Ames Laboratory, US DOE

Iowa State University, Ames, IA

AMES LABORATORY

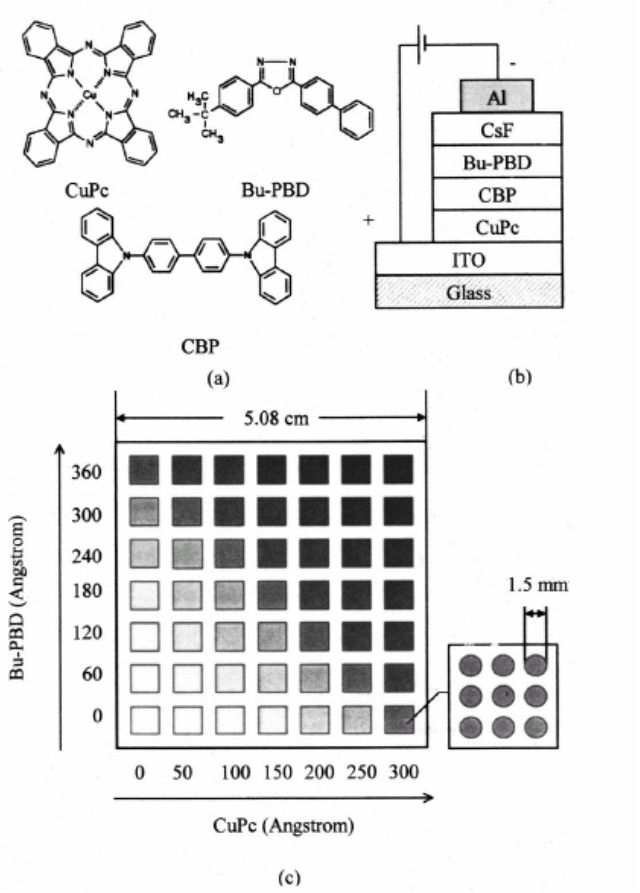
The Ames Laboratory is an interdisciplinary world-class research laboratory which emphasizes the materials sciences. Ames employs the results of their fundamental investigations to design and develop novel magnetic, optical, catalytic and bio-inspired materials. This is accomplished in a very efficient and cost-effective fashion through a unique, symbiotic relationship with its contractor, Iowa State University. The Lab is located directly on the Iowa State campus.

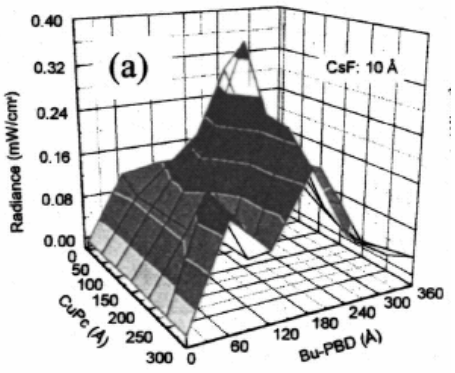
Home page: http://www.ameslab.gov

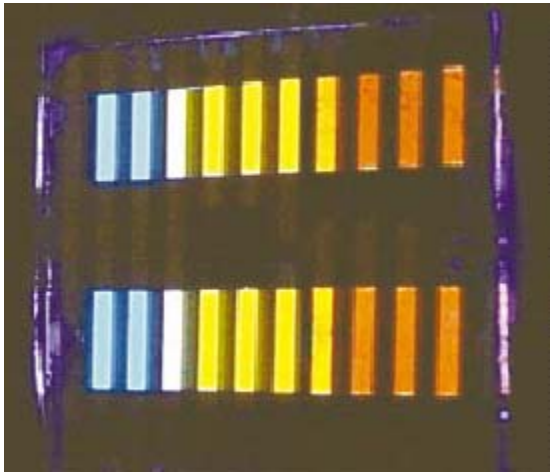
AMES LABORATORY

Highlight **Combinatorial Fabrication and Studies of UV to Red Organic Light-Emitting Devices (OLEDs)**

J. Shinar







Used this technique to optimize the most intense white OLEDs (WOLEDs) reported to date.

