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**FUEL CELL CONNECTION - January 2007 Issue**  
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News on U.S. Government Fuel Cell Programs
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*1. Argonne Releases New Version of Advanced Powertrain Modeling Software*

Argonne National Laboratory released the new version of its Powertrain System Analysis Toolkit (PSAT), which provides modeling and simulation capabilities for advanced vehicle technologies such as fuel cell and hybrid powertrains. The software can be licensed from the Lab.

[http://www.anl.gov/Media\\_Center/News/2006/news061219.html](http://www.anl.gov/Media_Center/News/2006/news061219.html)

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*2. Berkeley Lab Researchers Identify New Alloy for Improved Cathodes*

Researchers at the Lawrence Berkeley National Laboratory (LBNL) have identified a new type of platinum-nickel alloy that improves oxygen-reduction activity while decreasing the degradation of the cathode for PEM fuel cells. Scientists working on the project say the new alloy increases catalytic activity of the cathode by 90-fold over platinum-carbon cathode catalysts currently used.

<http://www.lbl.gov/Science-Articles/Archive/MSD-H-fuel-cells.html>

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*3. DOE Launches Hydrogen Safety Course for First Responders*

DOE has launched a web-based course aimed at educating fire, law enforcement, and emergency medical personnel and other individuals about hydrogen, its basic properties, and how it compares to other fuels. The course, Introduction to Hydrogen Safety for First Responders, also covers initial protective actions responders should take if they are called to an incident involving hydrogen. Versions of the course are also available in print or on CD.

[http://www1.eere.energy.gov/news/progress\\_alerts/progress\\_alert.asp?aid=213](http://www1.eere.energy.gov/news/progress_alerts/progress_alert.asp?aid=213)

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*4. NREL Dedicates New Wind-to-Hydrogen Project*

DOE's National Renewable Energy Laboratory has dedicated a new project to demonstrate generation of hydrogen via wind-powered electrolysis of water. The project will also examine system integration issues between production, compression, storage and use of hydrogen.

[http://www.ornl.gov/info/news/pulse/pulse\\_v226\\_07.htm](http://www.ornl.gov/info/news/pulse/pulse_v226_07.htm)

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*5. DOE Under Secretary Garman Resigns*

Department of Energy Under Secretary David K. Garman announced his resignation, effective January 31, 2007. Garman had served as Assistant Secretary for Energy Efficiency and Renewable Energy from 2001 to 2005, when he succeeded Robert Card as DOE Under Secretary. <http://www.deprep.org/news/default.asp>

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*6. DOE's National Science Bowl Kicks Off*

The Department of Energy kicked off the National Science Bowl, in which high school students compete for the chance to win their choice of three science-related trips, which include a trip to France and a trip to Australia. Middle school national champions win a cash prize and several sponsor-supported prizes. Teams that make it to the finals participate in a Hydrogen Fuel Cell Model Challenge, sponsored by DOE and General Motors.

<http://www.scied.science.doe.gov/nsb/index.html>

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RFP/Solicitation News

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### 7. DOD Releases 2007 STTR Solicitation

The Department of Defense has released its 2007 Small Business Technology Transfer (STTR) Solicitation, which includes several hydrogen and fuel cell related topics. Phase I awards are limited to \$100,000 in size over a period of less than one year. Successful Phase I projects may be considered for Phase II awards of up to \$750,000 over the course of 2 years. Technical questions may be asked of Topic Authors until February 19, 2007. Proposals will be accepted starting February 20, 2007, with a deadline of March 21, 2007.

<http://www.acq.osd.mil/osbp/sbir/solicitations/sttr07/index.htm>

### 8. \$10 Million DOD BAA to Fund Hydrogen Vehicle and Fueling Station Pilot Projects

DOD's Naval Surface Warfare Center, Crane Division and the Defense Logistics Agency have issued a Broad Agency Announcement (BAA) on Research and Development for Hydrogen-Fueled Material Handling Equipment and Hydrogen Vehicle Fueling Station Pilot Projects. Approximately \$10 million is available, with individual program awards expected to be between \$750,000 and \$1.5 million. Locations of demonstrations will be announced on an ongoing basis. Each new location will be announced as an amendment to the BAA, and proposals will be due roughly 30 days from the date of each amendment.

