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**FUEL CELL CONNECTION – January 2004 Issue**  
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### **News on U.S. Government Fuel Cell Programs**

#### *1. U.S. and Japan to Cooperate on Fuel Cell & Hydrogen Research*

U.S. Department of Energy Secretary Spencer Abraham and Goji Sakamoto, Senior Vice Minister of Economy, Trade and Industry of Japan, signed a joint statement of intent to pursue pre-competitive research and development in the field of fuel cell and hydrogen technologies.

[http://www.energy.gov/engine/content.do?PUBLIC\\_ID=14758&BT\\_CODE=PR\\_PRESSRELEASE\\_S&TT\\_CODE=PRESSRELEASE](http://www.energy.gov/engine/content.do?PUBLIC_ID=14758&BT_CODE=PR_PRESSRELEASE_S&TT_CODE=PRESSRELEASE)

#### *2. DOD Tests Fuel Cell-Powered Segway*

The U.S. Department of Defense's Fuel Cell Test and Evaluation Center (FC $Tec$ ) is demonstrating a hybrid Segway HT e Series, which features a 40-cell 700-watt fuel cell from Manhattan Scientifics. The fuel cell uses stored hydrogen.

[http://www.dodfuelcell.com/article\\_010604.html](http://www.dodfuelcell.com/article_010604.html)

#### *3. DOD SBIR/STTR Workshop Scheduled*

A conference and workshop for small businesses preparing to submit a proposal for the DOD Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) programs is scheduled for 10-12 February 2004. The conference and workshop will be held at the Tradewinds Sandpiper Resort in St. Petersburg Beach, Florida.

<http://www.sbirstr.net/socom/workshop>

### **New Government Publications Posted**

#### *4. TRB Publishes Vehicle Technology Report*

The National Academy of Sciences' Transportation Research Board has published "Energy, Air Quality, and Fuels 2003," which describes how future technologies like fuel cells may improve fuel consumption of heavy-duty trucks.

[http://gulliver.trb.org/news/blurbs\\_detail.asp?id=2240](http://gulliver.trb.org/news/blurbs_detail.asp?id=2240)

#### *5. PNL Scientist Publishes Book on SOFCs*

Subhash Singhal, a Battelle Fellow at Pacific Northwest National Laboratory, co-edited the new book "High Temperature Solid Oxide Fuel Cells: Fundamentals, Design and Applications." The book is intended for use by researchers, engineers, and other people working in the technical field of SOFCs. The book was published by Elsevier.

<http://www.pnl.gov/main/press/sofc.html>

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**RFP/Solicitation News**  
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*6. Connecticut Fuel Cell Initiative Issues RFP*

Connecticut Clean Energy Fund has issued its Fuel Cell Initiative RFP in support of projects to demonstrate fuel cells in the state. The funding level for the 2003 program is set at up to \$4 million. Proposals are due no later than 3:00 pm on February 5, 2004.

[http://www.ctcleanenergy.com/rfp/CEF\\_RFP\\_FC\\_003.pdf](http://www.ctcleanenergy.com/rfp/CEF_RFP_FC_003.pdf)

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*7. SECA Core Technology Program Solicitation Announced*

DOE's Solid State Energy Conversion Alliance has issued a solicitation for its Core Technology Program. Areas of Interest include Sulfur-Tolerant Anodes, Interconnects, and Diesel Fuel Reformation Catalysts. Approximately \$7 million in total funding is expected to be available under this announcement. Deadline for proposals is February 25, 2004.

<http://www.netl.doe.gov/business/solicit/main.html>

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*8. Forest Service Seeks Installers of Fuel Cells*

The Department of Agriculture's Forest Service has issued a pre-solicitation for a project to install a government-furnished 10-kW SOFC at Big Goose Range Station in Wyoming. The funding for this contract is expected to be between \$100,000 and \$250,000. The solicitation should be available on or around January 30, 2004, with a proposal due date of March 1, 2004.

<http://www.eps.gov/spg/USDA/FS/82X9/RMAST-04-032/SynopsisP.html>

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*9. Pennsylvania Energy Program Special Projects Solicitation Open*

Pennsylvania's State Energy Program has opened its Special Projects Solicitation and is accepting proposals for projects to demonstrate and deploy energy efficiency and renewable energy technologies and practices. Proposals are due March 8, 2004.

<http://www.dep.state.pa.us/dep/deputate/pollprev/sep/specialprojects.htm>

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*10. EPA P3 Award Open to College Students*

The Environmental Protection Agency's P3 Award will provide grants to teams of college students to research, develop, and design solutions to sustainability challenges. Energy is a specific area of interest, including energy production and energy conservation. Approximately 50 awards of up to \$10,000 per award are expected. Deadline for proposals is March 25, 2004.

[http://es.epa.gov/ncer/p3/designs\\_sustain\\_rfp.html](http://es.epa.gov/ncer/p3/designs_sustain_rfp.html)

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*11. DOD Issues STTR Solicitation*

Fuel cell projects are among the topics of interest under the DOD Small Business Technology Transfer solicitation recently issued. Topic titles include "Compact Fuel Reformer for Undersea Vehicle Fuel Cells" and "Metal Organic Framework Adsorbents for Fuel-Cell Relevant Small Molecules." DOD awards up to \$100,000 for Phase 1 projects. Proposals are due by 6:00 am EST, April 15, 2004. <http://www.acq.osd.mil/sadbu/sbir/solicitations/sttr04/index.htm>

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**Contract / Funding Awards**  
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12. *NASA Selects SBIR Awards*

Three fuel cell projects will receive Phase I funding from the NASA SBIR/STTR Program. Project topics are "Micropump Fuel Mix Control for Novel Miniature Direct Methanol Fuel Cells," "Solid Oxide Fuel Cell/Turbine Hybrid Power System for Advanced Aero-Propulsion and Power," and "Novel High Temperature Membrane for PEM Fuel Cells."

