NHA NEWS

Training the Teachers:
SoCal Science Teachers Explore FCs at NHA Conference

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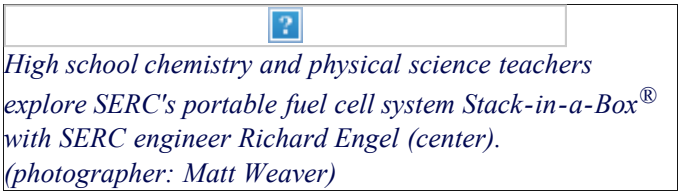
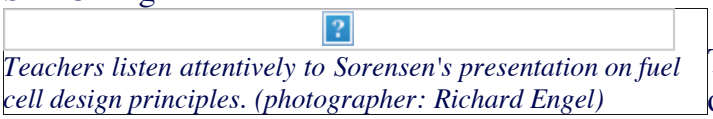
by Angi Sorensen, Research Engineer, Schatz Energy Research Center



High school chemistry and physical science teachers explore SERC's portable fuel cell system Stack-in-a-Box® with SERC engineer Richard Engel (center). (photographer: Matt Weaver)

A full house of twenty high school chemistry and physical science teachers participated in a *Renewable Hydrogen and Fuel Cell Teacher Training Workshop* at the NHA's 15th Annual U.S. Hydrogen Conference in Los Angeles, California. With support from the NHA and the South Coast Air Quality Management District (SCAQMD), the Schatz Energy Research Center (SERC) conducted the workshop for teachers in the SCAQMD service area (Los Angeles, Orange, Riverside, and San Bernardino Counties). In addition to the twenty teachers, the workshop was also attended by twenty-one interested conferees, including SCAQMD and Department of Energy representatives.

Teachers gained the knowledge and materials for an in-class fuel cell demonstration and the ability to successfully integrate hydrogen and fuel cell concepts into their curricula. Each teacher went home with a SERC single-cell PEM fuel cell kit for classroom use.



Teachers listen attentively to Sorensen's presentation on fuel cell design principles. (photographer: Richard Engel)

The workshop included a lecture presentation, a hands-on laboratory activity, and a fuel cell demonstration. In the first half of the session, SERC research engineer Richard Engel and I covered energy and electricity basics; hydrogen and fuel cells; and the connection between hydrogen, clear skies, and a clean energy future. We demonstrated how each topic meshed with relevant California State Science Content Standards for high school chemistry and physical science.

In the laboratory portion of the workshop, teachers built their fuel cells while the group discussed the form and function of each component. When the assembly was complete, the teachers supplied hydrogen and air to their fuel cells and watched them work. They used an ammeter, a voltmeter, and a variable load to generate polarization curves and measure their cells' performance. The participants also had the opportunity to explore SERC's portable fuel cell system Stack-in-a-Box®.

Everyone involved agreed that the workshop was a success. The teachers were enthusiastic about the information they received, and they enjoyed the hands-on experiments. Evaluation feedback was very positive. The teachers expressed their need for access to information about cutting-edge hydrogen technology and noted the lack of coverage of this subject in their textbooks. Other comments included "thanks to all for inviting and giving us a wealth of information on hydrogen" and "aligning information with California state science standards was a great idea."

The favorable response to this workshop is evidence of the need for hydrogen and fuel cell teacher training

and highlights an opportunity for the NHA to reach an important group in our society.

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