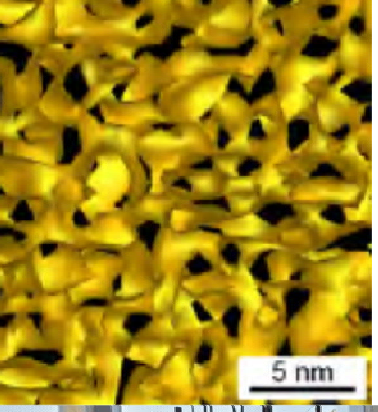
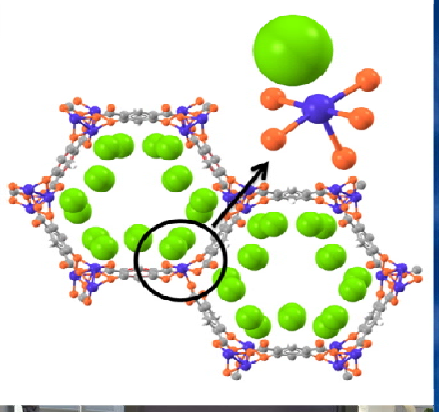
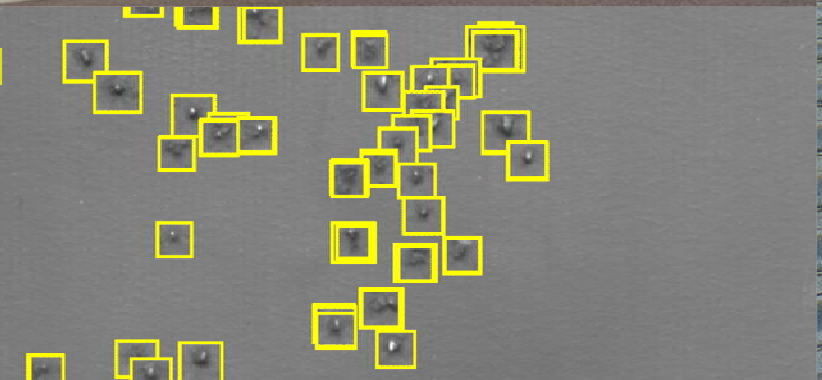




H2FIRST



U.S. DEPARTMENT OF ENERGY

Hydrogen and Fuel Cells Program

2015 Annual Merit Review and Peer Evaluation Report

June 8–12, 2015
Arlington, VA

DOE/GO-102015-4730 **October 2015**

About the Cover

Photo collage (from top to bottom, left to right):

A cryogenic transmission electron microscopy three-dimensional reconstruction of hydraded Nafion. *Image courtesy of Lawrence Berkeley National Laboratory.*

A unit cell of a coordinatively unsaturated metal center Co_2(*m*-dobdc) structure dosed with three deuterium molecules (green) per open metal site. The circled inset shows a section of the unit cell that has been enlarged in the upper right, showing the location of the deuterium with respect to an open cobalt site. *Image courtesy of C. Ahn, U.S. Department of Energy, based on M.T. Kapelewski et al.,* J. Am. Chem. Soc.*, 2014, 136, 12119−12129.*

The California State University, Los Angeles, station was the first in the United States to receive a seal of approval for the consumer sale of hydrogen on a per-kilogram basis. The right portion of the image shows an enlarged version of the approval seal. *Photo courtesy of California State University, Los Angeles.*

The **H**ydrogen **F**ueling **I**nfrastructure **R**esearch **S**tation **T**echnology (H2FIRST) project is designed to address the technical challenges of hydrogen station deployment in the early market.

Fuel cell cargo tractors are demonstrated at the Memphis International Airport by Plug Power with Fuel Cell Technologies Office partner FedEx. *Photo courtesy of FedEx.*

An optical reflectance image showing automated (not manual) detection of particulates on the electrode surface of a gas diffusion electrode. The individual images of the particles inside the yellow boxes are magnified 10 times. *Image courtesy of the National Renewable Energy Laboratory.*

Photo on right:

U.S. Capitol Building. *Photo courtesy of Dollar Photo Club.*

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