

## CONTACT

## Work

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## EMPLOYMENT

**Pew Research Center**, Washington, DC (USA)

*Associate Director*. Data Labs.

Feb. 2021–Present

- (a) Led a team of researchers and engineers working in computational social research projects. Set the technical and methodological standards for data science and directed the modernization of the data and analytical infrastructure of the organization.
- (b) Updated the internal management processes including hiring, onboarding, performance evaluation, communication practices, and project management. Set up collaboration methods with data scientists embedded in other teams.
- (c) Worked with senior leadership to update the vision and mission statements for data science in the organization and the strategic plan of the team. Redesigned the career progression of the data science and engineer professional families. Consolidated the open-source, reproducibility, and data sensitivity policies.
- (d) Managed data science projects with national and international media attention.

**Westat**, Rockville, MD (USA)

*Senior Data Science Manager (Principal Statistician)*. Statistics Unit.

Dec. 2020–Feb. 2021

*Data Science Manager (Senior Statistician)*. Statistics Unit.

Jul. 2018–Dec. 2020

*Senior Data Scientist (Senior Statistician)*. Statistics Unit.

Oct. 2015–Jul. 2018

- (a) Built and led a data science practice to integrate machine learning, new data sources (including text, images, audio, and video), and real-time dashboards into existing research processes. Served as principal consultant for data science and machine learning engineering.
- (b) Standardized a research infrastructure for statistics and data science and consolidated the technological stack for machine learning engineering used in the company. Headed the adoption of modern practices for statistical software development in all technical teams.
- (c) Managed cross-functional R&D projects with applications to public health, education, clinical trials social policy, and public opinion. Collaborated in the design and writing of responses to grants and RFPs from local, state, and federal agencies as technical expert.

**YouGov**, Palo Alto, CA (USA)

*Statistical Scientist*. Scientific Research Group.

Nov. 2014–Oct. 2015

*Senior Analyst*. Scientific Research Group.

Apr. 2013–Nov. 2014

- (a) Expanded the toolkit used for internal operations which included weighting and analysis of non-probability samples, construction of pseudo-sampling frames, and report automation for academic and market research. Automated data pipelines deploying to client-facing datamarts. Built tools for the monitoring of sample quality provided by vendors.
- (b) Designed and led projects for the C-suite to experimentally evaluate the interview system and the standard interview practices in the U.S. and the U.K. Developed NLP tools for automatic classification of survey questions, re-engineered the existing toolkit for Bayesian conjoint analysis, and built a system for open-ended classification in large-scale, multilingual online surveys.

TECHNICAL  
SKILLS

*Languages:* Python, JavaScript, Go

Experience with full-stack development in Python using Flask for synchronous and asynchronous microservices including front-ends in AngularJS. Highly-skilled with the data science stack for data engineering, machine learning, and scientific computing (TensorFlow, spacy, transformers, numpy, scikit-learn, pandas).

**Statistics:** R, Python, Stan/Jags, Stata

Analysis of social and behavioral data (experimental and observational) using frequentist and Bayesian approaches using the R and Python stack. Experience in statistical learning, choice modeling, longitudinal and survival analysis, network analysis, and spatial statistics. Developer of R packages for scientific applications in S3 and S4

**Storage:** SQL (MariaDB, PostgreSQL, SQLite), Presto, MongoDB, Elasticsearch, Redis  
Experience in database design and ETL using raw SQL and Object Relational Mapping systems like SQLAlchemy.

**Development:** Amazon AWS, Docker, Kubernetes, Prefect

Software development in Agile and Lean teams. Experience in CI/CD environments in AWS, GitLab, and GitHub and with cloud-native and on-premise architectures. Leadership in computational reproducibility and MLOps.

## EDUCATION

Ph.D. in Political Science, *New York University* 2013

*Committee:* Adam Przeworski (chair), David Stasavage, Leonard Wantchekon

M.A. in Political Science, *New York University* 2009

M.A. in Social Sciences, *Juan March Institute*, Madrid 2005

M.A. in History, *University of Vigo*, Ourense 2004

B.A. in History, *University of Vigo*, Ourense 2002

## BOOKS

1. Jungherr, A.; **Rivero, G.** and Gayo-Avello, D. (2020) *Retooling Politics: How Digital Media are Shaping Democracy*. Cambridge University Press.

