

## Conference Report

### The 8th International Conference on Solar Energy and Applied Photochemistry [SOLAR '05] and the 5th International Training Workshop on Environmental Photochemistry [ENPHO '05] 20–25 February 2005, Luxor, Egypt

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The conference SOLAR '05 is the eighth in this very successful series organized by the Chairman Professor Sabry Abdel-Mottaleb, accompanied now for the fifth time by the international workshop on environmental photochemistry Enpho '05. The large and continuing interest of the scientific community for this conference is documented by the attendance of 203 participants (69 from Egypt) from 32 countries. The program contained 63 lectures and 90 posters.

The opening ceremony of the Conference was attended by Prof. Dr. Ali Al-Abd, the Vice President for research and higher studies of Ain Shams University (Cairo) and the president of the steering committee of the Photoenergy Center, an Institute founded by Prof. Abdel-Mottaleb.

The Conference then started with four plenary lectures (40 minutes), in a joint session with the 1st Conference on Nanotechnology, which was held simultaneously at the same location, the Pyramisa Hotel. The lectures and their titles were: *K. Müllen (Mainz, Germany): Putting the Molecules into Molecular Electronics.* *G. Q. Max Lu (Brisbane, Australia): Novel Method of Synthesis of Mesoporous and Nanocrystalline TiO<sub>2</sub> for Dye-Sensitized Solar Cells.* *P. K. Hansma (Santa Barbara, USA): Lessons for New Nanotechnology from Nature's Nanotechnology.* *C. Levy-Clément (Paris-Thiais, France): A New Eta-Solar Cell Based on Free-Standing ZnO/CdSe Nanowires.*

The topics discussed at the SOLAR '05 and Enpho '05 were largely grouped into two main categories: (a) (solar) photocatalysis and atmospheric photochemistry and (b) photochemistry, photophysics and photobiology, including electron and energy transfer.

The titles of the following 12 Plenary Lectures (40 minutes) show the wide scope of the topics treated at the Conference: *R. E. Baier (Buffalo, USA), Solar-Activated Photocatalytic Purification of the Clinical Air Circulating in a Dental Hospital.* *I. R. Bellabono (Milan, Italy), Photocatalytic Membrane Processes and*

*Plants for Purification of Water and Air; State of the Art and Industrial Issues.* *G. Kaup (Oldenburg, Germany), SNOM: a New Photophysical Tool for Chemistry and Life Sciences.* *S. Lis (Poznan, Poland), Photophysical Characterization of Chosen Ln(III) Macromolecular Complexes with Inorganic and Organic Ligands in Solution and Solid.* *K. A. Zachariasse (Göttingen, Germany), Intramolecular Charge Transfer in the Excited State.* *V. Vaida (Boulder, USA), Sunlight Initiated Reactions in Atmospheric Chemistry.* *K. Hashimoto (Tokyo, Japan), Environmental Preservation Technologies with TiO<sub>2</sub> Using Solar Light.* *D. Bahnemann (Hannover, Germany), Solar Photocatalysis: Cleaning Polluted Water, Air and Surfaces with Sunlight.* *M. A. Aegerter (Saarbrücken, Germany), Electrochromic Devices Made by the Sol-Gel Process: State of the Art and Issues.* *A. Vlček (London, UK/Prague, Czech Republic), Ultrafast Photochemical Electron and Energy Transfer in Complexes  $fac-[Re^I(L)(CO)_3(2,2'-bipyridine)]^{n+}$ .* *R. Loutfy (Tucson, USA), Fullerene Nanoparticles and Applications.* *N. Russo (Calabria, Italy), Time-Dependent Density Functional Theory and Photodynamic Therapy.*

Besides the plenary lectures, 15 Keynote Contributions (30 minutes) were presented, about evenly divided over the two main Conference topics: (a) water treatment (J.-M. Herrmann (France), M. Mehrvar (Canada), V. Loddo (Italy), O. Zahraa, (France)), photodegradation (A. Zarkadis (Greece), P. Mazellier (France), M. Sarakha (France)) and photocatalysis (J. Blanco (Spain), C. Guillard (France)) and (b) intramolecular charge transfer (W. Rettig, Germany), long-lived charge transfer states (J. W. Verhoeven, Netherlands), chemical sensors (G. Orellana, Spain), artificial light-harvesting (S. Balaban, Germany), luminescent materials (A. M. Klonkowski, Poland) and a photorechargeable cell (T. Miyasaka, Japan).

