

# JOHN PAUL HELVESTON, PH.D.

INSTITUTE FOR SUSTAINABLE ENERGY, BOSTON UNIVERSITY  
OFFICE 500 A, 650 BEACON STREET, BOSTON, MA, 02215  
✉ jhelvy@bu.edu ☎ +1 (727) 437-2285 🌐 [www.jhelvy.com](http://www.jhelvy.com)

## ACADEMIC APPOINTMENTS

---

Starting Jul. 2018 **George Washington University**, Washington, D.C.  
Assistant Professor, Engineering Management and Systems Engineering

Aug. 2016 - Present **Boston University**, Boston, MA  
Postdoctoral Fellow, Institute for Sustainable Energy

## EDUCATION & TRAINING

---

2016 Carnegie Mellon University, Pittsburgh, PA Ph.D. Engineering and Public Policy

2015 Carnegie Mellon University, Pittsburgh, PA M.S. Engineering and Public Policy

2010 Virginia Tech, Blacksburg, VA B.S. Engineering Science and Mechanics

Doctoral Committee: Jeremy Michalek, Erica Fuchs, Elea McDonnell Feit, & Valerie Karplus

### Mandarin Chinese Training

2010 National Taiwan University, Taipei, Taiwan Business Chinese (Huayu Scholarship)

2009 Heilongjiang University, Harbin, China Intensive Chinese (Critical Language Scholarship)

2008 Liaoning Normal University, Dalian, China Independent Study (Horton Scholarship)

## RESEARCH INTERESTS

---

**Technological Change:** Study how individual, firm, and national level factors affect the nature, pace, and extent of technological change, with an emphasis on clean energy transitions.

**Design for Market Systems:** Measure and predict consumer choice and firm behavior in the marketplace to assess product design for profitability or policy analysis.

**Innovation and Competitiveness:** Study relationships between innovation, technology, policy, and the competitiveness of firms and nations.

**Electric Vehicles & Sustainable Transportation:** Assess how consumer preferences, economics, and policy affect the development & adoption of electric vehicles and sustainable transit solutions.

**China:** Examine the above topics in the context of one of the world's largest developing nations.

## PUBLICATIONS

---

### Papers in Refereed Journals

- 2015 **Helveston, J.P.**, Y. Liu, E.M. Feit, E. Fuchs, E. Klampfl, and J.J. Michalek. "Will Subsidies Drive Electric Vehicle Adoption? Measuring Consumer Preferences in the U.S. and China," *Transportation Research Part A: Policy and Practice*, 73, pg. 96-112. [[view online](#)]
- 2018 **Helveston, J.P.**, E.M. Feit, and J.J. Michalek "Pooling stated and revealed preference data in the presence of RP endogeneity," *Transportation Research Part B: Methodological*, 109, pg. 70-89. [[view online](#)]

### Working Papers

- 2017 **Helveston, J.P.**, Y. Wang, V. Karplus, & E. Fuchs "The Institutional Origins of Experimentation in China's Plug-in Electric Vehicle Industry," Under review at *Research Policy*.

2017 **Helveston, J.P.**, E. Fairman, S. Seki, J. Min, J.J. Michalek, and I. Azevedo. "Choice at the Pump? Measuring Consumer Preferences for Alternative Automobile Fuels," *Working Paper*.

### Papers in Non-refereed Journals

2017 **Helveston, J.P.**. "Perspective: Navigating an Uncertain Future for US Roads," *Issues in Science and Technology* 34, no. 1 (Fall 2017).

### Theses

2016 **Helveston, J.P.**. "Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation," Ph.D. Dissertation, Carnegie Mellon University, Pittsburgh, PA. [[research gate](#)] [[cmu](#)]

## GRANTS

---

2014 National Science Foundation [East Asia Pacific Summer Institute Fellowship](#). "Environmental Implications of Consumer Preferences and Policy Incentives for Plug-in Vehicles in China."