<http://www.fbo.gov/spg/DON/NAVSEA/N00164/N0016407R6685/SynopsisR.html>

## Contract / Funding Awards

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9. Nuvera Picked to Supply Hydrogen Refueling Systems for Fuel Cell-Powered Forklifts

Nuvera Fuel Cells has been selected by The Raymond Corporation to supply a PowerTap PTH-12 hydrogen refueling system to support working fuel cell-powered forklifts at a manufacturing facility in Greene, New York. The PowerTap PTH-12 is able to provide usable hydrogen either from a third party gas distributor or from the Nuvera PowerTap hydrogen generation system.

http://www.nuvera.com/news/press_release.php?ID=26

10. PEDAs Awards Grant to Kuchera Defense Systems for Portable Fuel Cell Manufacturing

The Pennsylvania Energy Development Authority (PEDA) has awarded a grant to Kuchera Defense Systems to develop a "Center of Excellence" to focus on manufacturing advanced power and energy systems. The PEDA grant will be used for Phase I facility upgrades and the procurement and installation of manufacturing equipment for portable fuel cell systems.

<http://www.kuchera.com/kds/press/10-31-06.shtml>

Legislation / Regulations

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### 11. Fuel Cell Tax Credits Extended as Part of Larger Extension Package

Fuel cell purchases by consumers and businesses will continue to receive a tax credit until the end of 2008, thanks to President Bush's signing of The Tax Relief and Health Care Act of 2006. The credit allows businesses and property owners to deduct \$1000 per kilowatt, or up to 30% of the cost of the fuel cell system. The tax credit will expire on January 1, 2009.

<http://www.whitehouse.gov/news/releases/2006/12/20061220-2.html>

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*12. DOT Harmonization Rule Excludes Fuel Cell Provisions*

The U.S. Department of Transportation recently issued its final rule harmonizing the Hazardous Materials Regulations to maintain alignment with international standards. The final rule incorporates changes based on the fourteenth revised edition of the UN Recommendations and UN Manual of Tests and Criteria, Amendment 33 to the IMDG Code, and the 2007-2008 International Civil Aviation Organization (ICAO) Technical Instructions. Although the ICAO adopted provisions for the carriage of fuel cell cartridges in the passenger cabin of a passenger aircraft, DOT's final rule does not adopt the same provisions. Additionally, DOT's final rule does not adopt the packaging provisions for the transport of "Hydrogen in a metal hydride storage system" (UN3468), which was also adopted by the ICAO. DOT says those two issues will be considered in a separate rulemaking.

<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/pdf/06-9849.pdf>

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State Activities
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*13. States to Host Qualifying Events for International Youth Fuel Cell Competition*

Pennsylvania, Florida and Arizona have been selected to host qualifying events to send teams to the 2007 International Youth Fuel Cells Competition, which will be held in October in San Antonio, Texas. For the competition, high school students will compete in a Quiz Bowl in addition to designing and building model fuel cell cars.

<http://www.iyfcc.com/>

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Industry Headlines
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*14. Fuel Cell Plug-In Hybrid Unveiled at Detroit Auto Show*

Ford unveiled its Airstream Concept, a plug-in hybrid electric vehicle that features a hydrogen fuel cell, which recharges the lithium-ion battery while the car is on the road. The vehicle can travel 25 miles before the fuel cell begins operating, then another 280 miles on the 4.5 kg of hydrogen stored for use in the fuel cell. The vehicle's HySeries Drive™ powertrain features a Ballard fuel cell and achieves a gasoline equivalent of 41 mpg.

[http://media.ford.com/newsroom/release\\_display.cfm?release=25147](http://media.ford.com/newsroom/release_display.cfm?release=25147)

[http://media.ford.com/newsroom/release\\_display.cfm?release=25150](http://media.ford.com/newsroom/release_display.cfm?release=25150)

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*15. Fuel Cell Pallet Trucks Complete Successful Trial at Ohio Wal-Marts*

Twelve fuel cell-powered pallet trucks successfully completed beta trials at two Wal-Mart distribution centers in Ohio. The trucks worked in continuous operation and logged more than 18,500 hours of active work, providing longer run times and shorter refueling times than trucks running on lead acid batteries.