*Reviews:* *International Journal of Press/Politics*, *Medien & Kommunikationswissenschaft*

2. **Rivero, G.** (2011) *Análisis de datos incompletos en Ciencias Sociales*. CIS, Madrid.

*Reviews:* *Metodología de Encuestas*

## PEER- REVIEWED ARTICLES

1. Billington, C.; **Rivero, G.**; Jannett, A. and Chen, K. (2022): "A Machine Learning Model Helps Process Interviewer Comments in CAPI Instruments: A Case Study." *Field Methods*, Forthcoming.
2. Gallego, J.; **Rivero, G.** and Martínez-Gordillo, J.D. (2021): "Preventing Rather than Punishing: An Early Warning Model for Corruption in Public Procurement." *International Journal of Forecasting*, 37 (1): 360-377.
3. Suhay, E.; Klasnja, M. and **Rivero, G.** (2021): "Ideology of Affluence: Rich American's Explanations for Inequality and Redistributive Attitudes." *Journal of Politics*, 83 (1): 367-380.  
*Awards:* *APSA Best Paper Prize 2018. Class and Inequality Section.*
4. Nooney, J.; Kirkman, M. S.; Bullard, K. M.; White, Z.; Meadows, K.; Campione, J.; Mardon, R.; **Rivero, G.**; Benoit, S. R.; Pfaff, E.; Rolka, D. and Saydah, S. (2020): "Identifying Optimal Survey-Based Algorithms to Distinguish Diabetes Type among Adults with Diabetes." *Journal of Clinical and Translational Endocrinology*, 21: 100231.
5. Tourangeau, R.; Sun, H.; Yan, T.; Maitland, A.; **Rivero, G.** and Williams, D. (2018): "Web Surveys by Smartphones and Tablets: Effects on Data Quality." *Social Science Computer Review*. 36 (5): 542-556.
6. Tourangeau, R.; Maitland, A.; **Rivero, G.**; Sun, H.; Williams, D. and Yan, T. (2017): "Web Surveys by Smartphones and Tablets: Effects on Survey Responses." *Public Opinion Quarterly*, 81 (4): 896-929.
7. **Rivero, G.** (2017): "Preaching to the Choir. Ideology and Following Behavior in Social Media." *Contemporary Social Science*, 14 (1): 54-70.
8. Fernández-Vázquez, P.; Barberá, P. and **Rivero, G.** (2015): "Rooting Out Corruption or Rooting For Corruption? The Heterogeneous Electoral Consequences of Scandals." *Political Science Research and Methods*, 4 (2): 379-397

*Media coverage:* *Pacific Standard*, *El País*

9. **Rivero, G.** (2015): "Heterogeneous Preferences in Multidimensional Voting Models: Ideology and Nationalism in Spain." *Electoral Studies*, 40: 136-145.
10. Przeworski, A.; **Rivero, G.** and Xi, T. (2015): "Elections as a Conflict Processing Mechanism." *European Journal of Political Economy*, 39: 235-248.
11. Barberá, P. and **Rivero, G.** (2015): "Understanding the Political Representativeness of Twitter Users," *Social Science Computer Review*, 33 (6): 712-729.

[Media coverage:](#) *The Atlantic*

#### CHAPTERS IN BOOKS

1. Gayo-Avello, D.; Jungherr, A. and **Rivero, G.** (2023): "Social Media and Electoral Prediction: Ten Years After." In T. Yasseri (ed.): *Handbook of Computational Social Sciences*. Edward Elgar Publishing.
2. Riddles, J.; Burke, J.; **Rivero, G.** and Rust, K. (2017): Adjustments to Student Weights to Account for Student Nonresponse in the National Assessment of Educational Progress. *Proceedings of the Joint Statistical Meetings*. American Statistical Association: 561-570.
3. Barberá, P. and **Rivero, G.** (2012): ¿Un tweet, un voto? Desigualdad en el debate político en Twitter. In Cotarelo, R. and Crespo, I. (ed.): *La comunicación política y las nuevas tecnologías*. Ed. Libros de la Catarata: 200-220.
4. Lapuente, V.; Fernández-Vázquez, P. and **Rivero, G.** (2011): Carencias en el control vertical y horizontal de la corrupción. In Estefanía, J. (Ed.): *Informe sobre la Democracia en España, 2011*. Fundación Alternativas: 199-222.

