

Energy Analysis and Environmental Impacts Division  
Lawrence Berkeley National Laboratory  
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### **C. Anna Spurlock**

#### **Doctoral Studies:**

University of California, Berkeley: Ph.D., Agricultural and Resource Economics - May 17<sup>th</sup>, 2013

Dissertation Title: *Essays in Energy Economics*

Primary Field: Energy and Environmental Economics

Secondary Fields: Psychology and Economics (Behavioral Economics), Applied Econometrics

#### **Pre-Doctoral Studies:**

University of California, Berkeley: M.S., Agricultural and Resource Economics - December 2009

University of California, Santa Cruz: B.A., Anthropology - December 2002

#### **Awards, Honors, and Fellowships:**

- 2017 SPOT Award, Lawrence Berkeley National Laboratory, “Anna working in collaboration with ETA staff Corrine Scown and Sr. HRDP, Leticia Ericson identified an effective, but not well understood mechanism for providing compensation to women employees while on maternity leave.”
- 2017 2017 Kevin McCauley Memorial Outstanding Staff Award, Council of UC Staff Assemblies (CUCSA). For exceptional efforts engaging staff and leadership on diversity & inclusion efforts.
- 2016 SPOT Award, Lawrence Berkeley National Laboratory, “C. Anna Spurlock has substantively contributed to promoting a more inclusive and diverse workplace environment through her many efforts as the EAEI representative on the ETA Diversity and Inclusion Council”
- 2015 Best Paper Award at 2015 International Conference on Big Data Intelligence and Computing (DataCom 2015) for “Extracting Baseline Electricity Usage with Gradient Tree Boosting”, with Kim, Taehoon, Dongeun Lee, Jaesik Choi, Alex Sim, Annika Todd, Kesheng Wu.
- 2013 Outstanding Graduate Student Instructor Award, UC Berkeley
- 2012 & 2010 Precourt Energy Efficiency Center Fellow, BECC Conference
- 2007-2009 Foreign Language and Area Studies Fellowship (Arabic), UC Berkeley
- 2002 College Honors, UC Santa Cruz

#### **Research and Work Experience:**

- July 2013-present Researcher, Energy Efficiency Standards Group and Electricity Market and Policy Group, Lawrence Berkeley National Laboratory (LBNL)
- July 2012-July 2013 Graduate Student Researcher, Energy Efficiency Standards Group, LBNL
- Sept 2009-Sept 2011 Intermittent work as a Graduate Student Researcher under Dr. Peter Berck and Dr. Maximilian Auffhammer, Agricultural and Resource Economics Dept., UC Berkeley

June-Sept. 2009 Consultant, Yemeni Social Fund for Development (SFD) in support of the collaborative World Bank-SFD project, "Assessing local communities and household resilience to adapt to climate change in rain-fed areas of Yemen"

### **Competitive Grants:**

2017 LBNL Early Career Development Laboratory Directed Research and Development (LDRD): "A Neuroeconomics Experiment to Study Routine Transportation Decision-Making Processes and Drivers." (PI)

2016 Department of Energy SMART Mobility: "Mobility Decision Science." (LBNL Deputy Pillar Lead under Anand Gopal).

2015 LBNL Laboratory Directed Research and Development (LDRD) grant second year follow-on funding: "Behavior Analytics," with Annika Todd. (Co-PI)

2014 LBNL Laboratory Directed Research and Development (LDRD) grant: "Behavior Analytics," with Annika Todd. (Co-PI)

2013 Resources for the Future Regulatory Performance Initiative Proposal: "Accounting for Innovation in Regulatory Impact Analyses," with Margaret Taylor. (Senior research contributor)

### **Committee Membership/Leadership Experience:**

July 2016 – present Member of the ETA Mentoring Committee

February 2017 – present Founder and Leader of the Energy Technologies Area (ETA) Diversity & Inclusion Working Group

April 2014 – present Division Representative on the LBNL Diversity & Inclusion Council.

### **Journal Articles:**

Houde, Sébastien, and C. Anna Spurlock. 2016. "Minimum Energy Efficiency Standards for Appliances: Old and New Economic Rationales." *Economics of Energy & Environmental Policy* 5.2.

