Ella Foster-Molina

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EDUCATION

University of Rochester, Rochester, NY
M.A. Political Science, 2014
Fields: American Politics, Quantitative Methods, Comparative Politics

Swarthmore College, Swarthmore, PA
B.A. Political Science; B.A. Mathematics, 2007
Graduated with Honors

PROFESSIONAL POSITIONS

Swarthmore College, Swarthmore, PA
Social Sciences Quantitative Laboratory Associate, Fall 2017- current

LACOL, Haverford, PA
Instructor and Course Designer, Summer 2018- Summer 2021

Georgetown University, Washington, DC
Visiting Instructor of Government, Fall 2015- Summer 2016

University of Rochester, Rochester, NY
Instructor, Summer 2015

SUNY Oswego, Oswego, NY
Adjunct Professor, Spring 2015

PAPERS

- Gardella, J.H. & Nation, M., & Foster-Molina, M. (Under Review) "Is more faculty leadership a good thing for schools? A Mixture Modeling Analysis." American Educational Research Journal.
- Gardella, J.H., Nation, M., & Foster-Molina, M. (Under Review) "Mapping Relations Between Teacher Leadership and School Climate: A Latent Class Analysis." International Journal of Leadership in Education
- Foster, L. & Foster-Molina, M. (Draft) "Motivating and Comparing the LSQR/PLS and TSVD/PCR Algorithms using Optimization."

TEACHING EXPERIENCE

Social Sciences Quantitative Laboratory
Develop 32 modular lessons, each approximately 2 hours long, on data science skills.
Deliver 225 individual workshops to approximately 1,200 unique students.
Mentor student theses and data projects from conception to completion.
Swarthmore College, Fall 2017-present

Instructor & Course Designer, Introduction to Data Science
Co-design this innovative digital summer course with a liberal arts approach.
Develop innovative materials for and teach the "Data Viz in the Social Sciences" unit.
Design, implement, and manage a Slack environment to promote student engagement.
Liberal Arts Consortium for Digital Innovation, 2018-2021

Professor, Analysis of Political Data I
Georgetown, Spring 2016

Professor, Analysis of Political Data II
Georgetown, Spring 2016

Professor, Introduction to Applied Game Theory
Georgetown, Fall 2015

Professor, Race and Ethnicity in US Politics
Georgetown, Fall 2015

Professor, Introduction to American Government
University of Rochester, Summer 2015

Professor, Civil Liberties
SUNY Oswego, Spring 2015

Professor, Inequality and Democracy
SUNY Oswego, Spring 2015

Award "Excellence in Teaching by a Graduate Student" 2013-2014
Given to top two teaching assistants in political science.
Competitive award with financial prize.
Based on faculty nominations.

Head Teaching Assistant, Introduction to International Relations
(Professor Hein Goemans)
University of Rochester, Spring 2014

Guest Lecturer Introduction to International Relations (Professor Hein Goemans)
"International Institutions and War," "Asia's Role,"
"Human Rights," "Mid-term Synthesis"
University of Rochester, Spring 2014

Program Assistant for Study Abroad (Professor Lynda Powell)
In charge of admissions, journal grader.
Involved in ongoing program revisions.
University of Rochester, 2012-2014

Teaching Assistant, Introduction to International Relations (Professor Hein Goemans)
University of Rochester, Spring 2013

Teaching Assistant, Introduction to American Politics (Professor Gerald Gamm)
University of Rochester, Fall 2013

Teaching Assistant, Introduction to Political Philosophy (Professor James Johnson)
University of Rochester, Fall 2012

Teacher and Advisee Training Seminars, attendee

University of Rochester and *SUNY Oswego*, 2012-2015

RESEARCH, PROGRAMMING, AND DATA ANALYSIS

Research Advisor, Memento Labs, 2018-2020
- Advised on the statistical design, implementation, and analysis of single subject experimentation.

Consultant, Measured Politics, 2016-2020
- Designed a randomized experiment to determine the impact of campaign donations on the likelihood that the candidate donated to wins.
- Analyzed the preliminary results for 30 campaigns.

Research Assistant, Pippa Norris, Harvard University, Spring 2017
- Modified anchoring vignette questions in Perceptions of Electoral Integrity survey.
- Created 10 page document describing how to apply anchoring vignette method.
- Implemented Stata and R code modifying variables based on anchoring principles for shared use.

Research Assistant, Lyndon Estes, Princeton University, Fall 2014
- Extracted data from climate sensing pods across the country using Python and R.
- Collaborated to streamline the database.

Research Assistant, Richard Niemi, University of Rochester, 2014
- Data analysis using South Asia Barometer. Examined the impact of education and generational cohort (based on the government regime the respondent grew up under) on sympathy for democracy.
- Assist with determining the beginning and ends of each regime type (ex: liberal democracy, military dictatorship) for five countries.

Research Assistant, Lynda Powell, University of Rochester, 2012
- Analyze preferences over representational styles of United States residents.

Consultant, 2 de Mayo Entertainment Consulting, Princeton, NJ , 2011
- Create Python scripts to parse documents for information on media availability.
- Analyze efficiency of data documentation and transmission.

Consultant, SureTech, Princeton, NJ , 2011
- Build portions of database management software.
- Review website development using PHP.

Research Assistant, Jim Johnson, University of Rochester, 2008
- Document the influence of Elinor Ostrom on the impact of collective action and the allocation of scarce resources.

