanotech air purification system. Put more simply, the gold used to decorate medieval era stained glass windows purifies the air when sunlight shines through the windows.

Chemists at Australia's Queensland University of Technology say that medieval glaziers produced paint using tiny particles of gold in different sizes, and used glass stained with these gold nanoparticles to decorate church windows across Europe. Electrons in the gold particles become very active when heated by sunlight and oscillations of the electrons can couple with the electro-magnetic field of sunlight, creating a resonance and enhancing the magnetic field on the surface of the gold nanoparticles, which destroys air borne pollutants such as methanol, carbon monoxide, and volatile organic compounds (gasses emitted from paints, lacquers, glues, and other substances that create the "new" smell in cars and furniture as they are slowly released).

The scientists say that the only by-product of the solar powered air purification system is carbon dioxide, which is comparatively safe, particularly in small amounts that are created and especially when compared to dangers of the air borne pollutants that are destroyed by the process.