## HONORS & AWARDS

---

### Awards

2017 Best dissertation award, [Industry Studies Association](#).

2016 Best paper award in the Innovation and Entrepreneurship Research Stream, [Industry Studies Association](#).

2013 Herbert Toor award for best Engineering and Public Policy qualifying examination paper.

2002 Eagle Scout Award, BSA Troop 11, Valrico, FL, July 7, 2002.

### Fellowships

2014 [Link Energy Foundation Fellowship](#) (2014 - 2016).

2011 [NSEP Boren Fellowship](#) (Award Declined).

### Scholarships

2010 Taiwan Huayu Mandarin Enrichment Scholarship (2010-2011).

2009 Department of State [Critical Language Scholarship](#) for Mandarin Chinese.

2007 [Horton Honors Scholarship](#) for 6-month independent study abroad in China (2008).

2005 Eleanor Davenport Leadership Scholarship, Virginia Tech: Full tuition and fees for 4 years in engineering (2005 - 2009).

## PRESENTATIONS

---

2018 *Invited Presenter*: "Trends in Vehicle Electrification: China, Policy, & Car Sharing" Institute for Sustainable Energy Seminar Series. Boston, MA.

2018 *Presenter*: "The Institutional Origins of Experimentation in China's Plug-in Electric Vehicle Industry" Frontiers in International Business Symposium, The Darla Moore School of Business, University of South Carolina, Columbia, SC.

2017 *Presenter*: "The Institutional Origins of Domestic Experimentation in China's Plug-in Electric Vehicle Industry" The Atlanta Conference on Science and Innovation Policy. Atlanta, GA.

2017 *Invited Presenter*: "Vehicle Electrification in China: Preferences, Policy, and Technology Trajectories" Harvard Kennedy School Energy Policy Seminar Series. Cambridge, MA.

2017 *Invited Presenter*: "Development and Adoption of Plug-in Electric Vehicles in China." Center for International Environment and Resource Policy, The Fletcher School, Tufts. Medford, MA.

- 2017 *Presenter for best dissertation award*: “Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation.” Industry Studies Association Conference. Washington, D.C.
- 2017 *Presenter*: “Innovating Up, Down, and Sideways: The (Unlikely) Institutional Origins of Experimentation in China’s Plug-in Electric Vehicle Industry.” Industry Studies Association Conference. Washington, D.C.
- 2017 *Presenter*: “Policy, Strategy, and the Emergence of Electric Car Sharing in China.” Industry Studies Association Conference. Washington, D.C.
- 2017 *Invited Presenter*: “Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation.” Tsinghua University Technology Policy Research Center (清华大学中国科技政策研究中心) (presented in mandarin). Beijing, China.
- 2017 *Invited Presenter*: “Development and Adoption of Plug-in Electric Vehicles in China: Markets, Policy, and Innovation.” State Information Center (国家信息中心) (presented in mandarin). Beijing, China.
- 2017 *Invited Presenter*: “Innovation in China’s Plug-in Electric Vehicle Industry.” Chinese Politics Research Workshop. Cambridge, MA.
- 2016 *Symposium Chair & Organizer*: “Innovation in China From an Individual, Firm, and National Perspective.” Academy of Management Annual Meeting. Anaheim, CA. [[Submission 14779](#)]
- 2016 *Presenter*: “Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles.” Academy of Management Annual Meeting. Anaheim, CA. [[slides](#)]
- 2016 *Presenter*: “Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles.” DRUID Annual Conference. Copenhagen, Denmark. [[slides](#)]
- 2016 *Presenter*: “Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles.” Consortium For Cooperation And Competition (CCC). Milan, Italy. [[slides](#)]
- 2016 *Presenter*: “Up, Down, and Sideways: Innovation in China and the Case of Plug-in Electric Vehicles.” Industry Studies Association Conference. Minneapolis, MN. [[slides](#)]
- 2015 *Invited Presenter*: “Electric Vehicles in China: A Nexus of Consumer Preferences, Policy, Innovation, and the Environment.” Shanghai Jiaotong University. Shanghai, China.
- 2014 *Symposium Chair & Organizer*: “Tensions Between Government, Industrial Innovation, and Energy Efficiency in China.” Academy of Management Annual Meeting. Philadelphia, PA. [[Submission 16754](#)]
- 2014 *Presenter*: “Will Subsidies Drive Electric Vehicle Adoption? Measuring Consumer Preferences in the U.S. and China.” Academy of Management Annual Meeting. Philadelphia, PA. [[slides](#)]
- 2014 *Invited Presenter*: “Electric Vehicles in China: A Nexus of Consumer Preferences, Policy, Innovation, and the Environment.” Beijing Energy Network. Beijing, China. [[slides](#)]
- 2014 *Presenter*: “Will Subsidies Drive Electric Vehicle Adoption? Measuring Consumer Preferences in the U.S. and China.” Transportation Review Board Annual Meeting. Washington, D.C. [[slides](#)]
- 2013 *Presenter*: “Consumer Preferences for Hybrid and Electric Vehicles in China and the U.S.” INFORMS Annual Meeting. Minneapolis, MN. [[slides](#)]
- 2013 *Poster*: “Consumer Preferences for Electrified Vehicles in China and the U.S.” 32<sup>nd</sup> Annual USAEE / IAEE North American Conference. Anchorage, AK. [[slides](#)]
- 2013 *Presenter*: “Who is more willing to adopt electrified vehicle: China or the U.S.?” Technology Management and Policy Consortium. Boston, MA. [[slides](#)]
- 2013 *Presenter*: “Comparing Consumer Preferences for Electrified Vehicles in China and the U.S.” Industry Studies Association Conference. Kansas City, MO. [[slides](#)]
- 2013 *Presenter*: “Consumer Preferences for Electrified Vehicles in China and the U.S.” Center for Climate and Energy Decision Making, Carnegie Mellon University. Pittsburgh, PA. [[slides](#)]

