

# Stephen Zoepf

414 Lakeview Way  
Emerald Hills, CA 94062

+1 (201) 315-2889  
szoepf@stanford.edu

## Summary

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Dr. Stephen Zoepf is the Executive Director of the Center for Automotive Research at Stanford. He holds a Ph.D., M.Sc. and B.Sc. from MIT. His interests are in future mobility, shared vehicle systems, transportation energy usage and policy. He has eight years of experience in the automotive industry as an engineer and product manager at BMW and Ford, and previously led U.S. Department of Transportation efforts to integrate confidential data submissions efforts into national vehicle energy policy modeling efforts. He was an ENI Energy Initiative Fellow and a Martin Energy Fellow at MIT and a recipient of the Barry McNutt award from the Energy and Alternative Fuels Committees of the Transportation Research Board. He also won the Singapore Global Challenge, Global Young Scientists Summit@one-north in 2013 and was a recipient of MIT's Infinite Mile Award for Outstanding Service to the Institute.'

## Education

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- Massachusetts Institute of Technology (MIT)** Cambridge, MA  
**Ph.D. Engineering Systems Division** June, 2015  
Dissertation: Plug-in Vehicles and Carsharing: User Preferences, Energy Consumption and Potential for Growth. (Supervisor: Prof. John Heywood)
- M.Sc. Technology and Policy Program** June, 2011  
Thesis: Automotive Features: Mass Impact and Deployment Characterization
- B.Sc. Electrical Engineering and Computer Science** June, 2001  
Advanced Undergraduate Project: A software-controlled PWM amplifier using software PID-based feedback.

## Work Experience

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- Stanford University** Stanford, CA  
**Executive Director, Center for Automotive Research at Stanford** June, 2016 – Present
- Led program of 34 automotive industry affiliates and university research.
- Massachusetts Institute of Technology (MIT)** Cambridge, MA  
**Post-Doctoral Researcher** June, 2015 – May, 2016
- Led team of students to gather and analyze data from innovative transportation experiment.
- U.S. Department of Transportation** Cambridge, MA  
**Operations Research Analyst** June, 2010 – May, 2016
- Led successful effort to coordinate confidential data submissions with all fifteen major automotive manufacturers and achieved 100% participation.
  - Introduced three major structural improvements to Corporate Average Fuel Economy (CAFE) modeling work at the National Highway Traffic Safety Administration (NHTSA).
  - Responsible for drafting regulatory (Federal Register) and technical support documentation related to passenger car and truck fuel economy.

- Developed policy roadmaps outlining key issues related to the rollout of a vehicle-to-vehicle communication initiative for the Intelligent Transportation Systems Joint Program Office.

**BMW of North America** Woodcliff Lake, NJ  
**Accessory Development Manager – Performance & Motorsport** Oct, 2004 – Sept, 2009

- Successfully launched BMW Motorsport & BMW Performance product line in the US, managing complex coordination of Legal, Customs, Engineering, and Warranty departments.
- Led US development of one of the automotive market’s first OEM-supported iPod interfaces
- Organized BMW campus recruiting at MIT. Represented BMW at career fairs, interviews, and information sessions.

**Ford Motor Company** Dearborn, MI / Hermosillo, Mex / Gaydon, England  
**Product Development Engineer** June – Aug, 2000 & June, 2001 – Oct, 2004

- Developed patented Tire Pressure Monitoring System in engineering, production, and post-launch on multiple vehicle platforms in compliance with NHTSA legislation.
- Wrote design specifications, tested prototypes and outlined future development of GPS navigation & remote video systems in 2006+ Land Rover vehicles.
- Sole resident engineer for the launch of the 2004 SVT Focus. Led numerous quality improvement projects at production facility in Hermosillo, Mexico.
- Co-chair of Ford’s MIT recruiting team. Hosted events, conducted interviews, and recommended funding opportunities.

**Knite, Inc.** Princeton, NJ  
**Product Development & Test Engineer** June – Aug., 1999 & Jan, 2000

- Built and tested prototypes of a new ignition system for two- and four-stroke engines.
- Installed, debugged, and fully documented an eddy-current dynamometer for use in testing.

**MIT, Office of the Dean, Information Technology** Cambridge, MA  
**User Support and Network Maintenance** Sept, 1997 - June, 2001

- Supported 300 MIT staff with hardware/software deployment, troubleshooting and training.