Used this technique to optimize the shortest wavelength intense UV-violet OLEDs reported to date.

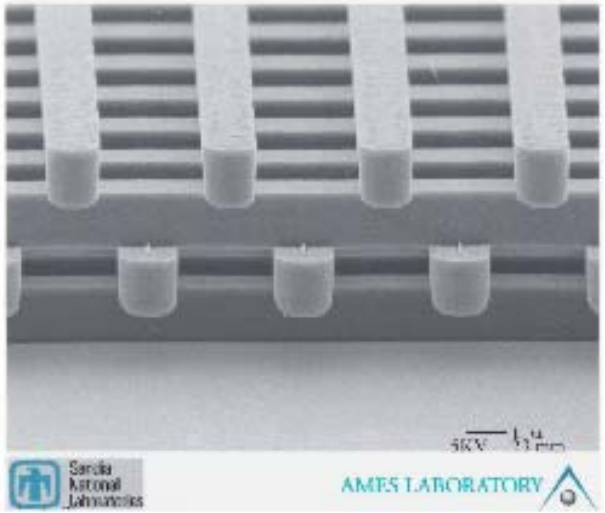
Invented a new platform of structurally integrated chemical and biological sensors (e.g., oxygen, glucose, anthrax), in which an OLED is the light source for the luminescent sensing element.

