

MIT Industrial Liaison Program Faculty Knowledgebase Report

Next Generation of Combustion Technology

July 13, 2020 10:00 am - 11:00 am

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Next generation of combustion technology

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Transportation, power generation, and electricity generation depend heavily on the combustion of fossil and synthetic fuels. The next generation of combustion systems will need to be more efficient with lower emissions than the current. In this talk, I will discuss the coupling effects of two crucial components of combustion, chemical kinetics and fluid dynamics, on flame dynamics and soot emissions, and the physical insights for future combustion design. I will also discuss future research directions that combine combustion and material sciences to develop new technologies for energy sustainability.