The HYDROSOL research team wins the European Commission's 2006 Descartes Prize for Scientific Research.

Thermi, Greece (March 7, 2007) – The 2006 Descartes Prize for Collaborative Scientific Research is awarded to a European research team for its work on "Advanced Monolithic Reactors for Solar Hydrogen Production via Water Splitting", also known as the HYDROSOL project. The Descartes Prize for Scientific Collaborative Research has been awarded yearly, since 2000, to transnational research teams, which have achieved outstanding scientific or technological results through collaborative research in any field of science, including economics, social sciences and humanities.

The prize consists of a monetary amount of 333,333 Euros and a special diploma to be presented to the HYDROSOL team coordinator, at a special ceremony to be held in Brussels on March 7, 2007. The HYDROSOL researchers and 2006 Descartes Laureates, span four European countries:

- **Greece:** Dr. A. G. Konstandopoulos (Coordinator), Dr. C. Agrafiotis, Ms S. Lorentzou, Ms C. Pagkoura, Ms A. Zygogianni of the Aerosol & Particle Technology Laboratory (APTL) and Dr. V. T. Zaspalis, Dr. L. Nalbandian, Ms A. Evdou of the Laboratory of Inorganic Materials (LIM) of the Center for Research and Technology Hellas/Chemical Process Engineering Research Institute (CERTH/CPERI)
- **Germany:** Dr. C. Sattler, Dr. M. Roeb, Dr. R. Klüser, Ms N. Monnerie, Mr P.M. Rietbrock, Mr L. de Oliveira, Mr. Mark Schmitz of the Deutsches Zentrum für Luft - und Raumfahrt (DLR)
- **Denmark:** Mr. P. Stobbe of Stobbe Technical Ceramics
- **United Kingdom:** Ms S. Ellis, Dr. A. Steele of Johnson Matthey Fuel Cells

The HYDROSOL research team has developed an innovative, solar reactor, for the production of hydrogen from water vapor, resembling the familiar monolithic catalytic converter of automobiles. The ceramic multi-channeled monolith is heated by asborbing solar radiation and is coated with nanostructured materials, which split water vapour passing through the reactor, by trapping its oxygen and leaving in the effluent gas stream pure hydrogen as a product. In a next step, the oxygen trapping material is solar-aided regenerated (i.e. releases the oxygen absorbed) and hence a cyclic operation is established on a closed reactor system. The uniqueness of the HYDROSOL approach is based on the combination of highly active nanoparticle materials (synthesised by novel routes based on aerosol processes, combustion

techniques and reactions under controlled oxygen pressure) and their incorporation as coatings on special refractory ceramic monolithic reactors with high capacity for solar heat absorption. The production of purely renewable, solar hydrogen from the HYDROSOL process, creates new opportunities for countries in Southern Europe that can become local producers of energy and offers a new energy future to many poor regions of the world, which have a large solar potential.

Dr. Athanasios G. Konstandopoulos, HYDROSOL's coordinator, on receiving news of the Prize, said: "I would like to congratulate all my colleagues in the HYDROSOL research team for this outstanding achievement. The Descartes Prize represents a highly-recognized award for our collaborative efforts in the field of Solar Chemistry and Hydrogen and together with the inaugural Technical Achievement award from the International Partnership for the Hydrogen Economy (IPHE) in June 2006, and the Global 100 Ecotech Award at the 2005 EXPO in Japan, demonstrate that the era of Solar Hydrogen has dawned. We are highly grateful to the European Commission for supporting this important step towards our energy future".