#### REPORTS

1. **Rivero, G.** and Muñoz, J. (2022): La metodología de les estimacions electorals del CEO. *Papers de Treball del Centre d'Estudis d'Opinió*.
2. Bestvater, S.; Shah, S.; **Rivero, G.** and Smith, A. (2022): Politics on Twitter: One-Third of Tweets From U.S. Adults Are Political. *Pew Research Center*.  
[Media coverage:](#) *AP, Washington Post, ABC News, CNN, NBC, The Hill, Washington Times, Tech Crunch, Engadget, Adweek*
3. McClain, C.; Widjaya, R.; **Rivero, G.** and Smith, A. (2021): The Behaviors and Attitudes of U.S. Adults on Twitter. *Pew Research Center*.  
[Media coverage:](#) *CNN, Fox News, Axios, Politico, The Hill, The Star, Chicago Tribune, Protocol, Adweek, Daily Mail, Fast Company, Mashable*
4. Shah, S.; Widjaya, R.; Smith, A.; **Rivero, G.** and Chapekis, A. (2021): Charting Congress on Social Media in the 2016 and 2020 Elections. *Pew Research Center*.  
[Media coverage:](#) *Protocol, Adweek*
5. **Rivero, G.** and Fernández-Vázquez, P. (2011): Las consecuencias electorales de los escándalos de corrupción municipal, 2003-2007. *Estudios de Progreso*, 59.  
[Media coverage:](#) *El País, Expansión*

#### OTHER PUBLICATIONS

1. Guirola, L.M. and **Rivero, G.** (2022): Political polarization contaminates the link with both partisan and independent institutions: Evidence from 138 cabinet shifts. *Documentos de trabajo del Banco de España*, 2237.
2. **Rivero, G.** (2021): Democracia, evaluación y participación: los laboratorios de políticas públicas. *Strategic Metropolitan Plan of Barcelona*.
3. **Rivero, G.** and Chen, J. (2020): Good Coding Practices to Ensure Reproducibility. *Westat Issue Brief Series*.
4. **Rivero, G.** (2011): Integrality and separability in multidimensional voting models: Ideology and nationalism in Spanish regional elections. *Estudios/Working Papers of the CEACS*, 265.

#### UNDER REVIEW

1. Asensio, O.I.; Lan, T.; Moore, C.; **Rivero, G.**; Simsekler, M.C.E. and Ulibarri, N. (2021): "Data Technologies and Analytics for Policy and Governance: A Landscape Review."

#### WORKING PAPERS

1. **Rivero, G.**; Tourangeau, R.; Edwards, B. and Cook, T. (2020): "Adaptive Designs in Context: Combining Geographical Information and Paradata."