Kim, Taehoon and Lee, Dongeun and Choi, Jaesik and Spurlock, Anna and Sim, Alexander and Todd, Annika and Wu, Kesheng. 2016. "Predicting Baseline for Analysis of Electricity Pricing" (March 30, 2016). Available at SSRN:<http://ssrn.com/abstract=2773991>. Forthcoming in the *International Journal of Big Data Intelligence*. (list of forthcoming papers for that journal can be found here: <http://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijbdi>).

### **Peer-Reviewed Conference Papers:**

Lazar, Alina, Ling Jin, C. Anna Spurlock, Annika Todd, Kesheng Wu, Alex Sim. 2017. "Data Quality Challenges with Missing Values and Mixed Types in Joint Sequence Analysis." 2017 IEEE International Conference on Big Data.

Jin, Ling, Doris Lee, Alex Sim, Sam Borgeson, John Wu, Anna Spurlock, Annika Todd. 2017. "Comparison of Clustering Techniques for Residential Energy Behavior using Smart Meter Data." 2nd Association for the Advancement of Artificial Intelligence (AAAI) Workshop on Smart Grid and Smart Buildings.

Patel, Siddharth, Sam Borgeson, Ram Rajagopal, C. Anna Spurlock, Ling Jin, Annika Todd. 2016. "Time Will Tell: Using Smart Meter Time Series Data to Derive Household Features and Explain Heterogeneity in Pricing Programs" 2016 ACEEE Summer Study Conference Proceedings.

Baylis, Patrick, Peter Cappers, Ling Jin, C. Anna Spurlock, Annika Todd. 2016. “Go for the Silver? Evidence from field studies quantifying the difference in evaluation results between “gold standard” randomized controlled trial methods versus quasi-experimental methods.” 2016 ACEEE Summer Study Conference Proceedings.

Kim, Taehoon, Dongeun Lee, Jaesik Choi, Alex Sim, Anna Spurlock, Annika Todd, Kesheng Wu. 2015. “Extracting Baseline Electricity Usage with Gradient Tree Boosting.” 2015 International Conference on Big Data Intelligence and Computing (DataCom 2015).  
<https://sdm.lbl.gov/perf/DataCom2015-91-final.pdf>.

### **Working Papers and Reports:**

Fowlie, Meredith, Catherine Wolfram, C. Anna Spurlock, Annika Todd, Patrick Baylis, and Peter Cappers. 2017. “Default Effects and Follow-On Behavior: Evidence from an Electricity Pricing Program.” Working Paper No. w23553. National Bureau of Economic Research. (Submitted to American Economic Review)

Cappers, Peter, C. Anna Spurlock, Annika Todd, Ling Jin. 2016. “Experiences of Vulnerable Residential Subpopulations with Critical Peak Pricing” LBNL Report No. LBNL-1006294.

Cappers, Peter, C. Anna Spurlock, Annika Todd, Patrick Baylis, Meredith Fowlie, Catherine Wolfram. 2016. “Time-of-Use as a Default Rate for Residential Customers: Issues and Insights” LBNL Report No. LBNL-1005704.

Taylor, Margaret and C. Anna Spurlock and Hung-Chia Yang. 2015. “Confronting Regulatory Cost and Quality Expectations: An Exploration of Technical Change in Minimum Efficiency Performance Standards” LBNL Report No. LBNL-1000576.

Spurlock, C. Anna. 2015. “Loss Aversion and Time-Differentiated Electricity Pricing” LBNL Report No. LBNL-182764.

Houde, Sebastien and C. Anna Spurlock. 2015. “Do Energy Efficiency Standards Improve Quality? Evidence from a Revealed Preference Approach” LBNL Report No. LBNL-182701.

Spurlock, C. Anna. 2013. “Appliance Efficiency Standards and Price Discrimination.” LBNL Report No. LBNL-6283E.

Spurlock, C. Anna and Hung-Chia Yang and Larry Dale. 2013. “Energy Efficiency and Minimum Standards: A Market Analysis of Recent Changes in Appliance Energy Efficiency Standards in the United States.” LBNL Report No. LBNL-6353E.

