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Guest editorial

ECOS' 98 – Part II

This special issue is already the second one on a conference held in December 1998 in Cadarache, France. It was the first international conference solely devoted to Organic Solar Cells. In more than 50 papers it covered the whole field from Dye-Sensitized Solar Cells that are already on the verge of industrial production, via crystalline evaporated cell structures of “small” molecules to “Plastic Solar Cells” utilizing polymers and new cell structures such as interpenetrating networks. It reflected the growing interest of European research groups in this field which once originated in the United States but also found a lot of interest in Japan mainly during the last decade. Besides discussing all types of Organic Solar Cells also the connected fields of electrophotography and electroluminescence as well as mixed cells containing inorganic/organic junctions were presented. Of special interest was the investigation of new cell structures as interconnected networks.

The conference was organized by the members of the first European Community project on Organic Solar Cells (EUROSCI) and supported by the European Society for Quantum Solar Energy Conversion (ESQSEC). The actual program and the abstracts are available on the Web sites of ESQSEC (<http://www.esqsec.unibe.ch>). The conference, very much to the surprise of its Chairman, turned out to have been a great success. Held in a very nice place, the castle of Cadarache in the south of France, extremely well prepared by the local organizers, supported by a fine social program and the well-known French cuisine, the conference allowed for extended scientific discussions. Thereby scientists from as different fields as organic chemistry and engineering, ultra-short time-scale spectroscopy and PV module testing started to understand each others languages and became friends over the excellent French wines of the Diner de Gala in Meyrargues Castle. Whether the important contacts made here will become the core of a new scientific community, future will tell. However, there seems to be a strong commitment to achieve as fast as possible reliable progress in the field, which then would justify a next ECOS. A summary of the conference was published in the International Photovoltaics Journal PHOTON 2-99.

Three types of organic solar cells (OSCs) are currently developed: molecular organic solar cells (MOSCs) made from relatively small organic molecules, polymer (or plastic) organic solar cells (POSCs) mainly based on electrically conductive polymers, and sensitization solar cells (SSCs). The latter are photoelectrochemical cells using an extremely rough semiconductor electrode in an ionically conductive electrolyte containing a redox couple, contacted by a counterelectrode. In these cells,

the sunlight is absorbed in an organic dye which is attached as a monolayer to the inorganic transparent (because large band gap) semiconductor and injecting the excited charge carrier into it. The dye gets back this charge carrier from the redox couple in the electrolyte short-circuiting it to the counterelectrode. All three types of OSCs were discussed in their own sessions during the conference, and papers concerning to all three types can be found in this Journal.

The two special issues of this Journal devoted to our conference (a first one was published already as Vol. 61(1) on February 15, 2000) contain original papers published in connection with this conference. They are not summaries and they all went through the usual reviewing process.

We are very grateful to the editors of this Journal, Carl Lampert and Greg Smestad, for providing this opportunity. Special thanks go also to the issue manager of Elsevier, Olaf Meesters, for his support. However, first of all I have to thank all participants of the conference, and especially those who decided to publish their results in this Journal. Also I am very grateful to the Coorganizer of the conference, Donald Bradley (Sheffield), Carlo Taliani (Bologna), Denis Fichou (Paris), Tjeerd J. Schaafsma (Wageningen) and Jean-Michel Nunzi (Saclay). And very special thanks go to the Local Organizing Committee, Patrick Jourde and Philippe Malbranche, who did a terrific job to let us all experience French culture and hospitality.

We sincerely hope that this new field of photovoltaics will prosper and may one day contribute to a sustainable future based on our only environmentally friendly energy source, the sun.

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