	2. Campione, J.; Nooney, J.; Kirkman, M. S.; Pfaff, M.; Mardon, R.; Benoit, S.R.; McKeever-Bullard, K.; Yang, D.-H.; <b>Rivero, G.</b> ; Rolka, D. and Saydah, S. (2020): "Validation of EHR-based Prediction Models for Distinguishing Diabetes Type Among Adults."	
WORK IN PROGRESS	1. <b>Rivero, G.</b> and La Parra-Pérez: "Ideological Shifts in a Stable Dictatorship: A Study of General Franco's Addresses Using Deep Learning."	
SOFTWARE	1. <b>escons</b> : An R package to simulate seat allocations with uncertainty using electoral surveys 2. <b>dshare</b> : An R package to estimate vote shares at the district level using survey data	
ADDITIONAL TRAINING	<i>Short courses</i> R and Spark: Tools for Data Science Workflows. <i>NISS</i> Statistical Learning and Data Mining. <i>Trevor Hastie/Rob Tibshirani</i>	Sep. 2017 Oct. 2016
	<i>Long courses</i> Quantitative Methods for Social Research. <i>ICPSR, University of Michigan</i> P.G.C. in Advanced Methods of Applied Statistics, <i>UNED</i> P.G.C. in Celtic Studies, <i>Universidad Internacional Menéndez Pelayo</i> P.G.C. in Management of Cultural Heritage, <i>Laboratory of Archaeology-CSIC</i>	June–Aug. 2005 2005 2003 2003
RESEARCH AFFILIATIONS	Research fellow ( <i>Doctor miembro</i> ). <i>Juan March Institute</i> , Madrid Visiting Scholar. Institute for Economic Analysis, <i>CSIC</i> , Barcelona	2013–present 2010–2011
GRANTS	Technical writer (data science) in responses to grants and other vehicles of procurement (RFI, RFP, RFQ) from local, state, and federal U.S. agencies. <i>Westat</i> <i>Digital Media and Politics</i> , €8,000. University of Konstanz. Andreas Jungherr (PI) <i>Dictatorial Repression and Judicial Systems. The Determinants of Authoritarian Stability and Transitional Justice</i> , €30,000. Spanish Ministry of Science. Paloma Aguilar (PI) <i>Technologies of Rebellion and Violence during Civil War</i> , €12,000. Institut Català Internacional per la Pau. With Laia Balcells (PI) <i>Disentangling the Origins and Consequences of Authoritarian Institutions</i> , €3,612. Juan March Institute. With Abel Escriba (Co-PI)	2015–2020 2017 2012–2015 2011 2010
FELLOWSHIPS & AWARDS	Best Paper Prize. <i>Class and Inequality Section, APSA</i> McCracken Fellowship, <i>New York University</i> Juan March Fellowship, <i>Juan March Institute</i> Research assistant scholarship, <i>U. de Santiago de Compostela</i> Xunta de Galicia graduate scholarship, <i>Xunta de Galicia</i> Special award to the best academic record, <i>Universidade de Vigo</i> Research assistant scholarship, <i>Ministry of Education, Spain</i>	2018 2007–2012 2003–2007 June–Sept. 2003 2002–2003 2002 2001–2002
TEACHING EXPERIENCE	<i>Workshops &amp; Summer Schools</i> "Survey Statistics for Public Opinion Research" (4 hours). <i>40db</i> "Reproducibility in Quantitative Research" (8 hours). <i>Westat</i> "Big Data for Social Research" <i>Universidad Católica</i> , Montevideo, Uruguay (20 hours) <i>Universidad del Rosario</i> , Bogotá, Colombia (40 hours) "Advanced R" (6 hours). <i>Westat</i> "Introduction to Statistical Programming in R" (6 hours). <i>Westat</i>	Jan. 2020 Sept.–Dec. 2019  July 2019 June 2017 June 2016 Feb. 2016