## Articles, Publications & Patents

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- Jacquillat, A and Zoepf, S. "Deployment of Electric Vehicles in Car-Sharing Fleets" (In Review)
- Zoepf, S. and Keith, D. *User Decision-Making and Technology Choices in the US Carsharing Market*. Transport Policy. (Accepted) ([PDF](#))
- Rodgers, L., Zoepf, S., and Prenninger, J. (2014) *Analyzing the Energy Consumption of the BMW ActiveE Field Trial Vehicles with Application to Distance to Empty Algorithms*. mobil.TUM International Scientific Conference on Mobility and Transport - Sustainable Mobility in Metropolitan Regions, June 2014. ([PDF](#))
- MacKenzie, D., Zoepf, S. and Heywood, J. (2014) *Determinants of U.S. Passenger Car Weight*. International Journal of Vehicle Design 65 (1), 73-93. ([PDF](#))
- Magee, C., Saari, R., Heaps-Nelson, G. T., Zoepf, S., and Sussman, J. (2014) *The Historical Roots of the Field of Engineering Systems: Results from an In-class Assignment*. Infranomics. Springer International Publishing. 353-376. ([Link](#))
- Zoepf, S., D. MacKenzie, D. Keith, and W. Chemicoff. (2013) *Charging Choices and Fuel Displacement in a Large-Scale Plug-in Hybrid Electric Vehicle Demonstration*. Transportation

- Research Record: Journal of the Transportation Research Board, No. 2385, Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 1–10. ([PDF](#))
- Cheah, L., Pereira, F., Wilhelm, E., MacKenzie, D., McAulay, J. and Zoepf, S. *Towards an Adaptive Urban Transportation System*. A white paper for the Global Young Scientists Summit@one-north Singapore Challenge 2013.
  - Zoepf, S. and Heywood, J. (2012). *Characterizations of Deployment Rates in Automotive Technology*. (Paper 2012-01-1057) Warrendale, PA: SAE International. ([Link](#))
  - McQuade, T., Zoepf, S. 2004. Method and apparatus for providing refill or bleed alerts in a tire pressure monitoring system. U.S. Patent 7,092,804 filed Jul. 16, 2004 and granted Aug. 15, 2006. ([Link](#))

## Lectures and Teaching

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- Zoepf, S. *Heterogeneity in behavior and energy consumption in the plug-in vehicle fleet*. University of California, Davis ZE MAP. Feb, 2015.
- Zoepf, S. and Keefe, R. *An Introduction to the R programming language and its applications*. Lecture, Volpe Collaboration Forum, Volpe National Transportation Systems Center, Cambridge, MA. June, 2014.
- Zoepf, S. *User Preferences and Technology Choices in Carsharing*. Lecture, Volpe National Transportation Systems Center, Cambridge, MA. Feb, 2014.
- Zoepf, S. *Technology Issues and Timescales for Change in Transportation*. MIT Guest Lecture, Introduction to Sustainable Energy (ESD.166). Cambridge, MA. Nov, 2013.
- Zoepf, S. *Sistemas sociales y la regulacion del consumo de combustible*. Universidad de Sonora. AXIS Conference. Hermosillo, Mexico. April, 2013. (Given in Spanish)
- Zoepf, S. *Characterizations of Deployment Rates in Automotive Technology*. Assessment of Technologies for Improving Fuel Economy of Light-Duty Vehicles – Phase 2. National Academy of Sciences, Washington, D.C. March, 2013.
- Zoepf, S. *Fuel Economy Regulations in the United States*. MIT Guest Lecture, Modeling and Assessment for Policy (ESD.864). Cambridge, MA. Mar, 2013.
- Teaching Assistant for Modeling & Assessment for Policy (ESD.864), 2011-2012.

## Honors, Interests & Abilities

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### Awards

- ENI MIT Energy Initiative Fellow, 2014
- Barry McNutt Award, 2014, Energy and Alternative Fuels Committees of the Transportation Research Board
- Martin Energy Fellowship, 2013-2014
- Singapore Global Challenge, 2013, Global Young Scientists Summit@one-north (1st Place)
- Recipient of MIT Infinite Mile Award for "Outstanding Service to the Institute" (2001)
- Former SCCA ClubRally co-driver and guest star on television show *Junkyard Wars*
- Runner-Up, Staff Choice award for 6.270 Robotics Competition

### Languages

- Fluency in English and Spanish; basic proficiency in French and German.

### Computing

- Working knowledge of Labview, Matlab, LaTeX, R, GAMS, SAS, JMP, Python Biogeme and most common business software.

**Other**

- Basic U.S. Government security clearance
- Transportation@MIT student group: Seminar Coordinator
- Board member, TSC Child Care, 2012-2013
- Mentor for FIRST Robotics teams in Dearborn, MI and Paterson, NJ, 2004 - 2009.
- Treasurer for Delta Tau Delta fraternity, 1999