## TEACHING EXPERIENCE

---

### Graduate Teaching Assistant

- SPRING 2015 *19670: Quantitative Entrepreneurship*, Carnegie Mellon University.  
SPRING 2013 Gave lectures on conjoint survey design, survey fielding techniques, discrete choice modeling, and process-based cost modeling; advised student teams; managed survey fielding; held office hours; graded assignments.

### Guest Lecturer

- SPRING 2018 “Vehicle Electrification in China: Preferences, Policy, and Technology Trajectories” Lecture for *Science-Based Business Initiative Seminar Series*, Harvard Business School.  
FALL 2017 “Vehicle Electrification: Market Trends, Policy, and Business Models” Lecture for course *PL851: Sustainable Energy Business Models And Policies*. Boston University.  
FALL 2017 “Emerging Automotive Trends: Chinese, Electric, and Shared.” Lecture for course *UA 510: Sustainable Energy Planning*. Boston University.  
SUMMER 2017 “Vehicle Electrification in China: Preferences, Policy, and Technology Trajectories.” On-line Lecture for *Global Education Connection*.  
FALL 2016 “Emerging Automotive Trends: Chinese, Electric, and Shared.” Lecture for course *PL851: Sustainable Energy Business Models And Policies*. Boston University.  
SPRING 2015 “Conjoint Analysis and Discrete Choice Modeling.” Lecture for course *19702: Quantitative Methods for Policy Analysis*. Carnegie Mellon University. [[slides](#)]  
FALL 2014 “Electric Vehicles in China: A Nexus of Consumer Preferences, Policy, Innovation, and the Environment.” Lecture for course *19711: Global Competitiveness: Firms, Nations, and Technological Change*. Carnegie Mellon University. [[slides](#)]  
FALL 2014 “Penalty and Barrier Functions.” Lecture for course *24785: Engineering Optimization*. Carnegie Mellon University.  
FALL 2013 “The Chinese Car Market: Development and Electrification.” Lecture for course *China Today: Economy, Technology, and People*. University of Pittsburgh & Carnegie Mellon University. [[slides](#)]

### Course Instructor

- FALL 2009 *First Year Excellence Seminar (F-YES)*. Virginia Tech.  
Gave weekly lectures; advised freshmen honors students on self-examination and life/career planning.

