

**“The Automobile of 2030 (no, it won't be flying. . . most likely)”**

**By Timothy Jacobs**  
**Department of Mechanical Engineering**  
**Texas A&M University**

**Seminar on November 10, 2016 at 11:00 am in 2004 Black**  
**Seminar host: Cris Schwartz**

**Abstract**

Fourteen years may seem some time away, but the year 2030 is ever-present on the minds of automakers. The more important year is in fact 2025, which is when the currently accepted “54.5” mile / gallon fuel economy standard takes effect as the Corporate Average Fuel Economy (CAFE) standard. Vehicles sold 2030 will most definitely implement advanced engine and powertrain technology that is just now moving from research into product development and commercialization. Contrary to what some industry pundits initially projected, the economy standard will largely be met with the internal combustion engine as the primary power house. But, it won't be the internal combustion engine of today.

This talk will explore the myriad of technologies that internal combustion engine researchers have investigated for the past 40 years, now beginning to realize materialization to meet the standards. Such new technologies include new air handling systems, advanced modes of combustion, novel aftertreatment devices, and sophisticated engine controllers that all work together to deliver consumer-desired performance efficiently while meeting the already-strict engine exhaust emissions. In addition to engine technology and other vehicle fuel-economy enhancements, consumers can also expect to see differences in fuel pump selections. New engine technology designed to meet high efficiency standards will require different fuels than what are available today. Finally, in the context of education, the paradigm shift in the automotive industry reveals the ever-necessary self-reflection of mechanical engineering curricula, ensuring that educational institutions continue to meet students where they are entering college and prepare them to where they need to be to continue to be the “engine” of the economy.

Dr. **Timothy J. Jacobs** is associate professor and Steve Brauer, Jr. '02 Faculty Fellow of mechanical engineering at Texas A&M University. His research and teaching interests center on thermodynamics and combustion, with specific emphasis on the internal combustion engine. He presently serves as undergraduate program director for his department. Dr. Jacobs received his BS, MS, and PhD degrees in 1999, 2002, and 2005, all from the University of Michigan.

***This seminar counts towards the ME 600 seminar requirement for Mechanical Engineering graduate students.***

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