IN BRIEF

Science and Engineering Notes from Around Connecticut

FUEL CELL TO POWER COMCAST MAIN FACILITY. **Comcast Cable** this spring began using a 400-kilowatt fuel cell to cover 80% of the electricity load its master facility in **Berlin**, used for receiving and processing television signals. The fuel cell, provided by California-based Bloom Energy, will generate 3 million kilowatt hours of electricity annually, offsetting the 80,000-square-foot facility's carbon emissions— equal to removing 185 cars from the road.

COMCAST LAUNCHES NEW ETHERNET SERVICES. In April, **Comcast** launched its multi-Gigabit Ethernet services throughout six towns in **New London County**. Comcast joined **Frontier,** which currently offers up to 10 gigabytes of Ethernet services to all commercial customers in eastern Connecticut.

Education & Cognition

UCONN TEAM TO EXAMINE ROLE OF ADHD IN CREATIVITY. **UConn,** with funding from the National Science Foundation's Research in Engineering Education program, is initiating a study to compare the difference in creative thinking between engineering students with attention deficit hyperactivity disorder (ADHD) and other engineering students. Some studies suggest those with ADHD are more creative and more willing to take risks—traits needed in the field of engineering—but the traditional model of teaching may be driving away these students, according to the UConn team. **Arash E. Zaghi**, assistant professor of civil and environmental engineering and lead investigator, notes that traditional engineering training rarely takes advantage of these strengths. "It doesn't leave enough room for creativity," says Zaghi, "We're so comfortable with our instruction now that we haven't recognized that we aren't sufficiently fostering creativity."

PROPOSED BILL WOULD FUND PROGRAMS LINKING ENGINEERING EDUCATION, HIGH-TECH MANUFACTURING. In March, a bill sponsored by US Representatives Paul Tonko and Chris Collins of New York and **Elizabeth Esty** of Connecticut called the Manufacturing Universities Act was introduced in the US House of Representatives; a companion bill was introduced in the US Senate. The bill would establish a Manufacturing Universities program within the US Department of Commerce's National Institute of Standards and Technology. Colleges and universities with existing engineering programs would be eligible to apply for the Manufacturing University designation, which would include up to $5 million annually for four years to improve engineering programs with an emphasis on manufacturing, increase the number of joint projects with manufacturing firms, and support students who participate in cooperative education and apprenticeships with manufacturers. **UConn** provost and CASE member **Mun Choi** notes that the bill would provide the opportunity for improved connections between students and manufacturing opportunities.

OFFICIALS BRIEFED ON 'GRAND CHALLENGES FOR ENGINEERING.' CASE member **Tarek Sobh**, dean of the School of Engineering and senior vice president of Graduate Studies and Research at the **University of Bridgeport** (UB), attended the meeting of the National Academy of Engineering in Washington, DC, on March 24. As part of the meeting, Sobh and leaders of other institutions gathered to brief White House officials and policy makers on the Grand Challenges for Engineering, a national campaign that identifies areas requiring future innovative engineering solutions.

Energy

HYDROGEN, FUEL CELL DEVELOPMENT PLANS FOR US NORTHEAST RELEASED. The **Northeast Electrochemical Energy Storage Cluster** (NEESC), administered by the **Connecticut Center for Advanced Technology, Inc.** (CCAT), recently announced release of the 2015 Hydrogen and Fuel Cell Development Plans for Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. The plans address anticipated increases in demand for new electric capacity. Hydrogen and fuel cell technology reduce carbon dioxide emissions, meeting zero emissions vehicle (ZEV) requirements using renewable energy from biomass, wind and photovoltaic power to generate hydrogen.

PLAINVILLE, CROMWELL, FIRST TO IMPLEMENT LED STREET LIGHT CONVERSION. Massachusetts-based ESCO Energy Services recently announced installation of LED street lights in **Plainville** and **Cromwell** as part of the **Connecticut Conference of Municipalities' (CCM)** Municipal Street Light LED Conversion Program**.** The installation, valued at more than $1 million, is expected to be completed by late 2015, and will include more than 2,600 street light fixtures with an estimated annual savings of approximately $225,000. The towns are the first in Connecticut to implement an LED street light conversion under CCM's statewide program.

SOLAR HOME CREDIT ANNOUNCED. In March, **Governor Dannel Malloy** announced the Solar Home Renewable Energy Credit (SHREC) to support the Class I Renewable Portfolio Standard (RPS) policy, providing access to incentives to increase the affordability of residential solar. **Connecticut's Green Bank**, which oversees the C-PACE program, allows property owners to pay for these improvements over time through additional charges on property tax bills with the repayment obligation transferred to the next owner if the property is sold. The SHREC program is expected to generate $537 million in economic activity for Connecticut.

DROP IN GREENHOUSE GAS EMISSIONS REPORTED. **UIL Holdings Corporation** announced in April the reduction of harmful greenhouse gas emissions by at least 15,000 tons since 2011. Data from 2011 to 2013 reported by UIL to the **Connecticut Department of Energy and Environmental Protection** shows a 9% reduction in greenhouse gas emissions at **The Southern Connecticut Gas Company** and a 4% drop at **Connecticut Natural Gas Corporation**. "In many ways, every day is Earth Day at UIL," said **Jim Torgerson**, UIL's President and CEO. UIL is also starting work on a 9,000-panel solar array in **Bridgeport**, located on top of a landfill. The project will generate 2.2 megawatts of renewable power for UI customers.

Environment

GOVERNORS MEET TO TACKLE ENERGY ISSUES. The governors of Connecticut, Maine, Massachusetts, and Rhode Island met at the **Connecticut Convention Center** April 23 to discuss energy issues facing New England. The governors committed to partnering on improving the energy grid, investing in renewable energy sources and working to cut costs for consumers. Noting that New England residents paid an extra $7.5 billion over the past two winters on heating and electric bills, more than residents pay in other parts of the United States, the governors, in a joint statement, said, "Continued state attention is urgently needed to achieve clean, affordable, and reliable power on which our families and businesses depend. This problem is greater than any one state can solve