



## Preface

## International conference: Progress in Applied Surface, Interface, and Thin Film Science – Solar Renewable Energy News II (SURFINT – SREN II), Florence, November 15–20, 2009, Italy

The main goal of this conference was to contribute to the knowledge of the topical surface related research fields and to improve communication among scientists working in both basic and applied research of surfaces, interfaces and thin films. The scale of recently investigated structures reaches atomic size. This invokes requirement to utilize extremely sensitive measurement equipments, excellent research practices and skills, progressive approach in theory, and application of the newest computational technique for solving research tasks. Therefore, we consider such contributions as the most actual in the contemporary physics and chemistry of related sciences.

Additional part of the conference topics is devoted to the development of the following devices: solar cells, liquid crystal displays, and devices based on high temperature superconducting materials. Common meetings of scientists and producers during the conference days can accelerate transfer of the most progressive inventive ideas to their rapid application in human life.

The conference topics were splitted to the following two dominant groups:

## Group I

1. Atomically clean surfaces
2. Interfaces
3. Ultra-thin and very-thin films
4. Multilayers
5. Interactions of low energy particles and liquids with surfaces and interfaces
6. Defects of surfaces, interfaces and thin films
7. Passivation of defect states
8. New approaches to theoretical modeling and experimental preparation of unique surfaces, interfaces and thin film structures

## Group II

1. Progressive liquid crystal displays technologies
2. Role of surfaces and interfaces in liquid crystal displays
3. Progressive solar cells technologies
4. Role of surfaces and interfaces in solar cell structures

5. High-temperature superconductive thin films structures
6. New approaches to simulation and designing of LCDs, solar cells and HTS devices
7. Advanced concepts of performance of solar modules and solar power plants
8. Additional progressive surface, interface and thin film related devices and their applications

## Special categories

1. Exhibitions of companies and institutions
2. Presentations of environmental aspects of utilization of solar energy

## Main organizing institutions were:

Institute of Physics of Slovak Academy of Science, Bratislava, Slovak Republic  
 Institute of Scientific and Industrial Research (ISIR) of Osaka University, and CREST, Japan Science and Technology Agency, Osaka, Japan  
 University of Žilina, Žilina, Slovak Republic  
 Fondazione of Romualdo del Bianco, Florence, Italy  
 Faculty of Mathematics, Physics, and Informatics of Comenius University, Bratislava, Slovak Republic

We believe that famous atmosphere of historical medieval town Florence in Italy contributed to comfortable and successful courses of conference presentations as well as to related pleasant and interesting social activities.

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