Brian J. Sergi

(484) 332-4181 | bsergi@andrew.cmu.edu

EDUCATION

Carnegie Mellon University, Pittsburgh, PA   **2014-2019**
PhD in Engineering & Public Policy (spring 2019 expected)
- *Areas of expertise*: Energy policy, data analysis, energy and emissions modeling, power systems, discrete choice analysis, survey design

Georgetown University, Washington, D.C.   **2008-2012**
Bachelor of Science in Foreign Service, Edmund A. Walsh School of Foreign Service
- *Major:* Science, Technology & International Affairs (*summa cum laude*)

DISSERTATION

Carnegie Mellon University, Pittsburgh, PA   **2014-2019**
"Integrating climate and health damages in decision-making for the electric power sector"
- Investigated how impacts related to climate change and human health might be integrated when evaluating emissions reductions from the standpoints of social acceptance and policy design
- Conducted discrete choice surveys in the U.S. and China which found that respondents in both countries express stronger support for emissions reductions that yield benefits to both climate and health
- Adapted the AP3 integrated assessment model to quantify health damages from emissions in the United States and to identify transboundary flows of those damages
- Developed a simple, Python-based capacity expansion model that demonstrates the value gained by co-optimizing on benefits to climate and health when targeting emissions reductions from the power sector

Thesis committee: Inês Azevedo (Chair), Alex Davis, Nick Muller, Peter Adams, Allen Robinson, Steve Davis

---

SKILLS

Software – Skilled in R, Python, GAMS, PYOMO optimization package, Sawtooth Survey Software, and Microsoft Products (Word, Excel, and Power Point); working familiarity with Matlab, Analytica, ArcGIS, NVivo Qualitative Analysis software, and Palisades @Risk tools

Languages – English (native), Spanish (proficient), French (beginner)

PUBLICATIONS

Peer-Reviewed Journal Articles

Abdulla, A., Vaishnav, P., **Sergi, B**., Victor, D., "Disentangling dread from actuarial risk: the cautionary story of nuclear power." *Energy Policy* 129 (2019): 1339-1346.

Sergi, B., Azevedo, I. L., Xu, J., Xia, T., Davis, A., "Support for emissions reductions based on immediate and long-term pollution exposure in China." *Ecological Economics* 158 (2019): 26–33.

Sergi, B., Azevedo, I. L., Davis, A., "The effect of providing climate and health information on support for alternative electricity portfolios." *Environmental Research Letters* 13.2 (2018): 024026.

Sergi, B., Babcock, M., Williams, N., Thornburg, J., Loew, A., Ciez, R., "Institutional Influence on Power Sector Investments: A Case Study of On- and Off-Grid Energy in Kenya and Tanzania." *Energy Research & Social Science* 41 (2018): 59-70.

Sergi, B., Parker, R. A., Zuckerman, B. L., "Support for International Collaboration in Science: The Role of Basic Research Funding Agencies' International Offices." *Review of Policy Research* 31.5 (2014): 430-453.

Manuscripts Under Review

Sergi, B., Azevedo, I. L., Davis, S. J., Muller, N. Z., "Transboundary health damages of air pollution in the U.S." Under review at *Nature Sustainability.*

Sergi, B., Davis, S. J., Muller, N., Robinson, A., Adams, P., Marshall, J., Azevedo, I.L., "Aligning climate and health benefits in power plant siting and retirement decisions". Under review at *Nature Climate Change.*

Manuscripts in Preparation

Sergi, B., Ghosh, A., Grove, J., Azevedo, I.L., "Estimating marginal emissions factors from PJM using simulated dispatch curves". Working paper.

Non-Journal Research Publications

National Science Board Board's Task Force on Administrative Burdens, Reducing Investigators' Administrative Workload for Federally Funded Research. National Science Board Report (2014).