## OTHER PROJECTS

---

- FALL 2013 *Graduate Course Project*: Optimal plug-in electric vehicle subsidies to minimize GHG emissions.  
FALL 2013 *Graduate Course Project*: Python-based program using monotonicity analysis to solve well-bounded optimization problems. [[video summary](#)]  
SPRING 2013 *Graduate Course Project*: Process-based cost model to model manufacturing cost of lithium-ion battery pack for electric vehicles.  
SPRING 2013 *USAEE Case Competition*: Strategies for managing increasing peak electricity loads from electric vehicle charging. [[view report](#)]  
2010 - 2011 *Undergraduate Senior Design Project*: Designed, built, & tested passive cooling system for power electronics.  
SPRING 2007 *Materials Response Lab*: Stress relaxation testing of fuel cell membranes. Advisor: Dr. David Dillard.  
SPRING 2006 *Undergraduate Senior Design Project*: Designed structure for Space Elevator Design Team. Advisor: Dr. Jack Lesko.

## WORK EXPERIENCE

---

- SPRING 2011 **Innovation Center for Energy & Transportation (iCET)**, Beijing, China: Intern in Electric Vehicle Charging Policy.
- FALL 2008 **General Electric Company**, Shanghai, China: Intern in Wind Power Advanced Technology Operations.
- SUMMER 2007 **General Electric Company**, Greenville, SC: Intern in Wind Power Advanced Technology Operations.

## SKILLS

---

- LANGUAGE: Mandarin Chinese (speaking: *fluent*, reading / writing: *intermediate*).
- ANALYSIS / MODELING: Discrete Choice Modeling, Conjoint Analysis, Survey Design, Consumer Preference Modeling, Qualitative Interviews, Process-based Cost Modeling, Decision Analysis, Quantitative Policy Analysis, Monte Carlo Simulation, Optimization, Regression.
- PROGRAMMING / SOFTWARE: R, Python, MatLab, LaTeX, Shiny, Stata, Mathematica, HTML, Wordpress, Adobe Photoshop, Adobe Illustrator, Microsoft Office, Analytica, @Risk DecisionTools.

## LEADERSHIP, VOLUNTEER, AND COMMUNITY ACTIVITIES

---

- 2016 - 2018 *Analyst & Committee Member*: Boston University Climate Action Plan Task Force.
- SUMMER 2017 “Types of Energy.” Lecture for *BU Upward Bound*, a high school summer college prep program for low-income and potential first-generation college students.
- SPRING 2013 *Red Team Judge*: Undergraduate Mechanical Engineering Senior Design Team.
- 2011-2015 *Violinist*: Carnegie Mellon All University Orchestra, 1st Violin Section.
- 2011-2015 *Dance Instructor*: Tartan Swing (CMU Swing Dance Club).
- 2007 - 2010 *Head Dance Instructor, Webmaster*: Solely Swing (Virginia Tech Swing Dance Club).
- 2005 - 2010 *Concert Master*: New River Valley Symphony Orchestra.
- 2006 - 2009 *Volunteer*: Virginia Tech Alternative Breaks Service Programs for Tau Beta Pi, Appalachia Service Project, & Presbyterian Campus Ministries.

## PROFESSIONAL ACTIVITIES

---

*Ad-hoc reviewer for*: Transportation Research Parts A: Policy and Practice, Transportation Research Parts D: Transport and Environment, Nature Energy, Energy Policy, Technovation, Environmental Research Letters, Transportation Review Board Annual Conference, Journal of Systems Science and Systems Engineering.

*Member of*: [Transportation Research Board](#), [Academy of Management](#), [INFORMS](#), [Industry Studies Association](#), [U.S. Association for Energy Economics \(USAEE / IAEE\)](#), [Tau Beta Pi](#), [Phi Beta Kappa](#), [Beijing Energy Network](#), [Vehicle Electrification Group](#), [Global Competitiveness Laboratory](#), [Center for Climate and Energy Decision Making \(CEDM\)](#).