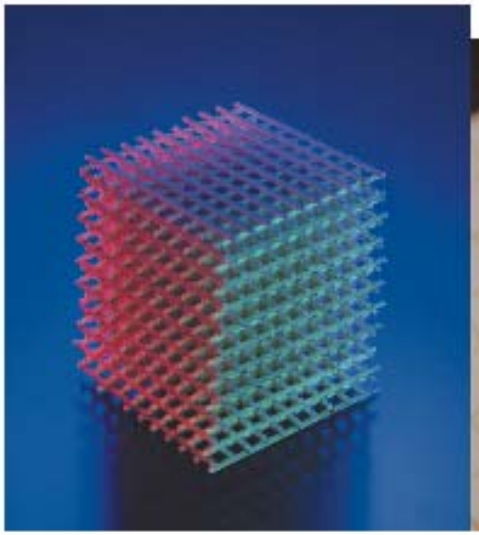
Highlight

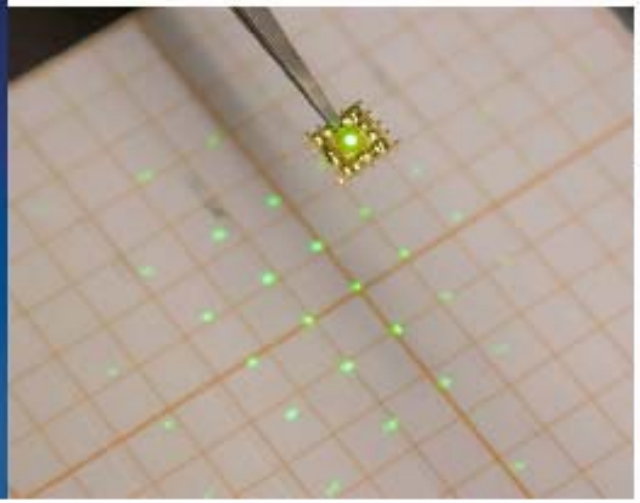
K.M. Ho and C. Soukoulis

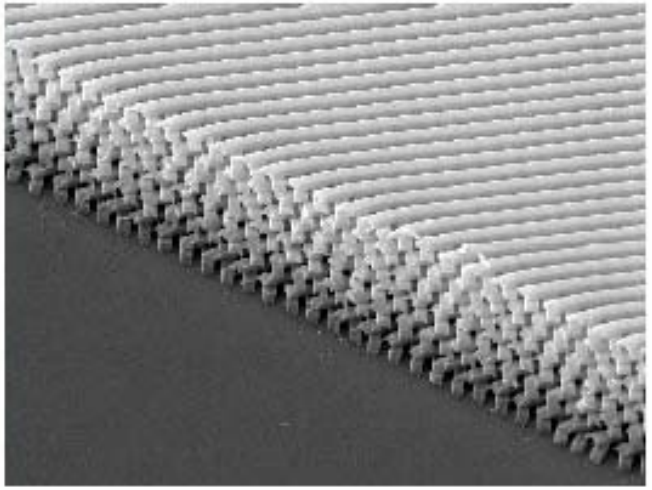
Photonic Band Gap Materials

Since 1990: design and construction







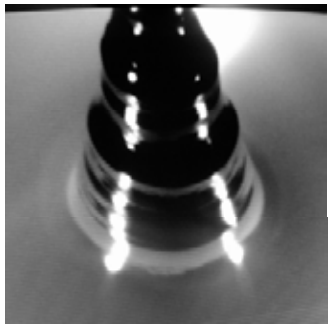


Rational Growth, Control and Modification of Novel Materials

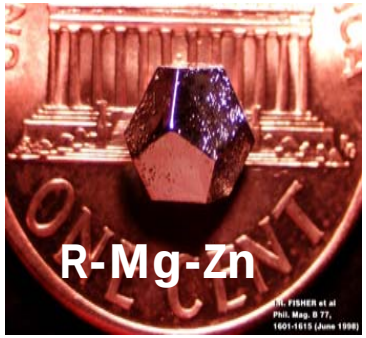
Highlight

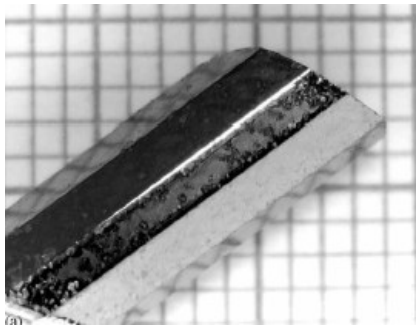
AMES LABORATORY

- New Initiative
  - To develop, deploy and improve a broad spectrum of novel synthetic techniques and teach these multidisciplinary synthesis and processing skills to students and researchers of all ages and experience levels
- Vision
  - To be the world's premier laboratory for the design, synthesis and fundamental understanding of solid-state inorganic compounds and complex intermetallics.

