

ULTRAVIOLET PHOTOCATALYTIC DETOXIFICATION TECHNOLOGY



Florida Gulf Coast University is currently seeking companies interested in commercializing a novel photocatalytic technology which is capable of destroying chemical contaminants and killing pathogens in air and water.

APPLICATIONS

Sterilizing air and water; destruction of toxins or environmental contaminants.

ADVANTAGES

Photocatalytic produced reductants and oxidants are extremely potent biocides, but these decontaminating chemicals decay very rapidly so that residual toxicity is minimized. Our chemical process creates photocatalysts simply and inexpensively, directly depositing a coating on the surface of a titanium metal foil, which can then conform to any shape and can be created with a very large surface area.

THE TECHNOLOGY

Photocatalytic reductants and oxidants (ROS) include hydroxyl radicals, superoxide, peroxides and an oxidizing "electron hole" on the surface of the coating. We have demonstrated high efficiencies for ROS production with our novel photocatalysts.

THE INVENTOR

Dr. Jose Barreto is currently a Professor of Chemistry at FGCU. He was a graduate student, postdoctoral researcher and Assistant Professor at The University of Texas Medical School where he obtained NIH grants to investigate tissue damage caused by radicals and oxidants; he also received an anti-ulcer drug patent and published extensively in this field. Recently, he has used his extensive knowledge and experience in cellular injury and protection to investigate new biocides and chemical agents capable of engendering molecular destruction and biocidal action.

CONTACT

Dr. Thomas J. Roberts
Associate Vice President for Research
Florida Gulf Coast University
Office of Research and Sponsored Programs
239-590-7021 – email: troberts@fgcu.edu