<http://www.cellexpower.com/Corporate/news/2005/Wal-MartBetaSuccess.htm>

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*16. DaimlerChrysler Introduces Fuel Cell-Powered Fire Response Vehicle*

DaimlerChrysler has developed the Fire Service Mercedes-Benz F-Cell, a fuel cell-powered fire response vehicle, which will be operated by the Sacramento Metropolitan Fire District as a supervisor's vehicle. The vehicle will be refueled at a BP Energy hydrogen fueling station located at the California Fuel Cell Partnership.

<http://www.automotoportal.com/article/daimlerchrysler-builds-first-fuel-cell-powered-firefighter-vehicle>

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*17. Millennium Cell Establishes Manufacturing Capability for Fuel Cartridges*

Millennium Cell – in collaboration with The Dow Chemical Company and The Edison Welding Institute – has established a pilot production line to produce its Hydrogen on Demand® fuel cartridges for commercial applications.

<http://millenniumcell.com/fw/main/default.asp?DocID=92&regid=951036>

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University Activities
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*18. Schatz Energy Research Center Reports on Hydrogen, Fuel Cell Projects*

Humboldt University's Schatz Energy Research Center (SERC) reports that it is refurbishing its solar hydrogen program, which was launched in 1989. New, more efficient and more compatible solar and electrolyzer technologies will be employed in the generation of hydrogen. SERC has also delivered a custom hydrogen fuel cell test station and two PEM fuel cells to researchers at Auburn University in Alabama, where the equipment will be used to control relative humidity to validate and calibrate the University's mathematical model.

[http://www.schatzlab.org/v1n4\\_dig\\_sm.pdf](http://www.schatzlab.org/v1n4_dig_sm.pdf)

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Administration
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Press releases and story ideas may be forwarded to Bernadette Geyer, editor, for consideration at [fuelcellconnection @ yahoo.com](mailto:fuelcellconnection@yahoo.com).

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*US Fuel Cell Council* -- The US Fuel Cell Council is the business association for anyone seeking to foster the commercialization of fuel cells in the United States. Our membership includes producers of all types of fuel cells, as well as major suppliers and customers. The Council is member driven, with eight active Working Groups focusing on: Codes & Standards; Transportation; Power Generation; Portable Power; Stack Materials and Components; Sustainability; Government Affairs; and Education & Marketing. The Council provides its members with an opportunity to develop policies and directions for the fuel cell industry, and also gives every member the chance to benefit from one-on-one interaction with colleagues and opinion leaders important to the industry. Members also have access to exclusive data, studies,

reports and analyses prepared by the Council, and access to the "Members Only" section of its web site. (<http://www.usfcc.com/>)

*National Fuel Cell Research Center* -- The mission of the NFCRC is to promote and support the genesis of a fuel cell industry by providing technological leadership within a vigorous program of research, development and demonstration. By serving as a locus for academic talent of the highest caliber and a non-profit site for the objective evaluation and improvement of industrial products, NFCRC's goal is to become a focal point for advancing fuel cell technology. By supporting industrial research and development, creating partnerships with State and Federal agencies, including the U.S. Department of Energy (DOE) and California Energy Commission (CEC), and overcoming key technical obstacles to fuel cell utilization, the NFCRC can become an invaluable technological incubator for the fuel cell industry. (<http://www.nfcrc.uci.edu/>)

*National Energy Technology Laboratory* -- The National Energy Technology Laboratory is federally owned and operated. Its mission is "*We Solve National Energy and Environmental Problems.*" NETL performs, procures, and partners in technical research, development, and demonstration to advance technology into the commercial marketplace, thereby benefiting the environment, contributing to U.S. employment, and advancing the position of U.S. industries in the global market. (<http://www.netl.doe.gov>)