

## *A Microreactor for Hydrogen Production by Catalytic Methanol Reforming*

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### Inventors

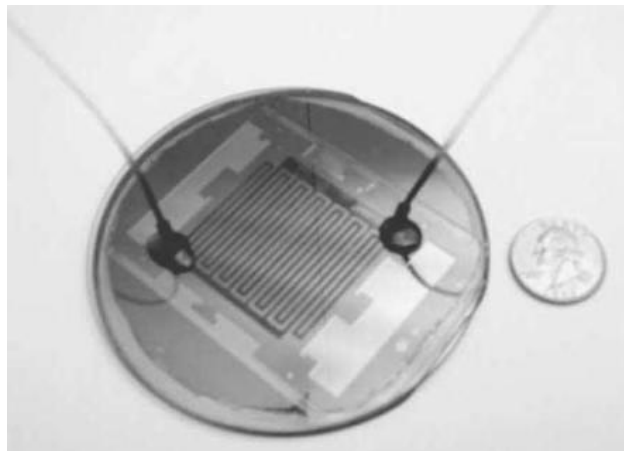
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### Overview

Portable electronic devices are constantly increasing in functionality, and thus continue to require increased amounts of power to maintain operation. Although rechargeable batteries have been instrumental in running laptops, cellular phones, digital cameras, and handheld computers, their charge carrying capacity is quickly approaching the theoretically maximum. Consequently, proton exchange membrane (PEM) fuel cells, with potential energy storage densities about 7 to 8 times that of the state-of-the art rechargeable batteries, have become a viable alternative to the battery as a portable power source.

The given technology offers a working microreaction system for use as a sustained source of hydrogen fuel for proton exchange membrane (PEM) fuel cells through catalytic steam reforming of methanol.



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### Advantages

PEM fuel cells have potential energy storage densities of about 7 to 8 times that of the state-of-the art rechargeable batteries.

### Applications

This technology can be used in conjunction with a fuel cell as a power source for portable electronic devices.

### Status of Intellectual Property

A US utility patent has been filed (20040179980)

### Lehigh ExpertNet

- **Mayuresh Kothare -**

<http://expert1.cc.lehigh.edu/LehighExperts/ExpertDetail.aspx?ExpertID=70125043>  
[www.lehigh.edu/~mvk2](http://www.lehigh.edu/~mvk2)

### Licensing Opportunities

- Exclusive
- Non-exclusive
- Research Sponsorship
- Product Development Partnerships (PDP)

Lehigh Case # 121903-01