

COMBUSTION WEBINAR

Guiding innovation: using optimization methods to evaluate the design space for novel low-carbon energy technologies

Speaker: Prof. Jesse D. Jenkins, Princeton University

Time: December 12, 2020

10 am EST; 4 pm Paris; 11 pm Beijing.

Meeting: Zoom

Registration (required): Check <https://sun.ae.gatech.edu/combustion-webinar/> for details or directly contact wenting.sun@aerospace.gatech.edu.



COMBUSTION
WEBINAR

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Biography: Jesse Jenkins is an assistant professor at Princeton University with a joint appointment in the Department of Mechanical and Aerospace Engineering and the Andlinger Center for Energy and Environment and courtesy appointments at the School of Public and International Affairs and the High Meadows Environmental Institute. He is a macro-scale energy systems engineer with a focus on the rapidly evolving electricity sector, including the transition to zero-carbon resources, the proliferation of distributed energy resources, and the role of electricity in economy-wide decarbonization. Jesse leads the Princeton ZERO Lab (Zero-carbon Energy systems Research and Optimization Laboratory), which focuses on improving and applying optimization-based energy systems models to evaluate low-carbon energy technologies and generate insights to guide policy and planning decisions in national and sub-national jurisdictions transitioning to net-zero emissions energy systems. Jesse earned a PhD and SM from MIT, worked previously as a postdoctoral fellow at the Harvard Kennedy School, and spent six years as an energy and climate policy analyst prior to embarking on his academic career.

Abstract: Development & commercialization of novel energy technologies takes time. New technologies will enter evolving future electricity systems and compete with a range of extant resources, introducing considerable uncertainty for developers, researchers, and funders. Given limited resources, which avenues for cost or performance improvement are most important for future commercial success and societal impact? This presentation will discuss how optimization models of long-term electricity system capacity expansion and wide-scale parametric uncertainty analysis can be employed to evaluate the “technology design space” for novel low-carbon technologies and provide insights to guide R&D efforts and funding and policy decisions. Results from a recently completed evaluation of long duration energy storage will be presented. Extensions of this general approach to evaluate design choices for flexible carbon capture and geothermal energy systems will also be described.

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Announcement

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Thank all of you for the support and helps in 2020!**

**The next Combustion Webinar will be on Jan 16th, 2021.
Happy holiday and stay safe!**



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