An important part of the oral contributions consisted of 32 short lectures (20 minutes) on water treatment, photodegradation, ultrastable fluorescent

dyes, photocatalysis, photochemistry, photobiology, nanoparticles, solar energy conversion, long range electron transfer, excited state relaxation and luminescent microcrystals. These lectures were delivered by B. Legube (France), J. Correia de Oliveira (Portugal), C. Pulgarin (Switzerland), L. Österlund (Sweden), S. Y. AlQaradawi (Qatar), W. M. Nau (Germany), B. Sánchez (Spain), P. Kurz (Switzerland), K. Akutari (Switzerland), J. P. Da Silva (Portugal), B. S. Lukyanov (Russia), S. Szarska (Poland), D. Bahnemann (Germany), J. Dussaud (France), J. Yu (HongKong), J. S. Lee (Korea), I. Pastoriza (Spain), E. Selli (Italy), J. C. S. Wu (Taiwan), S. Zális (Czech Republic), S. Ali (USA), N. Sakai (Japan), C.-S. Kim (Korea), K.-J. Kim (Korea), V. Jovanovski (Slovenia), L. Brohan (France), M. A. Rampi (Italy), B. M. Uzhinov (Russia), S. Fery-Forgues (France) and T. D. Karapantsios (Greece).

Besides the lectures, 90 Posters were presented in two evening sessions. The lively discussions that often arose in front of the posters underline the important contribution made by the poster authors to the scientific success of the Conference.

During the closing session of SOLAR '05/Enpho '05, the speakers R. E. Baier, J. Blanco, J.-M. Herrmann, S. Lis, B. Uzhinov, J. W. Verhoeven, V. Vaida and K. A. Zachariasse expressed their compliments and gratitude to the Chairman M. S. A. Abdel-Mottaleb and his team for the excellent organization of the Conference and made it clear that this Conference plays a very important role in the development of solar energy and applied photochemistry. The fact that the new Nano-Tech Conference was being held simultaneously in the same location, can offer for the attendees of both meetings the unparalleled opportunity to "look over the fence" and extend their scientific interest with new vistas, even further than was already offered by the joint starting session of both Conferences. For a full list of *the speakers at the Conference on Nanotechnology*, [www.nanoinsight.net](http://www.nanoinsight.net) may be visited.

The social program of the SOLAR '05/Enpho '05 consisted of two excursions for all participants and the

Conference Banquet. On the Monday afternoon, a visit was organized to Karnak, the Temple of Amun. Even for those who had visited Karnak before, the vast size and artistic excellence of the ancient temples, constructed mainly during the New Kingdom (1550-1075 BC), exerted an unforgettable impression. The last day of the meeting (Friday) was reserved for a full-day excursion to the west bank: the Memnon Colossi, the famous mortuary temple Deir el-Bahri of the female pharaoh Hatsheput (1503-1482 BC), of a surprisingly modern architecture, and the Valley of the Kings, where the pharaohs of the New Kingdom, such as Tutankhamun (1333-1323 BC), Seti I (1289-1279 BC) and Ramses II (1279-1212 BC) have been entombed. The excursion was concluded with a visit to the huge temple Medinet Habu, constructed for Ramses III (1184-1153 BC). Besides the impact of the historic importance and architectonic excellence of the temples and tombs, the scenery on the west bank of the Nile, opposite to Luxor, is of impressing beauty. In addition to the excursions for all participants, an extensive program was organized for the accompanying persons, with visits to the museum and bazars in Luxor and the temple of Dendera.

The Conference Banquet, an Oriental Evening, was held on the Wednesday in the Khan El-Khalili Hall of the Pyramisa Hotel. The excellent selection from the Egyptian cuisine was further enlivened by a Nubian folklore program, including a sufi dancer. This program was followed by the performance of a belly-dancer, who induced many participants to show their mastery of this kind of dynamic art.

An important number of participants extended their exposure to Egypt by taking part in the post-conference excursion to Aswan, with visits to the temples of Edfu, Esna and Kom-Ombo on the way.

In conclusion, I am sure to speak in the name of all attendees when I congratulate Prof. Sabry Abdel-Mottaleb and his staff with a highly successful and enjoyable SOLAR '05/Enpho '05 and we all look forward to the following meeting in this series.



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