Jack Brouwer

Professor: Mechanical & Aerospace Engineering, Civil & Environmental Engineering; Director: National Fuel Cell Research Center, Advanced Power and Energy Program at UC Irvine

Irvine, CA, US

Jack Brouwer's research focuses on high-temperature electrochemical dynamics and integrated renewable energy systems.

Biography

Brouwer?s research focuses upon high-temperature electrochemical dynamics and integrated renewable energy systems including fuel cells, electrolyzers, batteries, gas turbines, and solar and wind power. Brouwer is recognized for research and development of the world?s first integrated hybrid solid oxide fuel cell gas turbine system, the world?s first renewable high temperature fuel cell system for tri-generation of hydrogen, heat, and power, the world?s first direct DC powering of data center servers with a fuel cell, and the U.S. first renewable power-to-gas hydrogen injection into the natural gas system and subsequent conversion to decarbonized electricity in a combined cycle power plant. Brouwer received his Ph.D. in mechanical engineering from the Massachusetts Institute of Technology in 1993. From 1993 to 1997, he served as a research assistant professor at the University of Utah and was a member of the technical staff at Reaction Engineering International. He came to UC Irvine in 1997 as associate director of the National Fuel Cell Research Center (NFCRC), concurrently holding appointments as lecturer, assistant and then associate adjunct professor. He was named assistant professor in the summer of 2011 and became full professor in the summer of 2017.

Areas of Expertise

High-Temperature Electrochemical Dynamics, Renewable Hydrogen, Renewable Power Dynamics, Integrated Renewable Power Systems, Hybrid Power and Energy Storage Systems

Education

Massachusetts Institute of Technology

PhD Mechanical Engineering

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