

OREGON STATE UNIVERSITY

MICROTECHNOLOGY-BASED ENERGY, CHEMICAL, AND BIOLOGICAL SYSTEMS (MECS)

Education

- OSU now offers MECS specific classes in heat transfer, fluid dynamics, reaction engineering, energy conversion, and fabrication
- A MECS minor is available in the Departments of Mechanical and Chemical Engineering

What is MECS?

MECS relies on ...

- High rates of heat and mass transfer available in microstructures
- Extremely high degree of control of processes

To miniaturize a wide range of systems ...

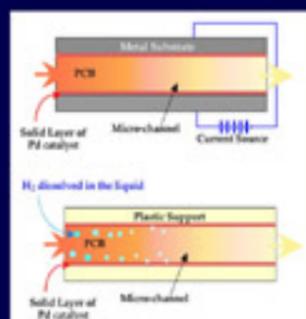
- Chemical (reactors, mixers, separators, etc.)
- Energy (manportable coolers, fuel cells, etc.)
- Biological (biosensors, bioreactors, etc.)

Enabling Portable and Distributed applications.

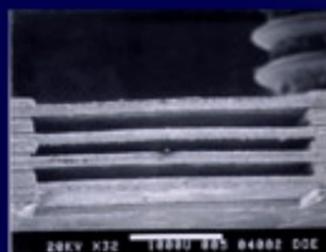
Commercialization

- Multiple commercial partners
- Collaborative research projects with four Federal laboratories
- Intellectual property that is generated and protected through the OSU Office of Technology Transfer

Technology



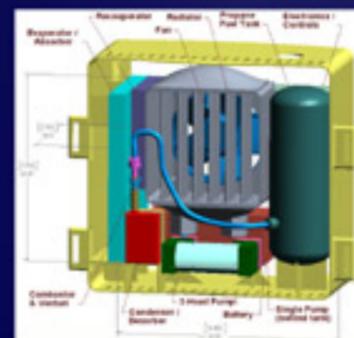
Micro dechlorinator



Intermetallic microstructure



Fractal device



Man portable cooler

Capabilities

- 20 Faculty from the Colleges of Engineering, Science and Agricultural Science
- Seven MECS laboratories
- Full micro lamination fabrication capabilities