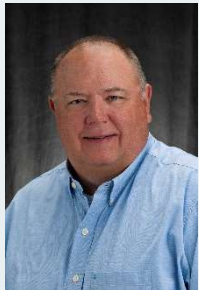


Honda's electrification and resource circulation initiatives: Advancing sustainable mobility



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Thursday, September 21
12:00pm – 1:00pm
Scott Lab
Room E100

Christopher J. Brooks is Chief Scientist and Division Director for Honda Research Institute USA, Inc. He is currently responsible to help guide Honda North America's efforts and research for a carbon sustainable society. He is also currently the director of the 99P Labs; an open innovation space to help incubate start-up activities which could lead to new business opportunities. He joined Honda R&D Americas, Inc. in 1999. and throughout his Honda career, he has been responsible for material science research with some sort of an environmental emphasis. These areas include developing materials for advanced propulsion vehicles, such as fuel cell electric vehicles (including hydrogen generation systems), battery electric vehicles, as well as catalyst systems for next generation diesel vehicles. He also has investigated electrochemical reduction of CO₂ to carbon neutral hydrocarbon fuels as well as most recently battery technologies for both current lithium-ion batteries as well as technologies beyond lithium-ion. He is the holder of 34 granted U.S Patents and has more than ten U.S. Patents pending. He is the author of more than 70 peer reviewed publications and presentations.

Abstract:

In the era of climate change and dwindling natural resources, automotive industry leaders are challenged to reimagine their approaches to mobility. This presentation will discuss Honda's proactive strides toward electrification and resource circulation, as well as how university engagement can accelerate these goals.

Resource circulation takes center stage as Honda leverages a circular economy approach, minimizing waste and maximizing the reuse of materials. This approach, which is referred to as Honda's "Triple Action to Zero," is one of the main tenants of our vision to reach carbon neutrality by 2050. The goals by 2050 are to utilize 100% sustainable or recycled content while utilizing 100% green energy. As the third tenant, our goal is to achieve net-zero CO₂ emissions by reducing, eliminating, or offsetting CO₂ from our products and operations.

Honda has embarked on a journey toward electrification, driven by the imperative to reduce carbon emissions and reliance on fossil fuels. This presentation will highlight Honda's recent investments for electrification in Ohio, especially around the newly created EV Hub, which includes both EV and fuel cell vehicles.

With "Power of Dreams" being one of the foundational principles of Honda, new energy innovation is key both internally as well as with academic partners. Simply considering the proposed gigafactories as well as EV penetration, new approaches will obviously be required. Highlighting these activities will be a recent ARPA-e award in the EVS4ALL program, where Honda partnered with Ohio State University, Carnegie-Mellon University, and Argonne National Labs. This program's focus is on producing a low-cost EV battery that can provide 200 miles of range in less than 10 minutes. Low temperature operation is another criterion requiring 80% of the room temperature capacity at a temperature of negative 20°C.

Through pioneering EV technology, innovative recycling practices, and collaborative partnerships, Honda not only envisions but actively contributes to a future where mobility is both environmentally responsible but also technologically advanced.

Hosted by Prof. Marcelo Dapino