## DANCE COMPETITION AWARDS

---

### Lindy Hop

- 2016 **1<sup>st</sup> Place**: Advanced Jack & Jill w/Banban, *China Lindy Hop Championships*, Beijing, China.
- 2013 **3<sup>rd</sup> Place**: Open Jack & Jill, *Rocktober 2013*, Columbus, OH.
- 2012 **5<sup>th</sup> Place**: Open Jack & Jill, *Boston Tea Party*, Boston, MA.
- 2012 **2<sup>nd</sup> Place**: Open Jack & Jill w/Akemi Kinukawa, *Babble*, New York, NY.

2011 **1<sup>st</sup> Place:** Open Strictly Lindy w/Annabel Truesdell Quisao, *International Lindy Hop Championships*, Washington, D.C.

2011 **Finals:** Open Jack & Jill, *Lindy Focus X*, Asheville, NC.

2011 **Finals:** Open Jack & Jill, *International Lindy Hop Championships*, Washington, D.C.

### **Solo Jazz / Charleston**

2012 **1<sup>st</sup> Place:** Solo Jazz, *Sparx*, Cleveland, OH.

2012 **3<sup>rd</sup> Place:** Solo Charleston, *Stompology*, Rochester, NY.

### **Balboa**

2014 **Finals:** Strictly Balboa w/Jennifer Lee, *International Lindy Hop Championships*, Washington, D.C.

2013 **3<sup>rd</sup> Place:** Amateur Strictly Balboa w/Annabel Truesdell Quisao, *All Balboa Weekend*, Independence, OH.

2013 **4<sup>th</sup> Place:** Amateur Jack & Jill, *All Balboa Weekend*, Independence, OH.

2012 **Finals:** Amateur Jack & Jill w/Nina Galicheva, *All Balboa Weekend*, Independence, OH.

### **Blues**

2013 **Finals:** Solo Riffin' Competition, *Steel City Blues*, Pittsburgh, PA.

2012 **1<sup>st</sup> Place:** Solo Riffin' Competition, *Steel City Blues*, Pittsburgh, PA.

2010 **Finals:** Open Jack & Jill, *Steel City Blues*, Pittsburgh, PA.

## **REFERENCES**

---

### **Erica R.H. Fuchs**

Professor  
Department of Engineering and Public Policy  
Carnegie Mellon University  
Baker Hall 131E  
5000 Forbes Avenue  
Pittsburgh, PA 15213  
Phone: +1 (412) 268-1877  
Email: [erhf@andrew.cmu.edu](mailto:erhf@andrew.cmu.edu)

### **Jeremy J. Michalek**

Professor  
Department of Engineering and Public Policy  
Department of Mechanical Engineering  
Carnegie Mellon University  
Scaife Hall 324  
5000 Forbes Avenue  
Pittsburgh, PA 15213  
Phone: +1 (412) 268-3765  
Email: [jmichalek@cmu.edu](mailto:jmichalek@cmu.edu)

### **Elea McDonnell Feit**

Assistant Professor of Marketing  
LeBow College of Business  
Drexel University  
Gerri C. LeBow Hall 828  
3141 Chestnut Street  
Philadelphia, PA 19104  
Phone: +1 (215) 571-4054  
Email: [efeit@drexel.edu](mailto:efeit@drexel.edu)

### **Valerie J. Karplus**

Assistant Professor of Global Economics & Management  
Sloan School of Management  
Massachusetts Institute of Technology  
Building E62-482  
77 Massachusetts Ave.  
Cambridge, MA 02139  
Phone: +1 (617) 452 3582  
Email: [vkarpus@mit.edu](mailto:vkarpus@mit.edu)

### **Peter Fox-Penner**

Director, Institute for Sustainable Energy  
Professor of Practice  
Questrom School of Business  
Boston University  
Rafik B. Hariri Building, Room 514A  
595 Commonwealth Ave.  
Boston, MA 02215  
Phone: +1 (617) 353-4298  
Email: [pfoxfp@bu.edu](mailto:pfoxfp@bu.edu)