### **Presentations, Conferences & Webinars:**

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|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| October 2017   | BECC 2017: “Understanding the Whole Traveler in an Era of Rapid Transportation Innovation,” (Poster)                                                                                                                                                                                        |
| September 2016 | Energy Efficiency EM&V Webinar Series: “Evaluation of Residential Behavior-Based Programs”                                                                                                                                                                                                  |
| October 2016   | BECC 2016: “Go for the Silver? Evidence from field studies quantifying the difference in evaluation results between “gold standard” randomized controlled trial methods versus quasi-experimental methods,” work joint with Baylis, Patrick, Peter Cappers, Ling Jin, Annika Todd.          |
| August 2016    | ACEEE Summer Study: “Go for the Silver? Evidence from field studies quantifying the difference in evaluation results between “gold standard” randomized controlled trial methods versus quasi-experimental methods,” work joint with Baylis, Patrick, Peter Cappers, Ling Jin, Annika Todd. |
| July 2016      | Electric Power Research Institute (EPRI) and Center for Information Technology Research in the Interest of Society (CITRIS) Consumer Connectivity and Analytics Workshop: “Smart Grid, Behavior, and Big Data: improved customer                                                            |

	targeting for residential utility programs,” work joint with Sam Borgeson, Dan Fredman, Ling Jin, Annika Todd.
June 2016	2017 DOE Hydrogen and Fuel Cells Program and Vehicle Technologies Office Annual Merit Review and Peer Evaluation Meeting: “WholeTraveler Survey on Life Trajectories and Mobility Decisions.” (Poster)
June 2015	AERE Summer Conference: “The Implications of Market Structure for Appliance Energy Efficiency Regulation.”
December 2014	BECC 2014: “Using Data to Identify Energy Behaviors, Actions, and Characteristics of Households,” work joint with Annika Todd.
November 2014	Energy Institute at Haas Seminar: "The Implications of Market Structure for Appliance Energy Efficiency Regulation."
July 2014	AERE Session at the AAEA Annual Meeting: “Market Structure and Energy Efficiency Regulation: the case of clothes washers.”
November 2013	BECC 2013: “Loss Aversion and Time-Differentiated Electricity Pricing.” (Poster)
June 2013	ECEEE 2013 Summer Study on Energy Efficiency: “Energy Efficiency and Minimum Standards: A Market Analysis of Recent Changes in Appliance Energy Efficiency Standards in the United States,” work joint with Hung-Chia Yang and Larry Dale.
March 2013	Environment and Resource Economics Seminar, Agricultural and Resource Economics Department, UC Berkeley: “Loss Aversion and Time-Differentiated Electricity Pricing.”

### **Teaching Experience:**

Spring 2012	Regulation of Energy and Environment (EEP 147), Graduate Student Instructor, UC Berkeley, Supervising Professor: Meredith Fowlie
Fall 2011	Intermediate Microeconomics (IAS 106), Graduate Student Instructor, UC Berkeley, Supervising Professor: Maximilian Auffhammer
Spring 2011	Environmental Economics (EEP C101/ECON C125), Graduate Student Instructor, UC Berkeley, Supervising Professor: David Zilberman
Fall 2010	Natural Resource Economics (EEP C102/ECON C102), Graduate Student Instructor, UC Berkeley, Supervising Professor: Hossein Farzin
Spring 2010	Intermediate Macroeconomics (IAS 107), Graduate Student Instructor, UC Berkeley, Supervising Professor: Maximilian Auffhammer

### **Other Information:**

Affiliations:	American Economic Association, Association of Environmental and Resource Economists, Agricultural and Applied Economics Association
Analytic Software:	STATA, Matlab, ArcGIS
Languages:	English (native), French (conversant), Modern Standard Arabic (basic)
Referee Service:	<ul style="list-style-type: none"> <li>- 2014 ACEEE Summer Study on Energy Efficiency in Buildings</li> <li>- DOE SEEDS Program SunShot Initiative</li> <li>- Environment for Development Program</li> <li>- RFF Working Paper Series</li> </ul>

### **References:**

Peter Cappers (supervisor)  
Electricity Markets and Policy Group, LBNL  
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Dr. Peter Berck (Dissertation co-chair)  
Department of Agricultural and Resource Economics, UC Berkeley  
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Dr. Meredith Fowlie (Dissertation co-chair)  
Department of Agricultural and Resource Economics, UC Berkeley  
fowlie@berkeley.edu , (510) 642-4820