Howieson, S. V., Sedenberg, E., **Sergi, B**., Shipp, S., "Department of Energy Technology Maturation Programs." The IDA Science and Technology Policy Institute (2013).

Howieson, S. V., **Sergi, B**., and Shipp, S., "Department of Energy Agreements for Commercializing Technology." The IDA Science and Technology Policy Institute (2013).

SELECTED CONFERENCE PRESENTATIONS

Sergi, B. (Presenter), Davis, S. J., Muller, N., Robinson, A., Adams, P., Azevedo, I.L., "Integrating climate and health objectives to inform clean energy siting in capacity expansion modeling." Oral Presentation, Energy Policy Research Conference, Boise, ID, Sep. 6-7, 2018

Sergi, B. (Presenter), Azevedo, I. L., Davis, S. J., Muller, N. Z., "Transboundary health damages of air pollution in the U.S." Oral Presentation, United States Association for Energy Economics, Washington, D.C., Sep. 24-26, 2018

Sergi, B. (Presenter), Adams, P, Davis, S. J., Robinson, A., Azevedo, I. L., "Integrating climate and health objectives to inform clean energy siting in capacity expansion modeling." Oral Presentation, International Energy Workshop, Gothenburg, Sweden, June 19-21, 2018

Sergi, B. (Presenter), Azevedo, I. L., Xu, J., Xia, T., Davis, A. "Using Discrete Choice Methods to Evaluate Public Preferences for Tradeoffs in Health, Climate, and Economic Benefits from Electricity Generation in China." Oral Presentation, Western Economic Association International, San Diego, CA, June 25-29, 2017

Sergi, B. (Presenter), Azevedo, I. L., Davis, A. "Using discrete choice analysis to understand public perceptions of tradeoffs in climate and conventional air pollution." Oral Presentation, Energy Technology Area Seminar at Lawrence Berkeley National Laboratory, Berkeley, CA, June 20, 2017

Sergi, B. (Presenter), Azevedo, I. L., Davis, A. "Assessing Public Perceptions of Energy Tradeoffs with Discrete Choice Analysis." Oral Presentation, Behavior, Energy, and Climate Change Conference, Baltimore, MD, Oct. 19-21, 2016

Sergi, B. (Presenter), Azevedo, I. L., Davis, A. "Understanding public perceptions of tradeoffs in climate, health, and energy using discrete choice analysis." Oral Presentation, Association for Environmental Studies and Sciences, Washington, D.C., June 8-10, 2016

Sergi, B. (Presenter), Azevedo, I. L., Davis, A., "The impact of climate change and air pollution information on support for CO_2 emissions regulations." Poster presentation. United States Association for Energy Economics, Pittsburgh, PA, Oct. 25-28, 2015

Sergi, B. (Presenter), Parker, R. A., Zuckerman, B. L., "Support for International Collaboration in Science: The Role of Basic Research Funding Agencies' International Offices." Oral Presentation, Atlanta Conference on Science and Innovation Policy, Sep. 25-27, 2013

HONORS AND AWARDS

- 3 Minute Thesis Semifinalist, Carnegie Mellon University, April 2018
- Best Presentation, Steinbrenner Institute for Environmental Education and Research Colloquium, May 2016
- Honorable Mention, National Science Foundation Graduate Research Fellowship Program, April 2016
- Named "Future Influencer in Energy", Siemens AG, March 2014
- Science, Technology, and International Affairs Award, Georgetown University School of Foreign Service, May 2012
- Phi Beta Kappa Honor Society, Georgetown University, May 2011
- Eagle Scout, Boy Scouts of America, 2008

GRANTS AND FELLOWSHIPS

- Bertucci Graduate Fellowship, Carnegie Institute of Technology, $20,000 + travel expenses, December 2017
- East Asia and Pacific Summer Institute (EASPI) Summer Fellowship, National Science, $5,000 + travel expenses, June 2016
- Graduate Research Fellowship, Steinbrenner Institute for Environmental Education and Research, $43,430, 2015-2016

