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Combinatorial Thin Films

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Message from the Guest Editor

Dear Colleagues,

A combinatorial thin-film research laboratory (CTRL) was established at the NCKU in May, 2011. This is the first lab of its kind among the academic research community in Taiwan. Our manufacturing facilities include a high throughput DC/RF sputtering system and a thickness gradient spin coater. These tools enable both physical and chemical depositions for metal and oxide nanostructured composition spreads.

Piezophotocatalysis results from a close coupling of piezophototronics (semiconductors, piezoelectricity, and photonics) and photocatalysis. The piezophototronic effect is used to substantially enhance the photocatalytic efficiency by modulating the piezopotentials across functional materials to achieve synergistic catalytic performance. [...]

Keywords:

- combinatorial methodology
- piezophotocatalysis
- nanostructured materials

Prof. Dr. Kao-Shuo Chang *Guest Editor*









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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

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