



Ronald E. Hatcher
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" Plasma Control for Energy"

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ABSTRACT:

Fusion energy has the prospect of producing a substantial part of the world's electricity in an environmentally sustainable and politically acceptable way. The handling of the extreme particle and power exhaust from fusing plasma is one of the main challenges that need to be solved to make economical fusion energy a reality. I will talk about the novel methods we are developing to solve this problem; namely, advanced real-time analysis, disruption avoidance and control algorithms, advanced divertor configurations, and liquid metal walls. Finally, I will touch on the research we started in our lab on the controlled plasma-catalytic conversion of methane (natural gas) to liquids.

BIOGRAPHY:

Egemen Kolemen is an Assistant Professor Mechanical & Aerospace Engineering at Princeton University jointly appointed with the Andlinger Center for Energy and the Environment and the Princeton Plasma Physics Laboratory (PPPL). He worked at the DIII-D National Fusion Facility and NSTX as a research scientist before joining Princeton University. He received his B.S. from Bosphorus University and his Ph.D. from Princeton University. He is leading liquid metal and plasma chemistry experiments at Princeton and developing novel heat management, disruption avoidance and control systems for ITER, DIII-D, NSTX-U, KSTAR and EAST fusion facilities.