<http://sbir.gsfc.nasa.gov/SBIR/sbir2003/phase1/awards/press.html>

13. *Indiana Funds Fuel Cell Center*

Indiana's 21<sup>st</sup> Century Fund has awarded \$1.85 million to a consortium for the establishment of an interdisciplinary Center for Advanced Fuel Cell Technology made up of researchers from the University of Notre Dame and Indiana University Northwest.

<http://www.21stcentury-research.org>

14. *DARPA Awards Phase II SBIR Contract for Fuel Cell Project*

DOD's Defense Advanced Research Projects Agency awarded a Phase II contract to Power+Energy, Inc., of Pennsylvania, for its project "A Novel Low Cost Membrane for Recovery of Hydrogen from Fuel Cell Reformates." Phase II proposals are funded for approximately two years at \$750,000.

[http://www.purehydrogen.com/site\\_2002/news\\_documents/press\\_release\\_01\\_2004a.html](http://www.purehydrogen.com/site_2002/news_documents/press_release_01_2004a.html)

**State Activities**

15. *Nevada PUC Adopts New Rules for On-Site Generators*

Nevada's Public Utility Commission has adopted new interconnection rules for on-site generators of 20 MW or less, ensuring that the state's new rules are largely consistent with IEEE 1547 standards, California Rule 21, and the NARUC model interconnection agreement. Additionally, the rules increase the net metering limit from 10 to 30 kilowatts per customer.

<http://puc.state.nv.us/NEWS/Archived%20News/2003/2003/generators.pdf>

16. *California Publishes Rule 21 Interconnection Guidebook*

The California Energy Commission has published the "California Interconnection Guidebook: A Guide to Interconnecting Customer-Owned Electric Generation Equipment to the Electric Utility Distribution System Using California's Electric Rule 21."

[http://www.energy.ca.gov/distgen/interconnection/guide\\_book.html](http://www.energy.ca.gov/distgen/interconnection/guide_book.html)

**University Activities**

17. *Duke and GM will Jointly Research Fuel Cell Technology*

Duke University and General Motors reached an agreement on a multi-year, interdisciplinary teaching and research project on hydrogen fuel cell vehicles. GM has given Duke an initial donation of about \$500,000 for the project.

[http://www.fuqua.duke.edu/admin/extaff/news/duke-gm\\_2004.htm](http://www.fuqua.duke.edu/admin/extaff/news/duke-gm_2004.htm)

18. *Researchers Develop New Hydrogen Storage Method*

Researchers at the University of Chicago have developed a new method of storing significant amounts of hydrogen gas in crystalline compounds. The method may permit for storage of hydrogen with less stringent temperature and pressure conditions than currently used.

<http://chronicle.uchicago.edu/040122/hydrogen.shtml>

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*19. Auburn University Demonstrating Jet Fuel Reformer for Military*

Researchers at Auburn University have demonstrated a process to reform hydrogen from jet fuel for use in fuel cells for the Department of Defense. The University is now working with DOD to procure funding for the research.

<http://apnews.excite.com/article/20040120/D806P0J01.html>

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*20. Kettering University Receives Grant for Fuel Cell Systems Center*

Kettering University has received a \$1.8 million construction grant award from the Economic Development Administration for a new Center for Fuel Cell Systems and Powertrain Integration. The new center will be powered by a 200-kW stationary fuel cell and will provide research and office space for up to eight start-up businesses in its business incubator.

<http://www.news.kettering.edu/showpage.cfm?id=523>

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*21. Additional University Fuel Cell News*

(contributed by Jacob Brouwer, PhD, National Fuel Cell Research Center/UC-Irvine) University of Albany's NanoTech Initiative, supported by Plug Power, General Electric Global Research Center, and other New York companies, announced the award of a \$50,000 federal start-up grant to support the recently established New Energy New York Consortium. (16-Dec-2003)

University of Missouri-Columbia researchers announced a clear economic path for making the transition to the hydrogen economy that includes the concept of combining three power sources (internal combustion engine, battery, and fuel cell) in what is dubbed a "tribrid." (5-Jan-2004)

Worcester Polytechnic Institute (WPI) chemical engineering researchers announced a \$1.5 million grant from Shell International Exploration and Production, Inc., which is part of an initiative by Shell to the first to market a global hydrogen fueling system. (8-Jan-2004)

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**Industry Headlines**  
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*22. Jeep Unveils Treo Fuel Cell Concept*

Jeep unveiled its Treo fuel cell vehicle concept at the 2004 North American International Auto Show. The vehicle features the same drive-by-wire system used in GM's Hy-Wire fuel cell concept car.

[http://www.jeep.com/autoshow/concept\\_cars/2003\\_12\\_23\\_jeep\\_autoshow\\_concept\\_cars\\_97463.html?context=home&type=promo3\\_link](http://www.jeep.com/autoshow/concept_cars/2003_12_23_jeep_autoshow_concept_cars_97463.html?context=home&type=promo3_link)

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*23. Toyota and GM Extend Fuel Cell Partnership*

Toyota and General Motors have agreed to extend their alliance to develop electric, fuel cell, and hybrid vehicles beyond its original March 2004 expiration date.

[http://just-auto.com/news\\_detail.asp?art=43248&dm=yes](http://just-auto.com/news_detail.asp?art=43248&dm=yes)

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## **Administration**

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

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*U.S. Fuel Cell Council* -- The U.S. 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.

[\(http://www.usfcc.com/\)](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.

[\(http://www.nfcrc.uci.edu/\)](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>