Research Assistant, Larry Rothenberg, University of Rochester, 2008
- Investigate the evolution of gerrymandering in the United States.
- Research the legal history of court cases regarding gerrymandering.
- Analyze the impact of districting decisions on vote choice California from 1980 to 1990.

Statistical Analyst, Analysis and Inference, Swarthmore, PA, 2006
- Analyze data related to court cases to determine baseline frequencies of relevant events.
- Write tutorials to introduce novice programmers to R.

Grant Writer, National Hispanic University, San Jose, CA 2004
- Help create a robotics program for immigrant and first generation elementary school students focused on hands on learning.
- Write grant applications to fund program.

- Program successfully funded in September 2004.

CONFERENCES and PRESENTATIONS

Stanford Linear Algebra and Optimization Seminar 2025, non-presenting coauthor
"Motivating and Comparing the LSQR/PLS and TSVD/PCR Algorithms using Optimization"

Teaching and Learning Center Series 2024
"Computer Skills that Save Time: Introduction"
"Computer Skills that Save Time: Intermediate"

Social Sciences Quantitative Laboratory Lunch Series 2024
"Using Interactive 3D Graphics to Engage Students and Elucidate Statistical Methodologies"

LACOL Consortium Workshop 2021
"LACOL Shared Course Initiative - Designing the Future"

LACOL Consortium Workshop 2020
"LACOL 2020 Summer Data Science Panel Discussion"

Blended Learning Conference 2020
"Setting the Environment for Interactive, Real Time, Blended Learning"

LACOL Liberal Arts Remote Teaching, March 2020
"Teaching Remotely in Zoom"

Midwest Political Science Association Annual Meeting 2019
"Accounting for Multicollinearity without Bias"

LACOL Consortium Workshop 2019
"Ethics and Data Science Panel" moderator

Blended Learning Conference 2019
"On Ramps for Data Science: Visualizing Voting for Trump"

Swarthmore College Economics Brown Bag Series 2019
"Directional Regression Analysis: Improving Efficiency and Interpretation in Multivariate Regressions with Highly Correlated Explanatory Variables"

Bryn Mawr's Steering Committee 2019
"Data Science in the Liberal Arts"

LACOL Webinar 2018
"On Ramps and Scaffolds for Quantitative Skills"

LACOL 2018 Teaching with Tech Lightening and Thunder Round
"Highlighting Digital Tools for 3 Data Science Skills"

Bryn Mawr's Data Intensive 2018
"Voting Data with R"

Bryn Mawr's Data Intensive 2018
"Academic Researchers Discussion Panel"

American Political Science Association Annual Meeting 2016
"Forty Years of Inequality: Legislative History, Party, Education, and Income"

Georgetown Quantitative Models, Spring 2016
"Automated Content Analysis: Understanding Text as Data"

Midwest Political Science Association Annual Meeting 2016
"Education Matters: Four Decades of Legislative History, Party, Education, and Income"

Georgetown American Government Speaker Series, Spring 2016
"Race Matters: Tradeoffs in How Members of Congress Represent their Districts"

American Political Science Association Annual Meeting 2015
    "Understanding Time Constraints and Policy: An Analysis Using Legislation, Staffing Resources, and Twitter"
Midwest Political Science Association Annual Meeting 2015
    "Descriptive Representation, Policy, and Communication: Understanding Tradeoffs and Their Impact on Policy"
Midwest Political Science Association Annual Meeting 2014
    "Casework and Legislation: An Analysis of Representation using Twitter, Facebook, and Press Releases"
Midwest Political Science Association Annual Meeting 2013
    "Money Matters: The Influence of Affluence on Political Representation"

SKILLS

Technical: R, Stata, Python, Excel, LaTeX, Google Suite
Languages: Spanish (conversational)

PUBLISHED DATASET

Harvard Dataverse 2017, "Historical Congressional Legislation and District Demographics 1972-2014." doi:10.7910/DVN/CI2EPI

GRANTS AND AWARDS

Travel Award for Text as Data Conference, Northwestern University, 2014
Summer Research Assistant Fellowship, University of Rochester, 2014
Charles E. Lanni Summer Research Fellowship, University of Rochester, 2008, 2014
Excellence in Teaching by a Graduate Student, University of Rochester, 2013-2014
PEPR Research Assistant Grant, University of Rochester, 2012
Provost's Fellowship, University of Rochester, 2007-2009, 2012-2013

SERVICE EXPERIENCE

Social Sciences Quantitative Laboratory Lunch Series
   Swarthmore College, 2023-2024
CITO Search Committee, Swarthmore College, Spring 2022
Visiting Assistant Professor Search, Sociology & Anthropology,
   Swarthmore College, Fall 2021
Academic Advising and Support Continuity subcommittee,
   Swarthmore College, 2020
Peer Assistants and Mentors subcommittee,
   Swarthmore College, 2020
Propose & Co-organize, LACOL Liberal Arts Remote Teaching Panels, March 2020
Cofound, Working Group, University of Rochester, 2012 - 2015
   • Cofounded a weekly workshop to provide support for the development of research ideas among female graduate students in political science.
Tutor, Carlson Library Tutoring, University of Rochester, 2014
   • Tutored students from disadvantaged backgrounds in English, Math, History, and Economics.