

Atibaia march 28-31 50. Efficient Lighting from Electricity and Solar Energy: International Project - Brasil - Argentina (CAPES CAFP-BA n. 023/09) / "Eficiência Energética no Uso Final de Iluminação

## <u>E. C. Burini Junior</u> (1), M. R. Ribeiro (1), A. G. Kanashiro (1), E. Manzano (3), L. Assaf (3), E. R. Santos (2), Shu Hui Wang (2), G. Santos (2), F. J. Fonseca (2), F. G. Burani (2), A. M. Andrade (1), J. A. B. Grimomi (2)

(1) Instituto de Eletrotécnica e Energia, Universidade de São Paulo, Av. Prof. Luciano Gualberto, 1289, 05508-970, Butantã, São Paulo, SP, Brasil (2) Escola Politécnica, Departamento de Engenharia de Sistemas Eletrônicos, USP. Butantã, São Paulo, SP, Brasil (3) Departamento de Luminotecnica, Luz e Visão, Universidade Nacional de Tucumã, Argentina. <u>e-mail: elvo@iee.usp.br</u>

The IEE/USP (Instituto de Eletrotécnica e Energia) is a specialized Institute of Universidade de São Paulo with activities in higher education (Programa de Pós-Graduação em Energia - PPGE/USP) and research [1]. The activities of IEE/USP have been in the field of technological development and academic training with support from government agencies. An important area of research and development of IEE/USP is in photovoltaic systems, mainly related to projects or programs of photovoltaic electrification. The first laboratory at IEE/USP operates as Gabinete de Eletrotécnica (from EPUSP) since 1924, and as well as other areas of the IEE/USP may help in the development and the search for technically and economically feasible solutions. The laboratory facility is used to look for solutions to the problems arising from the multidisciplinary interaction within the PPGE, as well in the conversion of solar energy into electricity or in lighting possibilities by electroluminescent devices. The Program interaction with CAPES, Centros Associados para o Fortalecimento de Pós-Graduação - CAFP Brasil - Argentina [4] started last February with one study mission to Argentine. Last November, we had the first work mission, in USP/São Paulo, during one week [5, 6]. Another important effort is its participation in an international competition among universities (Solar Decathlon 2010) whose objective is the design and construction of a prototype (or laboratory) house for efficient energy purposes [2, 3]. The Solar House design predicts is self-sufficiency in energy supply for all needs of the house and it will be used as a laboratory. Those are concrete facts on the leadership and engagement of the institution. An important partnership has been established with the GEM (Group for Molecular Electronics, EPUSP). The IEE/USP has, currently, capability in its laboratories to evaluate large photovoltaic panels and traditional equipments for lighting [1]. In this work the focus is directed to the presentation of the results of efforts to build an integrating sphere, primarily intended to evaluate small sources of light such as electroluminescent devices (OLEDs/PLEDs). This effort is supported by the attributes that indicate OLEO as an important emerging technology that it will replace LEDs in the near future. Energy efficiency or efficiency in the end use of energy is the main theme that permeates various of ours research goals, either for generating electricity from solar cells (hybrid or organic) or with devices for lighting or signaling and correlated measurements. The international interaction with Argentine, at the postgraduate level, between Departamento de Luminotecnica, Luz e Visão from Universidade Nacional de Tucumã - DLLyV/UNT and PPGE (IEE/USP) started with the first study mission, last February, 21, one student is participating at the first MAVILE modules. Last November, we had at USP, in Sao Paulo, the first work mission activities [5]. Main objectives CAPES-CAFP-BA-n.023/09 [4J are: - To stimulate academic researches, training and human resource exchange, at postgraduate level and with support from CAPES, between Brazil and Argentine; - To formulate and propose a postgraduate course at PPGE/USP; - Interlaboratorial activities to support development of academic experiments for lighting, signaling and correlated measurements.

[1]Instituto de Eletrotécnica e Energia, <u>www.iee.usp.br.in</u> 25/03/2009.
[2] Solar Decathlon U.S. Department of Energy (DOE), <u>www.solardecathlon.org/about.html.in</u> 25/03/2009.

[3] official site Solar Decathlon: www.sdebrasil.poli.ufrj.br/portlindex.html(2009).

[4] Burini Jr., E. C. Plano Operacional Conjunto (POC) do Proj. Intercambio Acadêmico Binacional, 12p., São Paulo Capital, 14/11/2008.

[5] Burini Jr., E.C. 1° Rel. Parcial ao PIAB CAPES/CAFP Brasil- Argentina, São Paulo, SP, 30/11/2009.