	"Incomplete Data Analysis in Surveys" (8 hours). <i>U. Autònoma de Barcelona</i>	Nov. 2010
	<i>New York University</i>	
	Power & Politics in America (Teaching assistant)	Sprint & Fall 2012
	International Politics (Teaching assistant)	Fall 2011
	Quantitative Methods for Political Science (Teaching assistant)	Fall 2008 & Spring 2009
INVITED TALKS	Universidad del Rosario (Colombia)	2018
	University of Durham, Universidad del Rosario (Colombia)	2017
	Trinity College of Dublin	2016
	TIGER (Toulouse School of Economics)	2014
	Instituto Tecnológico Autónomo de México, Spanish National Research Council	2012
	Universitat Autònoma de Barcelona	2011
ORGANIZED CONFERENCES	Contingent Disruption: Digital Media and Politics.	May 2018
	<i>Hosting institution:</i> University of Konstanz, <i>Konstanz</i>	
	<i>Committee:</i> D. Gayo-Avello, A. Jungherr, and <b>G. Rivero</b>	
	The Organization of Security and Justice System Institutions in Autocracies.	June 2015
	<i>Hosting institution:</i> Juan March Institute - Carlos III, <i>Madrid</i>	
	<i>Committee:</i> P. Aguilar, A. Escribà-Folch, J.A. Mayoral, J. Ríos Figueroa, and <b>G. Rivero</b>	
OUTREACH	<i>Mentions and interviews in media</i>	
	El País. <i>"Políticos, periodistas y tuitstars: ¿qué grupo está más polarizado?"</i> Dec. 25, 2020.	
	El Universal. <i>"2020: ¿año de la redención de las encuestas en EU?"</i> Sept. 6, 2020.	
	El Periódico. <i>"'Patrullas ciudadanas virtuales': la fina línea entre la colaboración vecinal y la alarma social."</i> Sept. 4, 2019.	
	La Voz de Galicia. <i>"Lo que trasciende de los datos"</i> . Dec. 30, 2016.	
	El Mundo. <i>"El voto oculto de Donald Trump"</i> . Oct. 27, 2016.	
	Univisión. <i>"Por qué es muy improbable que fallen las encuestas como dice Trump."</i> Oct. 25, 2016.	
	Xataka. <i>"¿Predice el big data sobre redes sociales mejor que las encuestas quiénes ganan las elecciones?"</i> Dec. 15, 2015.	
	El País. <i>"Rajoy y Rubalcaba empatan en la valoración de los usuarios de Twitter"</i> . Sep. 26, 2011.	
	<i>Writings in media</i>	
	Washington Post. <i>"Sanders and Bloomberg want to redistribute wealth. Most millionaires and billionaires don't."</i> , with Liz Suhay and Marko Klasnja. Feb. 17, 2020	
	Ahora. <i>"Cuando PP y PSOE perdieron a los jóvenes"</i> , with María Ramos. Jul. 8 2016.	
	El País. <i>"El éxito de las encuestas"</i> , with Kiko Llaneras. Mar. 30, 2015.	
	European Politics and Policy Blog, London School of Economics. <i>"Political discussions on Twitter during elections are dominated by those with extreme views"</i> , with Pablo Barberá. Dec. 13, 2014.	
CONFERENCES	<i>Political science:</i> APSA (2010, 2011, 2013, 2015, 2017, 2019, 2022), MPSA (2010, 2011, 2015, 2017, 2018, 2022), EPSA (2011, 2012), ECPR (2010), IPSA (2011, 2012), CES (2018), PaCSS (2022)	
	<i>Statistics and survey methods:</i> GASP (2018, 2019), FedCASIC (2018, 2019), BigSurv (2018), AAPOR (2017, 2018, 2019, 2022), ITSEW (2016), MOLS (2018), JSM (2017), ESRA (2019)	
	<i>Others:</i> ALICE (2011)	
SERVICE & MEMBERSHIP	<i>Editorial service</i>	

*Referee*

*Journals:* Public Opinion Quarterly; British Journal of Political Science; Journal of Conflict Resolution; Political Communication; EPJ Data Science; Social Science Computer Review; International Journal of Press/Politics; International Journal of Public Opinion Research; Government and Opposition; European Political Science Review; Communication Research; Congress & the Presidency; Journal of Survey Statistics and Methodology; Data & Policy; Armed Forces and Society; War in History; Dados; Spanish Journal of Political Science; Southern European Politics and Society; El Profesional de la Información; Revista Internacional de Sociología

*Book publishers:* Cambridge University Press

*Funding organizations:* Spanish National Agency for Evaluation and Prospective, Institute of Education Sciences

*Service in organizations*

Data for Policy Conference Area Committee (Data Technologies & Analytics) 2021–2022

Washington Statistical Society Board of Directors 2018–2020

AAPOR Communications Committee 2019–2020

*Mentorship*

Shane Campbell (Washington Statistical Society, 2017–2018)

Ruodan Zhang (Midwest Political Science Association, 2017–2018)

*Professional memberships*

American Political Science Association (Political Methodology Section), American Statistical Association (Statistical Learning and Data Science Section), American Association for Public Opinion Research

*Service in expert panels or as advisor*

Bureau of Justice Statistics, *Department of Justice, U.S.* 2018

MA in Computational Social Sciences, *Universidad Carlos III, Spain* 2021

Centre d'Estudis d'Opinió, *Generalitat de Catalunya, Spain* 2022