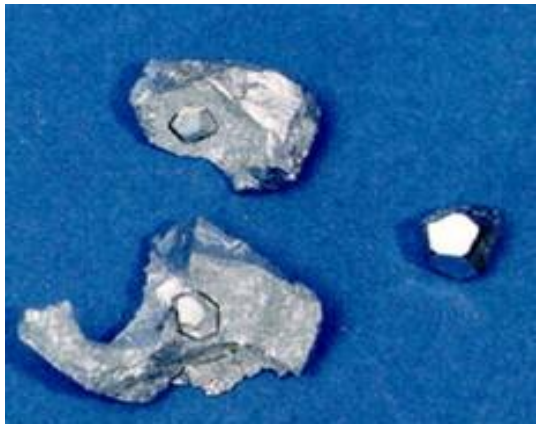


$Gd_5Si_2Ge_2$





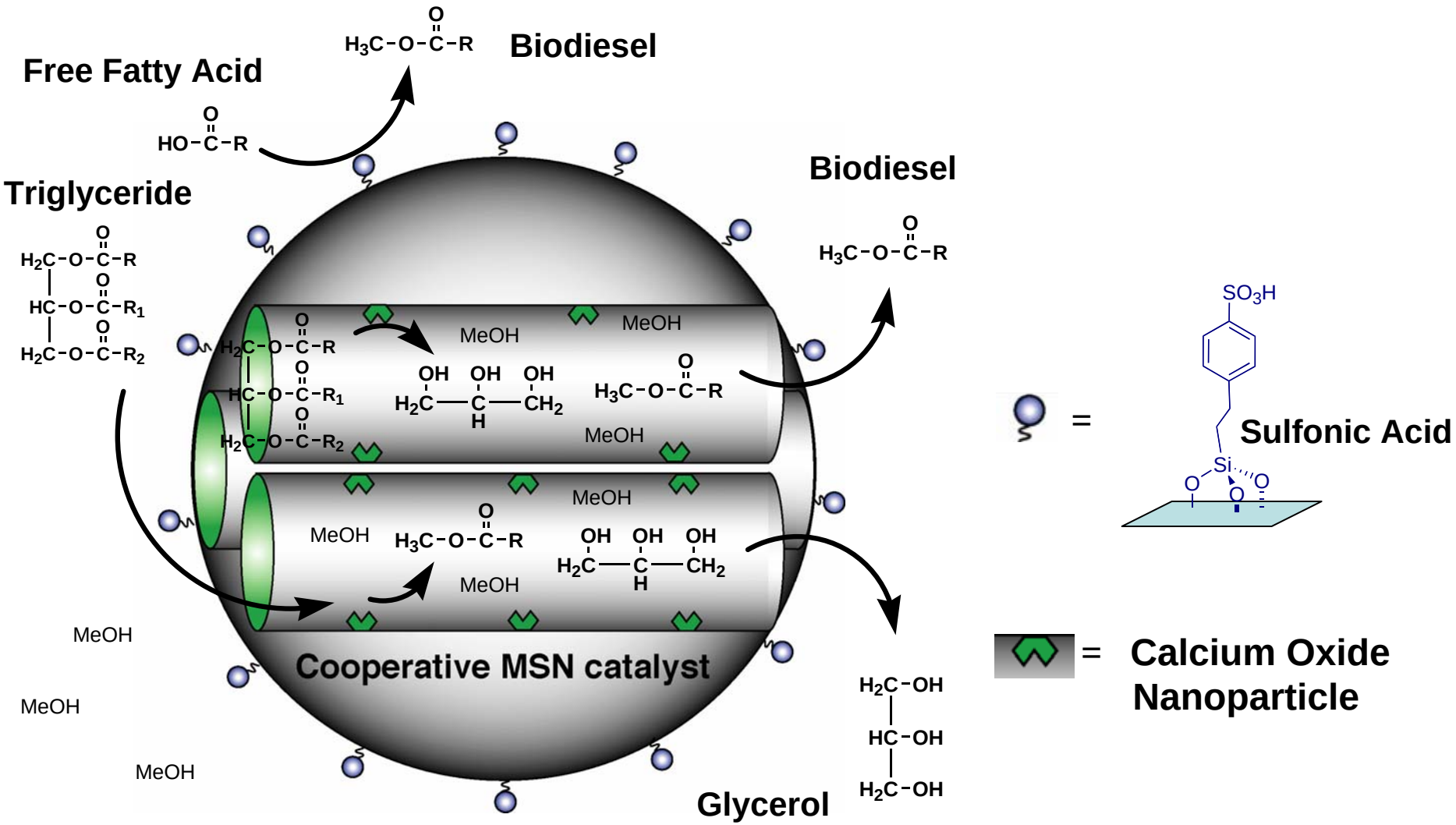
$Al_{70}Ni_{15}Co_{15}$



$Al_{65}Cu_{23}Fe_{12}$

Highlight: Novel nano-scale catalyst chambers

Novel Cooperative Heterogeneous Solid Catalyst for Biodiesel Synthesis



J. A. Nieweg, C. Kern, H.-T. Chen, Y. Huang, and V. S.-Y. Lin* *Angew. Chem. Int. Ed.* **2005**, and to be submitted.