MEDIA COVERAGE

"Linking air pollution to climate change in Chinese policy." Carnegie Mellon University – College of Engineering News, March 2019, https://engineering.cmu.edu/news-events/news/2019/03/18-air-pollution-chinese-policy.html

"US customers prepared to pay 40% more for cleaner electricity," Physics World – IOP Publishing, August 2018, https://physicsworld.com/a/us-customers-prepared-to-pay-40-more-for-cleaner-electricity/

"Steinbrenner Institute Research Videos: Research Overview," Steinbrenner Institute for Environmental Education and Research, March 2017, https://www.youtube.com/watch?v=8_0pXc3JGRg

---

TEACHING AND MENTORSHIP

Teaching Assistant, Climate Change Mitigation   **Fall 2018**
PhD and Master's level course offered by Engineering & Public Policy (20 students)
- Designed final course project and taught lessons on wind and nuclear energy

Student Research Advisor   **2017-2018**
- Mentored a Master's level and an undergraduate student working on projects related to constructing power plant dispatch curves for the PJM region

Teaching Assistant, Quantitative Methods for Policy Analysis   **Spring 2017**
PhD and Master's level coursed offered by Engineering & Public Policy (25 students)
- Developed lessons on presenting data accurately and on conducting sensitivity analyses using tools such as Excel and R

Executive Experience Mentor   **2016-2017**
Pittsburgh Science & Technology Academy
- Mentored a high school student on designing and constructing a simple wind turbine

Summer Center for Climate, Energy, and Environmental   **2016-2018**
Decision Making (SUCCEED)
An educational outreach program for high school students (~20) and teachers (~10)
Director, Summer 2017
- Coordinated recruitment of student and teacher participants, development of program schedule, field trips organization, logistics, creation of curriculum materials, and supervision of students during the course
Student Instructor, Summer 2018
- Provided lesson overviewing how power plants work, including hands-on demonstrations and activities

Participant, Eberly Center Future Faculty Program   **2016-2018**
- Participated in seminars and workshops on improving teaching skills
- Underwent a formal teaching observation and evaluation of teaching style during a lecture in Spring 2016

ACADEMIC SERVICE

Journal Reviewer
- Journal of Environment, Development and Sustainability   **2018**

Professional Associations
- United States Association for Energy Economics   **2015-present**
- American Geophysical Union   **2014-present**

PROFESSIONAL EXPERIENCE

The IDA Science and Technology Policy Institute, Washington, D.C.   **2012-2014**
Science Policy Fellow
- Conducted quantitative and qualitative policy analysis for STPI, a federally funded research and development center that provides support to the White House Office of Science and Technology Policy (OSTP)
- Provided support on topics related to energy, environment, and Earth observation systems, with work contributing to the first National Plan for Civil Earth Observations

The Breakthrough Institute, Oakland, CA   **2012**
Breakthrough Generation Research Fellow
- Researched advanced nuclear technology designs and enabling policies, ultimately contributing data to the Breakthrough report How to Make Nuclear Energy Cheap: Safety, Readiness, Modularity, and Efficiency

Georgetown University, Washington, D.C.   **2011-2012**
Research Assistant
- Researched patent data with Professor Carl Dahlman for his work on comparing innovation systems in Brazil, India, and China

Argonne National Laboratory (Department of Energy), Lemont, IL   **2011**
Science Undergraduate Laboratory Intern
- Collected data on the use of radioactive sealed source devices in Latin America, which became part of a comprehensive database of known radioactive products and their manufacturers

---

EXTRACURRICULAR ACTIVITIES

Volunteer Interviewer, Georgetown Alumni Admissions Program   **2015-present**
Treasurer, Carnegie Mellon Energy Club   **2016-2018**
Volunteer, Casa San Jose   **2017**
Chief of Staff, National Collegiate Security Model U.N. Conference   **2011**